

Annual Report  
of  
Accomplishments and Results  
2000

Lavon L. Bartel, Director  
University of Maine Cooperative Extension

Table of Contents

Section A

Planned Programs .....	1
Goal 1	
Executive Summary .....	2
Source of Funding .....	7
Significant Program Accomplishments Corresponding to Key Themes .....	8
Goal 2	
Executive Summary .....	23
Source of Funding .....	29
Significant Program Accomplishments Corresponding to Key Themes .....	30
Goal 3	
Executive Summary .....	33
Source of Funding .....	38
Significant Program Accomplishments Corresponding to Key Themes .....	39
Goal 4	
Executive Summary .....	47
Source of Funding .....	66
Significant Program Accomplishments Corresponding to Key Themes .....	67
Goal 5	
Executive Summary .....	90
Source of Funding .....	107
Significant Program Accomplishments Corresponding to Key Themes.....	108
Section B	
Stakeholder Input Process.....	130
Section C	
Program Review Process .....	135
Section D	
Evaluation of the Success of Multi and Joint Activities .....	137
<b>Section E</b>	
Multi-State Extension Activities.....	146
Section F	
Integrated Research and Extension Activities .....	147

**Section A**  
**Planned Programs**  
**for**  
**CSREES Goals 1 - 5**

An Agricultural System That is Highly Competitive in the Global Economy

A Safe and Secure Food and Fiber System

A Healthy, Well-Nourished Population

Greater Harmony Between Agriculture and the Environment

Enhanced Economic Opportunity and Quality of Life for All Americans

**CSREES Goal 1**  
**An Agricultural System That is Highly Competitive in the**  
**Global Economy.**

**Executive Summary**

The goals of the agricultural and natural resource-based programs of the University of Maine Cooperative Extension (UMCE) are designed to meet the educational needs of Maine's agri-industry and foster knowledge and skills so that producers and gardeners can be successful. Development and implementation of such strategies have improved the long-term viability of agriculture in Maine and helped many Maine citizens achieve their personal, family and business goals.

***Maine's Largest Agricultural Crop***

Maine is famous for producing quality potatoes. The industry has three major markets: the traditional table stock market, seed, and a growing processing market. As the

industry changes, Cooperative Extension has changed, as have our interactions with the industry at many levels. UMCE faculty, professionals and classified employees are part of educational programs that address production quality, soil fertility, pest management, disease control, and farm worker safety.

### ***Integrating Crop and Livestock Production in Maine***

Agricultural specialization has increasingly separated crop and livestock production systems in Maine. However, there are significant benefits to integrating these production systems, including increasing land base for nutrient applications, development of local markets for rotation crops like barley or soybean, improvement in soil health through increasing soil organic matter, and reduced production costs. Over the last five years, there have been many ongoing activities sponsored by UMCE to help producers realize these benefits. Several applied research projects, initiated by Extension faculty at the request of Maine dairy and potato growers, have helped develop local information on important issues. Maine farmers have continued to develop many innovative ways to more closely tie crop and livestock production together. There are well over 7,500 acres in Maine that are managed jointly by dairy and potato farmers, to the benefit of both.

### ***Vegetable and Fruit Programs***

New England vegetable and small fruit farmers need up-to-date information regarding successful varieties, best production practices, nutrient management and pest management practices to ensure that farm profitability and sustainability are optimized while negative environmental impacts are minimized. UMCE has helped disseminate applied research results and participated in grower networking through development of events such as the New England Berry Conference and the Strawberry and Corn Fest.

### ***Ornamental Horticulture in Maine***

Maine's green industry has experienced 10 -15 percent growth annually in the past decade, and is now valued at more than \$300 million statewide. **UMCE has responded to the needs resulting from this rapid growth by developing industry leadership, establishing industry-wide projects, creating recognition of the industry as part of Maine agriculture, and developing better production and marketing skills.**

### ***Using the Internet as an Extension Tool***

The Internet and other electronic media are valuable tools to increase public access to information on agricultural topics. As **electronic media forms have become more affordable and easier to use**, UMCE has developed several Web sites to help farmers make management decisions and to connect them to valuable research information at its source.

### ***Agricultural Biotechnology***

Although biotechnology has not yet significantly influenced Maine agriculture, it will inevitably effect changes. There are, however, numerous scientific, social, and ethical issues connected to biotechnology. UMCE is addressing these issues through in-service education and biotechnology trials to enable agricultural professionals—including farmers and educators—to identify the current and emerging issues.

### *Alternative Crops and Markets in Maine*

Recent changes in crop genetics, markets, and on-farm processing options have provided opportunities for Maine farmers willing to evaluate new crops and value added products. The availability of soybean varieties adapted to our short season and the rapidly growing organic agriculture sector are examples. UMCE has continued to provide important information and skills in these areas, offering courses in herb marketing, organic grain production, and cheese making.

### *Helping Maine's Livestock Industry*

The livestock industry in Maine remains an important sector of the agricultural economy. Many small businesses are part of this sector, and these businesses face numerous challenges in producing and marketing their products. Over the last year, UMCE has coordinated and sponsored many courses, activities, workshops and services to help farmers be successful, addressing poultry raising, salmon health, grazing efficiencies, component pricing, dairy and livestock profitability, yield limiting factors, goat and sheep herding, and beef improvement. Research is being conducted on a breed of hair sheep to help growers' profitability by limiting expensive and labor-intensive care. UMCE organized the 12<sup>th</sup> Annual Beef Conference and the 2<sup>nd</sup> Annual Grazing Conference.

### *Maine Youth Acquire Skills*

The developmental needs of youth must be met in order for them to acquire employable and entrepreneurial skills and achieve their personal financial goals. Maine youth have traditionally engaged in a variety of agricultural projects. 4-H projects teach youth about the career potential of their activities of choice, as well as how to sustain their projects. They have learned responsibility, financial management and effective practices through their UMCE-sponsored 4-H animal, crop, and horticultural projects.

## *Plan of Work Performance Goals Outcome Indicators and Output Indicators*

The process of fulfillment for the 2000 Plan of Work involved measurement of programming using the **Outcome Indicators** and **Output Indicators** developed in the comprehensive planning process, and through the needs expressed in the Plan of Work situation statement.

Performance Goal 1-1			
<b>Agricultural producers will begin to develop more sustainable agricultural operations by increasingly integrating crop and livestock operations and understanding the financial, environmental, and social risks associated with livestock and crop/vegetable production.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	Reported	Projected	
<b>Total Days:</b>	1071	260	
<b>Agricultural producers will practice resource conservation</b>	241	5	

<b>methods.</b>			
<b>Agricultural producers will participate in community management initiatives.</b>	191	10	
<b>Community members will teach others about marine resource issues.</b>	0	20	
<b>Community groups will initiate marine resources conservation strategies.</b>	0	1	
<b>Crop and livestock producers will increase integration of operations.</b>	421	10	
<b>Producers will adopt alternative crops to reduce pesticide inputs, increase rotation length, and increase soil organic matter.</b>	610	10	
<b>Producers will use new technologies.</b>	2934	140	
<b>Producers will adopt sustainable animal husbandry practices.</b>	808	130	
<b>Small farms will diversify</b>	483	3	
<b>Producers will evaluate soil health.</b>	416	5	
<b>Farmers will implement sustainable agricultural practices.</b>	3031	10	
<b>Greenhouse industry will organize liaison group to speak on behalf of entire industry and conduct industry-wide projects.</b>	3	9	
<b>Maine green industry members who attend New England Greenhouse Conference will increase by 10% <b>percent</b> each conference.</b>	0	132	
<b>50% <b>percent</b> of growers consulted with one-on-one will implement sustainable techniques based on consultation.</b>	323	25	
<b>General public will understand and support production agriculture.</b>	12,148	2000	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations</b>	1704	152	
<b>Number of workshops/events</b>	168	22	
<b>Number of people attending the workshops/events</b>	10,832	22,205	
<b>Number of groups formed (ad hoc or formally organized)</b>	44	3	
<b>Number of people involved in groups formed</b>	579	33	
<b>Number of volunteers trained</b>	0	120	
<b>Number of publications written</b>	13	5	
<b>Number of publications distributed</b>	5046	27	
<b>Number of issues of newsletters written</b>	71	9	
<b>Number of people receiving newsletters within a year's time</b>	10,833	750	
<b>Number of audio visual resources developed (video, slides, displays)</b>	32	1	
<b>Number of articles in news media</b>	64	2	

<b>Number of 1-hr radio programs delivered</b>	1	1	
<b>Circulation of articles in news media</b>	1,290,705	500,000	

Performance Goal 1-2			
<b>Farm profitability will increase through development of new agricultural markets and products and through implementation of improved farm management skills.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	Reported	Projected	
<b>Total Days:</b>	711.5	626	
<b>Potato harvesters will screen for bruise damage, which will result in improved harvesting operations (individual machines).</b>	0	500	
<b>Potato harvester bruise levels will be reduced by 10% percent.</b>	415	10%	
<b>Farmers will develop new markets.</b>	452	152	
<b>Farmers will develop new agricultural products.</b>	149	157	
<b>Farmers will implement farm management skills.</b>	1935	612	
<b>Individuals will be trained to be more productive and knowledgeable farm employees.</b>	535	120	
<b>Small-scale producers will make changes as a result of UMCE programs.</b>	528	65	
<b>Producers will form management teams.</b>	146	5	
<b>Producers will identify yield-limiting factors.</b>	1069	130	
<b>Producers will use futures/options markets.</b>	108	10	
<b>Agricultural producers will diversify crop production (acres).</b>	1999	500	
<b>Producers will attend an intensive potato storage, design and management course.</b>	20	25	
<b>Percent of Potato Harvester injuries reduced from baseline 119 (1988)</b>	0	0	
OUTPUT INDICATORS			
<b>Number of consultations</b>	632	425	
<b>Number of workshops/events</b>	54	28	
<b>Number of people attending the workshops/events</b>	3135	1685	
<b>Number of groups formed</b>	4	1	
<b>Number of people involved in the groups formed</b>	78	30	
<b>Number of publications written</b>	142	2	
<b>Number of publications distributed</b>	3940	250	

<b>Number of audio visual resources developed (video, slides, displays)</b>	7	5	
<b>Number of issues of newsletters written</b>	20	16	
<b>Number of people receiving newsletters within a year's time</b>	1698	1100	
<b>Number of articles in news media</b>	7	7	
<b>Circulation of articles in news media</b>	55,000	50,000	

Performance Goal 1-3			
<b>Maine youth acquire employable and entrepreneurial skills to achieve personal financial goals.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	Reported	Projected	
<b>Total Days:</b>	55	358	
<b>Youth will demonstrate sustainable agricultural practices.</b>	151	235	
<b>Youth will demonstrate an understanding of the basic scientific principles that affect of sustainable agriculture.</b>	270	195	
OUTPUT INDICATORS			
<b>Number of consultations</b>	92	152	
<b>Number of workshops/events</b>	20	41	
<b>Number of people attending the workshops/events</b>	467	627	
<b>Number of groups formed (ad hoc or formally organized)</b>	7	20	
<b>Number of people involved in groups formed</b>	38	114	
<b>Number of volunteers trained</b>	27	68	
<b>Number of publications written</b>	1	1	
<b>Number of publications distributed</b>	141	203	
<b>Number of issues of newsletters written</b>	24	60	
<b>Number of people receiving newsletters within a year's time</b>	212	1700	
<b>Number of audio visual resources developed (video, slides, displays)</b>	4	0	
<b>Number of articles in news media</b>	9	14	
<b>Circulation of articles in news media</b>	40,964	60,000	

**Evaluation of selected outcome indicators and output indicators reveals that:**



- two-thousand four hundred twenty eight consultations were conducted, tripling our projected goal;
- nine thousand one hundred twenty seven publications were distributed in support of a competitive agricultural system;
- one hundred ten workshops were given for 3,990 participants, exceeding our projections by more than 32 percent;
- one thousand nine hundred thirty-five farmers implemented farm management skills, 1,283 more than our projected goal;
- one hundred eight agricultural producers were trained in the use of futures/options markets, ninety-eight more than our projected goal;
- four hundred fifty-two farmers developed new markets for their products, 300 more than projected; and
- two hundred seventy youth demonstrated an understanding of basic scientific principles that affect sustainable agriculture, 75 more than our projected goal.

### Source of Funding

Performance Goal	FTE Days	Funding Source			Total Funding per Performance Goal
		Smith/Lever [b] & [c]	Smith/Lever [d]	State Funds	
<b>Goal 1-1</b>	1,297	175,997	75,619	444,213	695,829
<b>Goal 1-2</b>	548	102,589		303,010	405,599
<b>Goal 1-3</b>	55	7,526		22,230	29,756
<b>Goal 1 Total</b>	1,899	286,112	75,619	769,453	1,131,184

## Significant Program Accomplishments Corresponding to Key Themes

### ***Key Theme: Diversified/Alternative Agriculture***

***The Working Landscape*** project is a multi-component project funded by the Environmental Protection Agency and directed by the Maine Farms Project for Sustainable Communities of Coastal Enterprises, Inc., that aims to increase the capacity of the rural community in the Kennebec Valley. This project has helped farmers succeed with first-time barley and soybean plantings, and aided in post-harvest processing of grain by roasting. The project aims to change the way the community views itself and plans its future, and improve the support that economic development organizations are able to offer communities. The project has conducted Conservation Options sessions across the region introducing farmers to the concept and programs of farmland conservation, and conducted demonstrations using integrated crop management at organic dairy farms. This group is also actively working to develop case studies of integrated farms or groups of farms, through a project funded by the USDA-SARE program. *Working Landscapes* provides easy access to information on production enhancements, including composting techniques and enterprise budgets for new crops.

#### ***Scope of Impact: State Specific***

***Herb School:*** UMCE offered 5-training on growing herbs organically and marketing herbs and herbal products. ~~the University of Maine Cooperative Extension.~~ The 13-part, five-month course focused on the wide variety of value-added products made from herbs, and provided instruction in business skills, business plans and marketing plans. Participants were able to speak with successful herbal entrepreneurs to gain from their insights and experiences. Over the last two years, 66 people have taken this course. Participating industry representatives included the following important Maine businesses: Tom's of Maine, Avena Botanicals, Indian Meadow Herbals, and Windsong Herbs and Gardens.

#### ***Scope of Impact: State Specific***

### ***Key Theme: Adding Value to New and Old Agriculture Products***

***The Women's Agricultural Network (WAgN)*** is a collaborative effort of farmers, agriculture and related non-profit, for-profit, and governmental agencies seeking to help women and other underserved individuals find the skills necessary to begin or continue farming profitably. WAgN provides information to individuals, coordinates an annual farm tour to Aroostook County to learn about small agricultural value-added businesses, facilitates study groups for new farmers in western Maine, and has worked with the Risk Management Agency to conduct a conference for farmers. Participants in WAgN have also continued to provide assistance to interested people at the Common Ground Fair and through Maine Farm Days. Based on a needs assessment, Extension educators from Maine, New Hampshire, and Vermont are meeting to create an umbrella organization that will help support and expand the workings of each state's

existing WAgN program and strengthen service to this under-served and under-represented population.

***Scope of Impact: Multi-State Extension; ME, NH, VT***

***Beef Market Plan:*** With the assistance of a Maine Department of Agriculture, Natural and Rural Resources marketing grant and a UMCE cooperating grant, a natural beef market plan has been developed for Wolfe's Neck Farm in Freeport. This plan was developed to procure and satisfy a commitment from a Boston-based food distributor for one load (42 head) of finished beef per week from one of three feedlots in Maine. Natural beef labeling requires that the cattle source be verified from birth. Producers must sign affidavits stating that the cattle have never received antibiotics in feed rations, growth stimulating implants, or ionophores. Anticipated premiums are \$75.00 per head with slightly more than 2,000 head to be sold the first year.

***Scope of Impact: State Specific***

***Key Theme: Innovative Farming Techniques***

***Grant-Writing Skills for Farmers*** In a collaborative effort with the Threshold to Maine Resource program, the Maine Department of Agriculture and UMCE, grant-writing training resulted in funding for the development of portable grain roasting capabilities for local farms. The grant was used to purchase a portable grain roaster and form a four-farmer company to manage the roaster. Four newspaper articles and two magazine articles were released educating the public about the roaster and its benefits. Over 80 tons of soybeans have been roasted since the purchase of the machine. Two of the four farmers report an estimated \$75,000 in feed savings since forming the roasting partnership. As a result of the success of these educational efforts it is anticipated that other farmers will soon become involved in cooperative roasting projects.

***Scope of Impact: State Specific***

***Liquid Dairy Manure Research:*** Extension faculty continued to collaborate with USDA-Agricultural Research Service researchers to evaluate nitrogen management when liquid dairy manure is used as a fertilizer source for potatoes. The goals of this research were to evaluate the benefits and potential drawbacks of using manure in a potato rotation; assess the potential of the Presidedress Soil Nitrate Test (PSNT) and other plant tissue tests to predict nitrogen availability to potatoes; and to assess the potential of common potato diseases in manured and non-manured potatoes. This research has allowed us to provide growers with an assessment of the impact of using liquid dairy manure in potato cropping systems, demonstrating that there are substantial yield benefits to its use. We have been able to effectively demonstrate a critical soil nitrate concentration for potato growers to ensure that they have sufficient nitrogen in the soil to carry the potato crop through harvest in both manured and non-manured crop production systems. This information has been presented at the Northeast American Society of Agronomy meetings in Guelph, Canada, and the Maine

Potato Conference in Caribou, Maine. The two-year summary will be presented at the Northeast Potato Program in Bangor, Maine in March 2001.

***Scope of Impact: State Specific***

***Pasturing Poultry:*** Extension faculty in Cumberland County worked with full- and part-time farmers in a demonstration project that showed them how to raise broiler chickens in a pasture situation. This eight-week long project helped the participants get started in brooding chicks, building a portable hoop house, feeding and caring for the birds, learning how to properly process chickens on the farm and market the product locally. At least eight families raised a total of 500 birds in this project. They used the birds for home consumption or sold the birds locally, with an estimated profit of \$5.00 per bird after expenses.

***Scope of Impact: State Specific***

***Key Theme: Risk Management***

***Anti-Bruise Campaign:*** The Maine Potato Board helped finance the Anti-Bruise Campaign for the 1999 harvest. Four inspectors rated 415 tuber samples during September and October. Skinning injury and slight or serious bruises were also evaluated under the supervision of the Agricultural Bargaining Council. The Council also compiled data for the program, showing that bruise damage from the 1999 harvest was less than in any year in the past for which there was data. The complete report is available from either the Maine Potato Board or the Agricultural Bargaining Council.

***Scope of Impact: State Specific***

***Potato Harvester Safety:*** As part of an ongoing program in safety education, UMCE delivered seven school presentations on potato harvester safety to high schools in the potato-growing region of Maine. These presentations directly target an at-risk group of age 19 and under students. In addition, pocket safety cards and safety bumper stickers were distributed throughout the potato-growing region. One television segment was done promoting safety around agricultural equipment. UMCE has produced 66 farm safety fact sheets, including several on potato harvest safety. A survey of hospitals in Aroostook County was conducted during the 1999 potato harvest season showing that there were 39 persons admitted to the cooperating hospitals with harvest-related injuries during the survey, which is well below the 1981/1988 baseline number of 102 and 119 injuries. This reflects a 60 percent reduction in hospitalizations when compared to the baseline study.

***Scope of Impact: State Specific***

***Key Theme: Plant Health***

***Late Blight Hotline:*** UMCE again sponsored the late blight hotline and recorded over 750 phone calls from potato growers during the 2000 season. Comments from growers as well as surveys conducted indicate that an average of two to four applications of fungicide were saved per grower per year, as a direct result of the information and recommendations delivered. One hundred percent of

survey respondents saved money by reducing pesticide applications. At least 20 percent of the applicable respondents reported saving over \$2,000 per year from using the information. We project that by increasing the range of issues covered by the hotline we will increase its use, leading to more judicious use of pesticides by Maine potato farmers and therefore higher profitability.

***Scope of Impact: State Specific***

***Potato Scab Research*** There continues to be concern over the potential for potato scab when dairy manure is used. There was little or no data available in the area to evaluate whether or not manure increased the incidence of disease and how soil pH plays a role in that issue. A replicated trial was conducted at the Sustainable Agriculture Research Farm at the University of Maine in the summer of 1999 to evaluate nutrient release from solid dairy manure and fertilizer nitrogen (N) sources at specific soil pH. We were able to document that growing potatoes at a soil pH level that is more conducive to crop rotation will not increase disease pressure. This is very important as we try to rotate with soybeans and other crops that will not be productive at low pH. We also demonstrated the impact that manure has on soil physical properties and the benefit to yield. The research results were presented at the Maine Potato Conference in Caribou, Maine to over 100 producers.

***Scope of Impact: State Specific***

***Corn and Strawberry IPM:*** During the summer of 2000, UMCE participated in Maine's agricultural integrated pest management (IPM) program by scouting central Maine's largest strawberry planting as well as three commercial sweet corn plantings. Techniques new to these farms were employed including spot sprays, perimeter treatments, higher action levels, and prompt attention to emerging pest populations. As a result, the strawberry grower produced a large crop free from pest damage with significantly fewer pesticide treatments than in previous years. The sweet corn growers, experiencing heavier than normal pest pressure, were instructed in well-timed scouting and quick management decisions. This helped two of the three growers achieve a surplus crop yield. The third grower, who did not achieve a surplus yield, was able to learn about specific management techniques appropriate to his scattered field arrangement from this experience. Next year additional traps and more frequent visits will be used in this grower's plantings. ~~next year to avoid a similar situation.~~

***Scope of Impact: State Specific***

### ***Key Theme: Plant Health***

***Apple Scab Control:*** The spring of 2000 produced conditions that favor a wide range of diseases of the newly emerging leaves of trees. In particular, apple scab was a serious problem. This is a disease that is well known by apple growers, but is of little note to most homeowners until a particularly favorable environment leads to serious defoliation of their prize ornamental and edible home apple trees. Television and radio interviews (reaching in excess of 100,000 people) gave a UMCE fruit specialist the opportunity to educate the public on some of the more

environmentally friendly methods of disease control. In this case, the apple scab organism over winters in fallen apple leaves, so simply raking up the leaves will help control the disease the following spring. Homeowners were educated about apple-scab-resistant apple varieties and organic sprays—such as sulfur—that help control the disease.

***Key Themes: Agricultural Profitability and Diversified Agriculture***

***New England Vegetable and Berry Conference:*** Cooperative Extension vegetable and pest management specialists from the six New England states formed a committee with farmers and industry leaders to develop the New England Vegetable and Berry Conference, held in Sturbridge, Massachusetts in December, 1999. The conference included 26 educational sessions with over 100 presentations by academic experts and experienced farmers. Over 1,200 people from the northeast attended the conference, including 97 farmers from Maine. Of those surveyed, 97 percent rated the educational sessions as good to excellent, and 68 percent said that the information they gained from the sessions would improve the profitability of their farms. Two hundred producers indicated they found new sources of information and will adopt one or more new production practices.

***Scope of Impact: Multi-State Extension; ME, NH, MA, CT, VT, RI***

***Strawberry Fest and Corn Fest:*** Cooperative Extension faculty worked with growers at the Strawberry Fest and the Corn Fest, both of which were held at the Portland Public Market in the summer of 2000, to help ~~inform~~ educate the public about the advantages of supporting local growers. The events received extensive media exposure through statewide radio, television and newspapers. Twelve hundred attendees at the Strawberry Fest were given coupons for redemption at local strawberry farms. Producers have indicated increased sales due to this promotional effort and publicity about the event.

***Scope of Impact: State Specific***

***Garden Pro*** is a four-day, 20-hour “train the trainer” program conducted by UMCE for garden center employees. The program’s primary goal is to educate the garden center industry, using the premise that the best way to compete in a market dominated by mass marketers is to offer service and information in addition to a product. Participants learned that educating consumers is a great service which will bring repeat business. Users of the 1998 Garden Pro Answer Book reported that its use increased their personal sales an average of \$1,357 during the 1999 season, resulting in a total of \$230,175 in additional garden center sales in Maine.

***Scope of Impact: State Specific***

***Milk Component Pricing Education:*** The method by which milk is priced at the producer level throughout the U.S. was changed on January 1, 2000. This change will impact the future profitability of many dairy farms. Dairy producers need a better understanding of this pricing scheme, as well as information on how to manage their cows to maximize production of the milk components on which

pricing is based. Information on feeding and managing cows for specific milk components was presented at three group meetings of dairy producers and through numerous individual consultations. The group presentations resulted in several calls from producers asking about changes they can make on their farm to increase the percentage of components in their cows' milk. UMCE consulted with one farm whose anticipated increase in the protein content of milk from 3.0 percent to 3.2 percent, with 100 milking cows, should result in an increase in milk income of between \$7,000 and \$8,000 per year.

***Scope of Impact: State Specific***

***Beef Improvement:*** UMCE conducted various beef improvement programs for beef producers in Maine. These included classes on body condition scoring, calf care, herd health and cattle handling. Twenty-nine different beef producers attended these classes and seminars.

***Scope of Impact: State Specific***

***Key Themes: Plant Production Efficiency and Diversified Agriculture***

***Sustainable Agriculture Field Days:*** UMCE has held Sustainable Agriculture Field Days at Rogers Farm in Orono, since 1993. In June 2000, our annual Field Day attracted nearly 100 farmers and farm advisors. In collaboration with Maine Agricultural and Forest Experiment Station faculty and staff (Randy Alford, Tom Molloy, Marianne Sarrantino, Joe Cannon, Eric Gallant, and Ellie Gordon), Extension specialists provided information on current research including Colorado potato beetle and European corn borer control, organic small grain production, cover crops, and herbicide and cultural weed control strategies. An evaluation was conducted at the end of the field day, and it was clear that participants found it valuable. In addition, an evaluation of past attendees indicated that many had tried new practices and crops based on these field days, including the use of new, low-rate herbicides, increased use of cultivation, use of herbicide-tolerant crops, calibration of sprayers, improved timing of application, increased use of cover crops, and changes in general crop management.

***Scope of Impact: State Specific***

***Key Themes: Organic Agriculture and Niche Market***

***Organic Grain Industry Development:*** Several seminars and meetings were held to develop an organic grain industry in Maine. As a result of the efforts of UMCE in collaboration with the Maine Organic Farmers and Gardeners Association, one Maine bakery has contracted with growers to purchase 200 acres of organic wheat, and work is underway to increase acreage to 300 acres for 2001. An organic grain cooperative has been formed although no purchases have yet taken place. One grain company established an organic line of dairy feed and is now selling 300 tons per month to supply the organic dairy industry. This represents more than \$1,000,000 in gross sales of grain products.

***Scope of Impact: State Specific***

***Key Theme: Biotechnology***

***Biotechnology In-Service Education:*** In collaboration with the Maine Agricultural and Forest Experiment Station, an in-service training activity was developed by Extension specialists and presented at the University of Maine. This event provided background information to Extension faculty and allowed for discussion of the information, including the following topics:

- \* The Technology in Biotechnology,
- \* Current and Potential Agricultural Applications of Biotechnology,
- \* Biotechnology Research at the University of Maine,
- \* University Oversight of Biological Research,
- \* Food Safety, and
- \* Consumer Health, Environmental and Economic Risks of Biotechnology.

***Scope of Impact: State Specific***

***Biotechnology Trials:*** Herbicide-tolerant crops offer the opportunity to move away from highly leachable herbicides, which are applied pre-emergence, to less leachable products which are applied post-emergence. Over the past two years, Extension faculty have surveyed dairy producers about their interest in agricultural biotechnology, and conducted applied research in this area. Trials have been conducted with Roundup-ready soybeans comparing different timing and application rates of Roundup to standard soybean herbicides. This has provided growers with information on yields of genetically engineered varieties of soybeans and the effectiveness of various weed control options. Trials evaluating genetically modified corn were also conducted, along with important research on the potential for pollen drift from genetically modified to conventional corn. This research has been widely distributed to Maine growers and the public, along with presentations at national and international scientific meetings.

***Scope of Impact: State Specific***

***Key Themes: Animal Production Efficiency and Information Technology***

***Livestock Information Automation:*** Nearly two years ago a Web site was developed to organize the electronic information available through the Extension livestock team. The Web site serves as a portal for livestock producers to find information on the Internet. The Web site contains the following:

- a staff directory of the livestock team members,
- online livestock publications, fact-sheets and newsletters,
- a list of publications available for purchase,
- links to livestock sites identified by team members,
- the Maine Hay Directory, where producers with hay for sale are listed,
- a videotape directory for internal use by educators to help locate specific resources,
- information about the University of Maine Veterinary Diagnostic Laboratory,
- a listing of vendors to help livestock producers find equipment and supplies, and
- information on upcoming conferences and workshops.



In the past 12 months the Extension Livestock Web site has received 55,600 hits by an estimated 7,900 visitors. In addition over 3,900 copies of livestock publications have been distributed electronically through this site. The Hay Directory and Small-Scale Poultry Workshop pages have been accessed by viewers 2,508 and 568 times, respectively.

***Scope of Impact: State Specific***

***The Cows and Crops E-mail Newsletter*** continued to be published electronically in 2000, as it has been since 1997. The newsletter is distributed monthly and contains upcoming meeting information, market projections, a review of Web sites, and educational articles from throughout the country. Since its inception, the mailing list has increased to 212 individuals with an 18 percent increase in circulation in the past year. Recipients include university and Extension educators from across the country, agricultural producers, agribusiness/government consultants, veterinarians, students and media. There is a significant multiplier effect associated with the *Cows and Crops* newsletter: in the past year, articles from the newsletter have been reprinted -in *New England Country Folks*, *Northeast Dairy Business*, the *Bangor Daily News*, the Maine Dairy Industry Association, the Maine Department of Agriculture, the Maine Veterinary Medical Association and Farm Bureau Newsletters, and the University of Maine Media Packet. In September 1999, a survey was circulated to the *Cows and Crops* e-mail list to evaluate the effectiveness of the delivery method and determine the impacts of the newsletter. The survey found that 97 percent of the recipients read more than half the newsletter, 83 percent preferred e-mail to other Extension delivery methods, 50 percent forwarded hard or electronic copies of newsletter to others, 83 percent said that *Cows and Crops* information had changed or improved their ability to manage their business and 100 percent felt that *Cows and Crops* had met its objective of delivering current news and researched-based information to its readers.

***Scope of Impact: Multi-State Extension; USA***

***Mitigation of Yield-Limiting Factors:*** Factors affecting milk yield vary between farms. To keep yield data on cows and crops, dairy farmers are turning to computerized record-keeping systems. UMCE staff have helped four dairy producers develop management record-keeping programs with a greater understanding of capabilities. Extension was contacted about changes in facility design to improve cow comfort on four different dairy farms. As a result of information provided, rubber floors were installed on one of these farms, the first rubber floors on a dairy farm in Maine. This change jumped milk production 8 lbs. per cow resulting in an increase in milk sales of \$115.00 per day. Twelve different dairy farm owners contacted ~~Extension~~UMCE about evaluating their current rations to help aid in the determination of factors limiting production. Baseline data were collected and computer ration balancing software was used to determine the limiting nutrients of current rations and suggest ration changes. As a result of ration changes, the incidence of milk fever in early-lactation cows on

one large dairy farm was reduced by at least 60 percent. On another large dairy farm, an Extension faculty member discovered the major yield limiting factor to be a contaminated well that was severely limiting water intake of cows on that farm. The well has been shut off as a water source for the cattle.

***Scope of Impact: State Specific***

***Key Theme: Niche Market, Diversified/Alternative Ag. and Information Technology***

***Cranberry Web site:*** UMCE helped to develop a web page that lists fresh cranberries and other cranberry products available from members of the Maine Cranberry Growers Association. The site is receiving an average of 15 hits per week. One grower has increased sales of cranberry vinegar as a result of the Web page.

***Scope of Impact: State Specific***

***Cheese Making:*** In an attempt to diversify, dairy cow and goat producers contacted UMCE about options for entering a new market of on-farm cheese production or expanding an existing cheese-making enterprise into other varieties. A tour of Vermont and New Hampshire cheese makers was organized and facilitated, as was a 3-day workshop on making cheese. The workshop was held in Maine and was taught by two cheese makers from Vermont and Belgium. Follow-up evaluations of the tour and the cheese-making workshop were conducted with all the participants. Those who were currently involved with cheese production indicated that they learned new skills and techniques, which they would implement. Those planning to enter into cheese production gained a fuller appreciation for all aspects of cheese production and the facilities required.

***Scope of Impact: Multi-State Extension; ME, NH, VT***

***Maple Syrup Producer Support:*** A UMCE faculty member has worked with Maine maple producers to assist them in organizing their association and membership, as well as developing a Web site. UMCE staff also facilitated several meetings, including a session on marketing via the Web. In the short time that the Web site has been in operation, at least three producers have accepted very large retail orders. One producer reported that he has generated several thousand dollars of increased income as a result of marketing on the Web.

***Scope of Impact: State Specific***

***Goat Tour and Shepherd School:*** Sheep and goat production remain common home-based agricultural businesses in Maine. Extension faculty coordinated a monthly tour featuring different goat-based businesses in Maine and Massachusetts. Participants learned about sound goat management; goat cheese processing; goat cheese marketing; meat goats; goat milk soap products and other value-added products; goat milk regulations; sanitation; growing cashmere; using pack goats; on farm bio-security; goat references; and resources. Additionally, a three-day Maine Shepherd School was held, at which people gained knowledge and skills about sheep production and management. Participants in the Shepherd

School learned about practical sheep nutrition, sheep reproduction, marketing wool, meat and other sheep-based products, and facilities. Participants toured three sheep operations in Maine on a daylong tour where they gathered useful ideas for implementation in their own operations.

***Scope of Impact: Multi-State Extension; ME, MA***

***Key Theme: Ornamental/Green Agriculture, Managing Change in Agriculture***

***Greenhouse Industry Grower Program:*** In October 1999, a focus group of Maine greenhouse growers indicated that there were several priority issues to address. These included becoming more efficient in their work; on-site plant tospovirus identification capability; the care of plants in retail sales areas to lengthen their shelf life; and assistance in using pH pens in crop fertility programs. A grower program in January 2000 addressed these issues with four presentations. A total of 65 people attended the program. In one of the hands-on sessions, participants used pH pens and learned to calibrate them and read results. In the other hands-on sessions, participants tested plants for tospovirus using two commercially available kits designed for use on-site in commercial greenhouses. Participants who responded to the post-program survey indicated that they would apply at least one of the efficiency techniques presented, and that they understood the concepts of diagnosing tospovirus with on-site test kits. Fifty percent indicated that they would purchase and use these kits in their greenhouses in spring 2000. Most respondents indicated that they understood how to use pH pens to test media acidity and planned to purchase pH pens for spring 2000. Respondents reported that they estimated that the information they gained at this program would have an average positive impact of over \$550 on their businesses in spring 2000, indicating that this program had over \$37,000 in financial impact on Maine's greenhouse industry.

***Scope of Impact: State Specific***

***Greenhouse Grower Consultation:*** One UMCE educator consulted with four greenhouse growers on the construction of over 10,000 square feet of greenhouse growing space, helping with design, layout and crop selection. Using the retail sales average of \$10 per square foot, this means a potential increase of \$100,000.00 in gross sales for these growers.

***Scope of Impact: State Specific***

***Greenhouse Irrigation:*** In 2000, UMCE helped design an irrigation system that enabled a grower in Fairfield, Maine to expand his production of fall mums. The system consisted of storage tanks that stored water at the low ebb flow rate and then used it at a higher rate for crop watering. The grower reported that he was producing 12,000 mums for sale this fall across the state. At the current wholesale price, he can generate between \$35,000 and \$50,000 in additional sales for this crop.

***Scope of Impact: State Specific***

***The Ornamental Horticulture Council, a group of 15 green industry***

members who identify and address industry needs, was created through the initiative of a UMCE educator. ~~a group of 15 green industry members who identify and address industry needs~~ The council has incorporated as a nonprofit organization, has

completed several projects, sponsors an industry plastic pot recycling and exchange program, and offers employee education programs. For example, the council established a booth at Maine Ag Day at the Legislature in April 2000 in an effort to educate state legislators about the concerns of this industry. The group developed the booth, staffed it throughout the event and met one-on-one with more than 30 state legislators. They handed out brochures about their efforts and the needs of the industry to each legislator. The group annually offers the "GardenPro" program, taught by UMCE faculty, which trains garden center employees in important sales and customer service skills.

***Scope of Impact: State Specific***

***Key Themes: Ornamental/Green Agriculture, and Innovation Farming Techniques***

***Plastic Pot Exchange:*** Extension faculty worked with industry professionals on a program to re-use plastic containers by exchanging useable pots with one another, rather than trying to discard or recycle plastic in the marketplace. Working with this group, the Extension ornamental horticulture specialist queried 1,200 industry members in May and July 2000 to determine if they had useable containers to exchange, and/or if they wanted to connect with another business that had pots to provide. The companies who responded positively have exchanged the pots successfully. Although the response to this year's effort was low, the Ornamental Horticulture Council has since met to identify issues to address in the coming year, and has again identified plastic recycling as a priority. They are currently investigating options for the 2001 program. This is a significant accomplishment for a group of businesses that has only recently identified itself as an "industry" with common concerns and interests.

***Scope of Impact: State Specific***

***Key Theme: Ornamental/Green Agriculture and Home Lawn and Garden***

***European Chafer Grub Treatment:*** During the spring of 2000, there were many phone inquiries concerning white grub damage to turf in mid-coast Maine. Identifications were made to determine that the problem was European chafer grubs, which are more damaging than Japanese beetle grubs. In response, UMCE faculty advised late summer and early fall applications of beneficial nematodes. This method of treatment was suggested in order to optimize timing and reduce the environmental risks often associated with traditional treatments of granular Diazinon, which is lethal to ground-feeding birds. A number of media interviews, communications with area Extension educators, and direct interactions with Maine citizens in the mid-coast region influenced many homeowners and turf managers to use a more environmentally rational approach to white grub control.

***Scope of Impact: State Specific***

***Key Theme: Animal Health***

The **UMCE** **Animal Disease Diagnostic Laboratory (ADDL)** is a collaborative effort between UMCE and the Maine Agricultural and Forest Research Station, and serves animal industries, individual animal owners, state agencies, private veterinarians and researchers by providing gross pathological diagnosis and auxiliary diagnostic testing for identification of bacterial, parasitic and avian viral infections. Additional testing services support enhancement of farm products from Maine's dairy, poultry, and salmon industries. These services include mastitis testing, testing in accordance with the New England Salmonella enteritidis Risk Reduction Program and the National Poultry Improvement Plan, and histological support to diagnostic services to the shell and finfish industries. Based on the information obtained from the test results, staff of the ADDL advises animal owners on effective disease control procedures that will reduce losses and enhance animal production efficiency. The staff is highly motivated, devoting time and effort to attend to emergencies or deal with a sporadically heavy workload. ADDL not only serves as a resource to animal industries and owners but also to research and teaching by providing access to field specimens, contact to animal owners and hands-on experiences for students.

***Scope of Impact: State Specific***

***Small Poultry Workshops:*** Small poultry flock owners produce poultry meat and eggs for home use and sale. They need both basic and specific information to raise poultry more efficiently and safely. To help meet this need, ten workshops were conducted in 1999 and 2000 for more than 400 small flock poultry owners. Results indicate that 90 percent of the respondents made changes in the way they care for their flocks and 69 percent changed how they process or market their products.

***Scope of Impact: State Specific***

***Biosecurity:*** One of the major animal health issues on dairy farms is biosecurity. It is more profitable to prevent disease than to treat it. Biosecurity is a major issue with the large herd group, a discussion group made up of the owners of twenty of the largest dairy farms in the state. One goal of the group is to reduce the incidence of communicable diseases, such as Johne's Disease. A grant was funded by the Maine **Agricultural** Center to support a baseline-sampling program for Johne's Disease. A committee of interested large animal veterinarians is also supporting the project.

***Scope of Impact: State Specific***

***Salmon Health: Infectious Salmon Anemia Control:*** Salmon producers face a serious threat from infectious salmon anemia, an emerging disease. Planning committees for the New England Poultry Health Conference and the **NE** Farmed Fish Health Management Workshop were formed by project partners to assess needs and plan informational conferences. A finfish waste management

committee was formed and actively investigated sanitation and safe disposal of finfish waste from fish farms and processing plants. Individual meetings with waste disposal sites owners, processing plant managers and committee members were also held. Extension faculty chaired or facilitated and participated in the fish health technical advisory committee, and helped with a needs assessment meeting for fish hatchery managers that was held in Eastport Maine. These efforts helped the salmon industry develop an action plan to prevent and/or control Infectious Salmon Anemia. This plan was accepted by the Maine Aquaculture Association, the fish health technical advisory committee, Commissioners of the Department of Marine Resources and the State Department of Inland Fisheries and Wildlife.

***Scope of Impact: Multi-State Extension; ME, NH, Ct, RI, and MA***

***Key Theme: Grazing***

***Grazing Management:*** Many Maine dairy and livestock farms depend on pasture as a low-cost, high quality forage source. Fully utilizing this resource presents many management challenges, involving forage, animals, infrastructure needs, and environmental issues. Extension faculty assisted the Piscataquis County Soil and Water Conservation District with their annual farm tour by writing and providing copies of a grazing brochure that promotes the use of management intensive grazing by livestock farmers. Tour stops this year included a horse farm and a dairy farm.

***Scope of Impact: State Specific***

***Intensive Grazing Increases Farm Profitability:*** The adoption of practices suggested by Extension staff have improved the profitability of various dairy and livestock farms around the state. One practice that reduces feed costs and increases profitability is to intensify grazing systems. Extension provided information to producers on pasture layout, watering systems and grain formulas to supplement pasture. Grain costs were reduced by \$60 per ton on one farm, while the cows were on pasture. Producing higher quality milk on dairy farms results in higher milk prices and therefore increased profitability. UMCE faculty provided information to individual producers on culturing milk samples and testing milk for clearance of antibiotic treatments. Improving milk quality on one farm improved profitability by about \$6,000 annually.

***Scope of Impact: State Specific***

***The Twelfth Annual Beef Conference*** had 119 participants, including beef producers from Maine, New England, and the Maritime Provinces. The focus of the conference was forage production and utilization. According to the evaluations, the conference was rated from good to excellent in meeting their needs and all respondents felt the conference met their expectations. Anticipated changes as reported on the conference evaluation were to harvest forages earlier, and more intensively manage pastures and hay ground, including earlier harvest and nutrient management and cost tracking.

***Scope of Impact: Multi-State Extension; ME, VT, NH, CT, NY, MA, Canada***

**Maine Grazing Conference** The second annual Maine Grazing Conference was held in April 2000 to provide up-to-date information to Maine animal producers. The University of Maine Cooperative Extension livestock program and crops teams developed this daylong event collaboratively, with input from the Natural Resources Conservation Service. Over 100 farmers and farm advisors learned about the following aspects of grazing and pasture management:

- Pasture Extremes—Improving or Destroying Pastures
- Measuring Forage Biomass; Fencing-From Power to Wire
- New and Old Forage Varieties and Their Establishment
- Pastures for Equine
- Pastured Poultry
- Pasture Design and Layout; Supplementing Ruminants on Pasture
- Parasite Issues on Pasture
- Producer Thoughts about Pasture.

**Scope of Impact: State Specific**

**Key Theme: Small Farm Viability, Diversified/Alternative Agriculture**

**Meet the Breeds:** A “Meet the Breeds” sheep event was sponsored by the Piscataquis County Extension office and the Central Maine Sheep Breeders Association. This event was attended by more than 50 people who came to learn about the different breeds of sheep, how they are sheared, fleece preparation for processing, and fiber spinning. A farm type sheep show highlighted the good points of the different wool and meat breeds. Eight farms showed ten different breeds of sheep. Awards were given for Best Flock/Wool, Best Flock/Meat, Best Animal/Wool, and Best Animal/Meat.

**Scope of Impact: State Specific**

**Key Theme: Animal Genomics**

**The Northeast Katahdin Hair Sheep Project** is a \$155,000, four-year SARE (Sustainable Agriculture Research and Education) grant involving UMCE, Bowdoin College, and a consulting team of sheep producers. The project is in its first year and has held one field day with 75 participants from throughout New England. The project’s goal is to further develop the Katahdin breed for improved leg muscle, carcass quality, internal parasite resistance and overall profitability.

**Scope of Impact: Multi-State Integrated Research and Extension; ME, NH, VT, MA, CT, RI**

**Key Theme: Risk Management**

**West Nile Virus Response:** The state of Maine epidemiologist has organized a task force to respond to the threat of West Nile Virus. UMCE has been involved in this response in three areas: as a member of the general task force, as a member of the environmental risk assessment committee—which is looking at toxicological data for all Maine registered mosquito larvicides and adulticides and making the recommendations for management strategies for mosquitoes should the need arise—and as a member of the entomology sub-

committee, doing the faunistic mosquito survey for Maine. The success of this integrated effort is in the mobilization of people to meet the threat of a possible widespread health crisis.

***Scope of Impact: State Specific***

***Key Theme: Miscellaneous***

***Youth Entrepreneurship:*** UMCE and the Kauffman Foundation have teamed up to offer Mini-Society, an entrepreneurship program for 8-12 year olds. Over 150 children have participated in Mini-Society, creating an "ideal" society that is fueled by the market economy of their businesses. In addition to learning business skills such as market research, production, pricing, and advertising, children in Mini-Society manage their own "government," solving problems, making decisions, and communicating effectively.

***Livestock Marketing for Youth:*** A series of eight workshops were held in Penobscot County to help youth understand how to plan, conduct and evaluate livestock marketing efforts. Marketing training enabled 4-H participants to capture record prices at livestock sales during the summer 2000 Bangor State Fair.

***Career Education and Aspirations:*** A group of 16 4-H teens completed a two-year career education and aspirations program in which they created resumes, started portfolios, went on over 40 job shadowing visits, took part in eight job-mentoring summer experiences and attended monthly educational workshops. The group traveled to Florida on a career education experience consisting of job visits, educational institute programs and geographically based workshops



## CSREES Goal 2 A Safe and Secure Food and Fiber System

### **Executive Summary**

The goals of the Food Safety Program of the University of Maine Cooperative Extension (UMCE) are designed to meet the health and safe food production and handling requirements of Maine's citizens and food processing industries. A food safety specialist at the University of Maine and county educators in most Maine counties foster food safety knowledge and skills through educational workshops, consultations, and distribution of published reference and educational material, resulting in a safer and more secure food system.

#### ***Food Safety Education***

In fiscal year 2000, the Food Safety Education Program has engaged Maine citizens in a variety of program delivery methods including workshops, seminars, fact sheet distribution (in both print and Web mediums), newspaper articles and radio/television interviews. The program has provided research-based information to approximately 71,000 Maine citizens throughout the state. Of those reached by the Food Safety Program, over 18,000 have indicated that they will reduce the risk of food-borne illness by practicing proper personal hygiene and proper sanitation, including cleaning and sanitizing work areas and equipment. Further skills communicated include adopting proper techniques for planning, purchasing, transporting, storing (methods and temperature), thawing, cooking (times and temperatures), holding and serving food.

#### ***Wholesome Food***

In responding to program evaluation, 4,800 Maine residents indicated that they would adopt learned skills in selecting, purchasing, preparing and serving safe and wholesome food. Food preservation workshops were provided in the majority of Maine counties.

- Over 25,000 Maine residents viewed a food preservation educational display.
- As a result of food preservation program activities, approximately 2,000 participants indicated that they would apply current safe practices in canning, freezing and/or drying foods.

*Plan of Work Performance Goals*

*Outcome Indicators and Output Indicators*

Performance Goal 2-1			
<b>Maine residents involved in food harvesting, processing, donation, preparation and service will reduce the potential risk of food borne illness.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	Re ported	Pr ojected	
<b>Total Days:</b>	107.5	239	
<b>Residents will adopt proper techniques for planning and purchasing of food</b>	148	320	
<b>Residents will adopt proper techniques for transporting food</b>	130	470	
<b>Residents will adopt proper techniques for storing food (method and temperature)</b>	199	370	
<b>Residents will practice personal hygiene techniques related to food safety</b>	212	320	
<b>Residents will adopt proper thawing methods</b>	180	470	
<b>Residents will adopt proper cooking times and temperatures</b>	242	470	
<b>Residents will adopt proper techniques for holding and serving of food</b>	147	470	
<b>Residents will adopt proper procedures for cleaning and sanitizing work areas and equipment</b>	212	470	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations</b>	238	560	
<b>Frequency of workshops/events / year</b>	36	50	
<b>Number of people attending the workshops/events</b>	388	715	
<b>Number of volunteers trained</b>	15	213	
<b>Number of publications distributed</b>	1832	4445	
<b>Number of issues of newsletters written</b>	6	55	
<b>Number of people receiving newsletters within a year's time</b>	7236	17050	
<b>Number of audio visual resources developed (video,</b>	5	6	

slides, displays)			
<b>Number of articles in news media</b>	8	31	
<b>Circulation of articles in news media</b>	11,000	20,500	
<b>Performance Goal 2-2</b>			
<b>Maine consumers will apply proper food handling skills in selecting and preparing safe and wholesome food.</b>			
<b>OUTCOME INDICATORS: Behaviors and Impacts</b>			
	Re ported	Pr ojected	
<b>Total Days:</b>	117.5	120	
<b>People will be making sound choices regarding food selection and purchasing.</b>	3678	935	
<b>People will be making sound choices regarding food safety labels on meat and poultry.</b>	3503	935	
<b>People will be making sound choices regarding proper thawing methods.</b>	3613	935	
<b>People will be making sound choices regarding proper food cooking, holding and serving procedures.</b>	4809	985	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations</b>	343	1035	
<b>Number of workshops/events</b>	17	73	
<b>Number of people attending the workshops/events</b>	316	675	
<b>Number of volunteers trained</b>	43	95	
<b>Number of publications written</b>	11	4	
<b>Number of publications distributed</b>	4589	4975	
<b>Number of issues of newsletters written</b>	104	14	
<b>Number of people receiving newsletters within a year's time</b>	7142	2150	
<b>Number of audio visual resources developed (video, slides, displays)</b>	7	1	
<b>Number of articles in news media</b>	10	28	
<b>Circulation of articles in news media</b>	18,000	201,000	
<b>Home visits by nutrition aides</b>	263	3000	
<b>Phone inquiries</b>	314	25	
<b>Web pages created</b>	0	12	

<b>Performance Goal 2-3</b>		
<b>Maine consumers will implement current safe practices in canning, freezing and/or drying methods to preserve food.</b>		
OUTCOME INDICATORS: Behaviors and Impacts		
	Re ported	Pr ojected
<b>Total Days:</b>	126	120
<b>Consumers will adopt Extension recommendations for freezing.</b>	770	525
<b>Consumers will adopt Extension recommendations for drying.</b>	299	350
OUTPUT INDICATORS		
<b>Number of consultations</b>	1048	890
<b>Number of workshops/events</b>	32	89
<b>Number of people attending the workshops/events</b>	667	1960
<b>Number of groups formed (ad hoc or formally organized)</b>	2	2
<b>Number of people involved in groups formed</b>	10	6
<b>Number of volunteers trained</b>	40	80
<b>Number of publications written</b>	14	8
<b>Number of publications distributed</b>	2419	5350
<b>Number of issues of newsletters written</b>	18	25
<b>Number of people receiving newsletters within a year's time</b>	21,813	24,400
<b>Number of audio visual resources developed (video, slides, displays)</b>	38	4
<b>Number of articles in news media</b>	0	34
<b>Circulation of articles in news media</b>	0	205,000
<b>Displays/exhibits</b>	17	1
<b>Times displays seen</b>	2555	10
<b>Web pages designed</b>	5	12

Performance Goal 2-4			
<b>Maine food producers and processors (poultry and fish farmers) will practice pre-harvest</b>			
food safety based on Total Quality Management (TQM) and Hazard Analysis and Critical Control Points (HACCP) principles to ensure their products' safety and quality.			
OUTCOME INDICATORS: Behaviors and Impacts			
	Re ported	Pr ojected	
<b>Total Days:</b>	99	84	
<b>Participants will reduce the risk of chemical contamination of food by following the residue avoidance program.</b>	342	20	
<b>Participants will reduce the risk of chemical contamination of food by following the IPM program.</b>	62	20	
<b>Participants will reduce the risk of chemical contamination of food by following the Salmonella Reduction program.</b>	196	20	
<b>Participants will reduce the risk of chemical contamination of food by following the completing milk and dairy beef drug -prevention protocol</b>	0	20	
<b>Participants will reduce the risk of microbiological contamination of food by understanding the principles of HACCP.</b>	131	70	
<b>Participants will reduce the risk of microbiological contamination of food by using microbiological reduction program.</b>	173	70	
<b>Participants will reduce the risk of microbiological contamination of food by implementing a sanitation program.</b>	186	70	
<b>Participants will reduce the risk of microbiological contamination of food by implementing a routine testing/monitoring procedure.</b>	27	70	
<b>Participants will reduce the risk of physical contamination of food by implementing a quality control program.</b>	19	15	
OUTPUT INDICATORS			
<b>Number of consultations organized</b>	152	40	
<b>Number of media outlets participating</b>	3	20	
<b>Number of workshops/events</b>	18	3	
<b>Number of people attending the workshops/events</b>	408	150	

<b>Number of groups formed (ad hoc or formally organized)</b>	6	1	
<b>Number of people involved in groups formed</b>	68	6	
<b>Number of publications written</b>	2	1	
<b>Number of publications distributed</b>	270	30	
<b>Number of audio visual resources developed (video, slides, displays)</b>	5	1	

Performance Goal 2-5			
<b>Maine limited-income consumers will apply proper food handling skills in selecting and preparing safe and wholesome food.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	Re ported	Pr ojected	
<b>Total Days:</b>	36	155	
<b>Consumers will adopt proper practices in planning for and purchasing of food.</b>	595	220	
<b>Consumers will adopt proper practices in transporting food.</b>	15	370	
<b>Consumers will adopt proper practices in food storage (method and temperature).</b>	606	270	
<b>Consumers will adopt proper practices in personal hygiene.</b>	20	220	
<b>Consumers will adopt proper practices in thawing frozen foods.</b>	597	370	
OUTPUT INDICATORS			
<b>Number of workshops/events</b>	4	73	
<b>Number of publications distributed</b>	1085	4500	
<b>Number of audio visual resources developed (video, slides, displays)</b>	4	10	
<b>Number of articles in news media</b>	0	26	
<b>Lessons taught</b>	319	80	
<b>Families receiving lessons</b>	112	80	

**Evaluation of selected outcome indicators and output indicators reveals that:**

- one thousand seven hundred eighty-one consultations were conducted, reaching 71% of our goal;
- three thousand six hundred seventy-eight persons were educated in making sound choices regarding food selection and purchasing, 2,743 more than projected;
- four thousand eight hundred nine people were educated in making sound choices regarding proper food cooking, holding, and serving procedures, 3,824 more than projected;.
- over 10,000 publications were distributed in support of a safe and secure food and fiber system;
- eight hundred fifty-six consumers adopted Extension recommendations for canning, 231 more than projected;
- seven hundred seventy consumers adopted Extension recommendations for freezing, 245 more than projected;
- one hundred ninety-six participants reduced the risk of chemical contamination of food by implementing the Salmonella Reduction program, 166 more than projected;
- five hundred ninety-seven consumers adopted proper practices in thawing frozen foods, 227 more than projected.

**Source of Funding**

		Funding Source		
--	--	----------------	--	--

<b>Performance Goal</b>	<b>FTE Days</b>	<b>Smith/Lever [b] &amp; [c]</b>	<b>Smith/Lever [d]</b>	<b>State Funds</b>	<b>Total Funding per Performance Goal</b>
<b>Goal 2-1</b>	108	18,318		54,104	72,422
<b>Goal 2-2</b>	118	17,851		52,726	70,577
<b>Goal 2-3</b>	133	20,120		59,428	79,549
<b>Goal 2-4</b>	99	21,677		64,027	85,705
<b>Goal 2-5</b>	36	5,989		17,690	23,679
<b>Goal 2</b>	493	83,956	-	247,975	331,931
<b>Total</b>					



## Significant Program Accomplishments Corresponding to Key Themes

### ***Key Theme: Food Safety***

***Safe Food Laws through Better Informed Public and Legislators:*** The tri-state (Maine, Connecticut and Vermont) project, "Safe Food Laws through Better Informed Public and Legislators" was completed this year. Project material included videotape, audiotape and three fact sheets:

- *Preparing Yourself to Address the Issues*
- *Understanding Food Biotechnology*
- *Food Irradiation*

The material will be distributed nationwide and will be featured in statewide workshops for legislators and the public in 2001.

***Scope of Impact: Multi-State Extension; ME, VT, CT***

### ***Key Themes: Food Handling, Food Safety, and Resource Management***

***Preserving the Harvest Workshops:*** A follow-up behavior impact evaluation of participants in Preserving the Harvest workshops indicated that because of the workshop

- sixty-nine percent have changed their processes resulting from new information;
- eighty-nine percent understand how to preserve foods better;
- fifty-nine percent changed a belief or attitude about food preservation;
- eighty-five percent feel more confident about their food preservation skills;
- eighty-seven percent of the participants were able to state a specific behavioral example of how the Preserving the Harvest workshop has made a difference in their ability to preserve foods safely;
- eighty-six percent of participants reported that they have used the resources they received at the workshop;
- seventy-three percent have shared these resources with friends or family.

***Scope of Impact: State Specific***

### ***Key Themes: Food Safety, Food Handling, Food Resource Management***

Food Preservation Education: Extension educators and nutrition aides attended weekly farmers' markets throughout the state during July and August to provide food preservation information, ways to use fresh produce, and sample foods.

Clients also signed up to receive the Extension Perspectives newsletter.

- A UMCE food safety specialist and Extension educators judged preserved food entries at a number of agricultural fairs including the celebrated Common Ground Fair.

- In addition to farmers' markets, food safety specialists and Extension educators provided up-to-date food preservation information at retail stores, food stamp offices and agricultural fairs throughout the state.
- As a result of pointing out possible problems with preparing some entries, fair organizers agreed to offer "Preserve the Harvest" food preservation training to fair participants before next year's fair. The intention is to provide this educational program to potential participants who submit entries to the fair.

*Scope of Impact: State Specific*

***Key Themes: Food Handling, Food Resource Management, Food Safety, Food-borne Illness***

***Food Safety Program Funds for Libraries:*** The food safety program fund was used to assemble 140 binders for public libraries and 55 binders for farmers' markets and roadside stands throughout the state. The binders contained reference information about proper personal hygiene, proper sanitation, cleaning and sanitizing work areas and equipment, proper techniques for planning, purchasing, transporting, storing (methods and temperature), thawing methods, cooking times and temperatures, holding and serving of food. This will increase the population's accessibility to UMCE food preservation publications.

*Scope of Impact: State Specific*

***Key Themes: Food-borne Illness, Food-borne Pathogen Protection, HACCP***

***Food Producers and Processors Education:*** The production of safe food is a national priority (President's Council on Food Safety). Approximately 12,000 Maine food producers and processors participated in our education programs to reduce chemical and pesticide residue and the risk of microbiological contamination of food to minimize the risk of food-borne illness. These programs included the Residue Avoidance program, IPM program, Salmonella Reduction program, completing milk and dairy beef drug prevention protocol, and understanding and implementing the principles of Hazard Analysis and Critical Points (HACCP). In the most recent evaluation of the seafood HACCP course conducted by mail, 159 out of the 559 (over 28%) of participants responded.

- Eighty-seven percent used the course materials in developing their HACCP plan.
- Eighty-eight percent of those responding indicated that they have actually completed the development of their HACCP plans.

*Scope of Impact: State Specific*

***Key Themes: Food-borne Pathogen Protection***

***Salmonella Reduction:*** Within the Salmonella Reduction program, Maine producers have initiated new or intensified sanitation procedures. These include using professional cleaning and disinfecting companies, establishing better trained cleaning and disinfecting crews, improving and speeding up cleaning and disinfecting procedures, and intensifying rodent control programs.

*Scope of Impact: State Specific*

***Key Themes: Food Safety, Food Handling, Food Quality, Food Resource Management, Food-borne Illness***

***Maine Limited-Income Nutrition Program and Expanded Food Nutrition Education Program:*** Nutrition aides in the Maine Limited-Income Nutrition Program and Expanded Food Nutrition Education Program provided food safety information and taught nutrition lessons to 1,537 Maine limited-income families last year, and graduated 406 families after they completed the full 10-lesson program. Graduating families demonstrated improved food resource management practices, nutrition practice, and food safety practice. An additional 809 households enrolled in the *Learn By Mail* nutrition correspondence course. Nutrition programs for youth living in families receiving food stamps reached 2,295 Maine youth. Over 75% of youth participants report eating a greater variety of foods and using improved food safety practices. An additional 232 Maine youth and 30 families learned about planting gardens and harvesting, washing and eating their produce.

***Scope of Impact: State Specific***

***Key Themes: Food Safety, Food-borne Illness, Food-borne Pathogen Protection***

***FDA Model Food Code:*** A University of Maine food safety specialist worked with federal, state and industry experts to develop the State of Maine Food Code based upon the 1999 U.S. Food and Drug Administration Food Code. A number of informational seminars were held over the last year in various locations throughout the state. In September 2000, the state of Maine adopted the Maine Food Code.

# CSREES Goal 3

## A Healthy, Well-Nourished Population

### Executive Summary

The educational programs that have been designed and are being conducted by the University of Maine Cooperative Extension (UMCE) to satisfy Goal 3 will optimize the health of Maine people. The focus will be to improve the quality of diets, the quantity and accessibility of food by those who are food insecure, and to work toward improving lifestyle habits. The assessment of needs was determined in a variety of ways, including gathering opinions of key partners and experts in the field of health and nutrition.

#### *Food Security*

Many in our population depend upon a variety of income supplements to obtain food, including government food programs. Food stamps, Women, Infants, and Children (WIC), free and reduced rate lunch and breakfast programs at schools and day care, and donated commodities are examples. Private efforts including food pantries and soup kitchens are also needed to prevent some of our citizens from being hungry. We still find many are food insecure, not only in the quantity of food that they have, but also in the nutritional balance of the food that they consume.

#### *Nutrition Education*

Recent research shows evidence that the American diet is making slow progress toward more healthy levels. Evidence shows people gaining knowledge and achieving healthier habits in some areas. In other areas much improvement is still needed. Survey data reveals that, overall, Maine adults perceive themselves to be in good health. Additionally, most low-income Maine people who have been surveyed say they think that they prepare and serve healthy meals. UMCE provides health and nutrition educational programs for the general public as well as programs geared toward specific audiences: limited-income people; Extension homemakers; Extension nutrition aides and professional staff members; agency staff and professionals; farmers' market patrons; Senior Companion volunteers; and other seniors. Participants in Extension nutrition programs will

- have the knowledge, skills and ability to be well nourished;
  - increase food-buying skills;
  - increase food preparation skills;
  - increase physical activity;
- engage in community programs that enhance the health of seniors and other community members.

A variety of educational methods are being used to convey information. These may include consultations/home visits, workshops/events, ad hoc or formally organized groups, volunteers, publications, newsletters, audio-visual resources and news media.

*Plan of Work Performance Goals  
Outcome Indicators and Output Indicators*

Performance Goal 3-1			
<b>Maine people are healthy and well nourished.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	
<b>Total Days:</b>	465	803	
<b>Participants will increase food-buying skills.</b>	871	1055	
<b>Participants will increase food preparation skills.</b>	1227	1310	
<b>Participants will increase physical activity.</b>	399	288	
<b>Participants will engage in community programs that enhance the health of seniors and other community members.</b>	2150	400	
OUTPUT INDICATORS			
<b>Number of consultations/home visits</b>	273	4398	
<b>Number of workshops/events</b>	83	157	
<b>Number of people attending the workshops/events</b>	3019	3345	
<b>Number of groups formed (ad hoc or formally organized)</b>	7	270	
<b>Number of people involved in groups formed</b>	956	270	
<b>Number of volunteers trained</b>	429	165	
<b>Number of publications written</b>	20	23	
<b>Number of publications distributed</b>	19,360	21,010	
<b>Number of issues of newsletters written</b>	95	74	
<b>Number of people receiving newsletters within a year's time</b>	46,245	33,100	
<b>Number of audio visual resources developed (video, slides, displays)</b>	10	11	
<b>Number of articles in news media</b>	11	19	
<b>Circulation of articles in news media</b>	11,400	75,000	
Performance Goal 3-2			
<b>Maine people will make dietary changes to reduce the risk of chronic disease.</b>			

OUTCOME INDICATORS: Behaviors and Impacts			
	Reported	Projected	
<b>Total Days:</b>	277	553	
<b>Participants will increase intake of fruits and vegetables.</b>	2514	1465	
<b>Participants will decrease saturated fat and total fat intake.</b>	2065	110	
<b>Participants will improve nutrient and food composition intake to lower the risk of disease.</b>	2041	1700	
<b>Groups will be established to conduct community programs to reduce the risk of disease.</b>	10	3	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations/home visitations</b>	33	4339	
<b>Number of workshops/events</b>	66	135	
<b>Number of people attending the workshops/events</b>	1322	2665	
<b>Number of groups formed (ad hoc or formally organized)</b>	7	23	
<b>Number of people involved in groups formed</b>	45	291	
<b>Number of volunteers trained</b>	78	173	
<b>Number of publications written</b>	3	11	
<b>Number of publications distributed</b>	2689	27,450	
<b>Number of issues of newsletters written</b>	56	63	
<b>Number of people receiving newsletters within a year's time</b>	28,367	26,080	
<b>Number of audio visual resources developed (video, slides, displays)</b>	7	3	
<b>Number of articles in news media</b>	5	18	
<b>Circulation of articles in news media</b>	1,000,000	50,000	

Performance Goal 3-3			
<b>Maine people achieve food security by the ability to access nutritionally adequate and safe food.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	Reported	Projected	
<b>Total Days:</b>	185	248	

<b>People will increase their food supply from gardens and home production.</b>	115	45
<b>People will participate in programs organized to raise awareness about hunger and poverty at the community level.</b>	1020	220
<b>People will be involved in public policy issues related to food recovery.</b>	265	25
<b>Participants will make decisions related to organizing Super Cupboards.</b>	0	0
<b>Super Cupboards will be organized.</b>	0	0
<b>Pounds of food donated to food pantries, food banks, and kitchens</b>	26,758	0
<b>Value of food donated to food pantries, food banks, and kitchens</b>	37,561	0
OUTPUT INDICATORS		
<b>Number of consultations</b>	34	570
<b>Number of workshops/events</b>	27	78
<b>Number of people attending the workshops/events</b>	630	2035
<b>Number of groups formed (ad hoc or formally organized)</b>	9	6
<b>Number of people involved in groups formed</b>	84	46
<b>Number of volunteers trained</b>	2192	177
<b>Number of publications written</b>	5	3
<b>Number of publications distributed</b>	770	13,450
<b>Number of issues of newsletters written</b>	1	31
<b>Number of people receiving newsletters within a year's time</b>	7200	15,750
<b>Number of audio visual resources developed (video, slides, displays)</b>	0	2
<b>Number of articles in news media</b>	14	14
<b>Circulation of articles in news media</b>	50,000	72,000

Performance Goal 3-4			
<b>Participants in UMCE's Limited-Income Nutrition Programs are healthy and well nourished.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	Re	Pr	
	ported	ojected	
<b>Total Days:</b>	339	16	

<b>Participants will increase food-buying skills.</b>	9347	1055	
<b>Participants will increase food preparation skills.</b>	3215	1310	
<b>Participants will increase physical activity.</b>	620	288	
<b>Participants will engage in community programs that enhance the health of seniors and other community members.</b>	23	400	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations/home visits</b>	2023	4398	
<b>Number of workshops/events</b>	96	157	
<b>Number of people attending the workshops/events</b>	2903	3345	
<b>Number of groups formed (ad hoc or formally organized)</b>	16	22	
<b>Number of people involved in groups formed</b>	0	270	
<b>Number of volunteers trained</b>	0	165	
<b>Number of publications written</b>	5	23	
<b>Number of publications distributed</b>	21,241	21,010	
<b>Number of issues of newsletters written</b>	10	74	
<b>Number of people receiving newsletters within a year's time</b>	12,004	33,100	
<b>Number of audio visual resources developed (video, slides, displays)</b>	33	11	
<b>Number of articles in news media</b>	1	19	
<b>Circulation of articles in news media</b>	11,400	75,000	

Performance Goal 3-5			
<b>Participants in UMCE's Limited-Income Nutrition Programs will make dietary changes</b>			
to reduce the risk of chronic disease.			
<b>OUTCOME INDICATORS: Behaviors and Impacts</b>			
	Re	Pr	
	ported	ojected	
<b>Total Days:</b>	152	125	
<b>Participants will increase intake of fruits and vegetables.</b>	684	600	
<b>Participants will decrease saturated fat and total fat intake.</b>	727	750	
<b>Participants will improve nutrient and food</b>	666	600	



<b>composition intake to lower the risk of disease.</b>			
<b>Groups will be established to conduct community programs to reduce the risk of disease.</b>	0	2	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations/home visitations</b>	25	20	
<b>Number of workshops/events</b>	22	18	
<b>Number of people attending the workshops/events</b>	1230	900	
<b>Number of groups formed (ad hoc or formally organized)</b>	0	3	
<b>Number of people involved in groups formed</b>	0	30	
<b>Number of volunteers trained</b>	3	15	
<b>Number of publications written</b>	1	1	
<b>Number of publications distributed</b>	585	400	
<b>Number of issues of newsletters written</b>	8	8	
<b>Number of people receiving newsletters within a year's time</b>	1520	1200	
<b>Number of audio visual resources developed (video, slides, displays)</b>	3	2	
<b>Number of articles in news media</b>	0	2	
<b>Circulation of articles in news media</b>	0	100,000	

**Evaluation of selected outcome indicators and output indicators reveals that:**

- two thousand seven hundred two volunteers were trained, 2,007 more than projected;
- one thousand four hundred fifty-two Maine citizens took steps to achieve and maintain healthy weight, 512 more than projected;
- nine thousand three hundred forty-seven increased food-buying skills, 8,292 more than projected;
- two thousand one hundred fifty participants engaged in community programs that enhance the health of seniors and other community members, 1,750 more than projected;
- three hundred ninety-nine participants increased physical activity, 111 more than projected;
- two thousand sixty-five decreased saturated fat and total fat intake, 1,205 more than projected;
- two thousand five hundred fourteen increased intake of fruits and vegetables, 449 more than projected;

- five hundred thirty-five Maine citizens increased their donations to food pantries, 455 more than projected;
- over 26,758 pounds of food were donated to food pantries, food banks, and kitchens.

### Source of Funding

		Funding Source			
<b>Performance Goal</b>	FTE Days	Smith/Lever [b] & [c]	Smith/Lever [d]	State Funds	Total Funding per Performance Goal
<b>Goal 3-1</b>	477	80,585	190,029	47,990	318,603
<b>Goal 3-2</b>	275	40,138	94,651	23,903	158,692
<b>Goal 3-3</b>	185	31,599	74,514	18,818	124,931
<b>Goal 3-4</b>	95	15,745	37,129	9,376	62,250
<b>Goal 3-5</b>	30	4,649	10,964	2,769	18,382
<b>Goal 3 Total</b>	1,062	172,716	407,287	102,856	682,859

## **Significant Program Accomplishments Corresponding to Key Themes**

### ***Key Themes: Health Care, Human Health and Human Nutrition***

**Assessment of General Nutrition Education Need:** A general nutrition needs assessment of Maine citizens for county professionals and paraprofessionals and statewide organizations was conducted. Educational activities that addressed identified needs included:

- presentations to the statewide retired teacher's conference and the Bangor/Brewer Christian Women's annual meeting;
- Maine Nutrition Council's annual conference;
- support to local Move and Improve program;
- revision and publication of nutrition publications;
- work with the Maine Nutrition Network Health Promotion.

### ***Scope of Impact: State Specific***

### ***Key Themes: Human Health and Human Nutrition***

**Farmers' Market Nutrition Education Project:** UMCE coordinates the Farmers' Market Nutrition Education Project, expanded during 2000 to include five Maine counties. The program helps educate consumers about the importance of good nutrition. Participating counties received funds for groceries, printing, signage, tables, and magnets to promote nutrition education. It is estimated that over 1,500 people visited displays at ten different sites throughout Maine in the summer of 2000, being exposed to information on the nutritional benefits of fruit and vegetable consumption, recipes, food preservation information and gardening resources. Several counties utilized the services of volunteer Master Gardeners to provide technical gardening advice. Participating counties were aware of the availability of the "Eat Smart!" campaign resources and used them as companion pieces to the Farmers' Market Nutrition Education Project. A Farmers' Market Survey was sent to 103 people who had visited nutrition displays at markets during the summer of 1999 and 43 surveys were returned (41% response rate). Survey results indicated the following:

- Sixty-three percent purchased more produce at farmers' markets.
  - Fifty-three percent purchased produce new to them

at farmers' markets.

- Forty percent increased daily consumption of fruits and vegetables.
- Five percent called a Cooperative Extension office for information on nutrition.
- Fourteen percent called a Cooperative Extension office for information on gardening.
- Twenty percent solved garden problems with information from Cooperative Extension.
- Seven percent visited a Cooperative Extension office for specific information.
- Two percent had soil tested through Cooperative Extension.
- Nine percent ordered a publication from the UMCE Publications Catalog.

***Scope of Impact: State Specific***

***Achieving Healthy Weights*** was the focus of "train the leader" training for 35 participants from public school based teams. Fad diets—the good, bad, and the not so good—were evaluated. Support material helped the participants take the information back to school-based settings.

***Scope of Impact: State Specific***

***Healthier Snacks and Meals:*** Extension educators formed an inter-generational group to work together to learn about eating healthier snacks and meals, and to perform public service for the local community.

- Participants learned about the food guide pyramid, "five-a-day" fruits and vegetables, and healthy snacks. They prepared food for the group and performed the play "What's My Vegetable?" an interactive play featuring two junk-food-loving characters named Junk Food Patty and Junk Food Pete. The play taught lessons about how eating right would make them healthier. Over 60 people attended the play. In follow-up, all 15 children that attended indicated that they were now eating healthier foods. Five indicated that they were now taking healthier snacks to school instead of soda and chips.
- As a community service component, each person who attended the "What's My Vegetable?" night was asked to bring a food donation. One hundred and twenty cans of food were collected by the youngsters, and given to the local food pantry.
- As a result of this program the local church

group began serving healthy snacks after school instead of chips and soda.

**Scope of Impact: State Specific**

**Biotechnology** A committee of statewide nutrition leaders including Extension educators was established to plan a statewide conference on food issues related to biotechnology.

**Scope of Impact: State Specific**

**Birth to Eight Committee:** This committee supporting parents with children from birth to age eight has numerous projects and programs, including Parents Are Teachers Too, literacy education for parents and children, reduction of violence in families and schools, nutrition education for preschool children and their families. This group has written several proposals together and shares staff to carry out these activities.

**Scope of Impact: State Specific**

**The Maine Nutrition Council** will convene an expansive human resource base to establish a presence in helping Maine citizens understand the diverse issues. Key leaders in nutrition, representing 10 state agencies and institutions, including UMCE, were gathered to provide all with better understanding of roles, focus, and responsibilities of each agency. Current programming directions were shared. Another meeting is scheduled to find more ways to collaborate, with the goal of providing a greater breadth and depth of programming impact.

**Scope of Impact: State Specific**

**Nutrition Information for Homemakers:** Homemaker groups and the general public want nutrition education. Monthly newsletter articles have been written regarding nutrition education for different ages and stages of life. Programs were conducted for each of the Extension Homemaker groups on food and nutrition, cutting costs, and preparing food for one. In one Maine county the newsletter renewal request was returned and 500 subscriptions were renewed. Each issue of one county's newsletter contains two to three pages of nutrition information. A quarterly page of nutrition information was added to the *Eat Well* newsletter for families receiving food stamps

***Scope of Impact: State Specific***

***Nutrition and Physical Activity Plan:*** UMCE reviewed and commented on the Maine Nutrition and Physical Activity Plan. The plan will be the blueprint for state nutrition work into the new millennium.

***Scope of Impact: State Specific***

***Preparing for Emergencies:*** Residents of rural Maine are vulnerable to the threat of natural disasters. People need to be prepared for winter storms, hurricanes, severe thunder and lightning storms, flooding, and other types of disasters. If an individual is prepared with supplies to meet their basic health and nutritional needs, they cope better with the disaster, are more able to help others through any resulting emergency situations, and will recover faster once the disaster has past. To address this need, *Preparing for Emergencies* was developed and delivered. This program informed participants about

- emergency food and water supplies;
  - emergency first aid kits;
  - preparation of food during emergency situations;
  - emergency evacuation kits;
  - how to shop wisely for their emergency supplies;
- and
- selection of emergency food supply items.

***Scope of Impact: State Specific***

***Summer Safety:*** Extension staff prepared learning packets for Head Start parents' groups on annual summer safety and fun. Proposed program evaluation methodology and subject matter information related to summer activities, recipes and health tips and food safety.

***Scope of Impact: State Specific***

***Key Theme: Human Health***

***Dental Health in Waldo County:*** Many limited-income people in Waldo County cannot pay for dental care, a situation affecting general health. Responding to the situation, several agencies and organizations from the larger Waldo County collaboration of family service providers joined in a subcommittee to work on meeting the need for reduced-price dental services. Grant funds were procured through the efforts of Extension educators. Area dentists each volunteered and a

sliding fee schedule was set up so that everyone would contribute fees of \$5, \$10, or \$15 based on ability to pay. UMCE nutrition aides, Parents Are Teachers Too staff, and the Extension educator were among those promoting the clinic. During the 2000 programming year dentists completed work on 233 patients and are in process with another 199. The project has resulted in 314 visits, and 20 sets of dentures. Many of the participants have not had dental care for 20 years or more due to the cost of dental services. Some are so grateful that they write notes to the coordinator or they cry because someone is helping them. They talk about the loss of self-esteem when they have no teeth or rotted teeth, and how hard it is to get a job when you cannot make a good first impression. The local hospital had been receiving people in the emergency room with pain for decaying teeth. Some would return ultimately to be admitted with general body infections. Now these people are referred to the clinic for further treatment. The general impact of this work includes a tremendous increase in self-confidence in the people who experience their first dental care in years, or ever. Some have applied for and earned higher paying jobs. Some of the older patients are now volunteering in the community because they feel they look more presentable. Other people report that they can now eat foods that they have not had for years: in some cases the foods had made their teeth hurt too much, and in some cases people had lacked opposing teeth with which to chew healthy foods like raw carrots or apples.

***Scope of Impact: State Specific***

***Dental Education:*** UMCE, Belfast Public Health Nursing, Head Start, Bureau of Mental Health and Mental Retardation, Waldo County General Hospital and the Salvation Army have joined forces to evaluate the possibility of a low-cost dental care, and dental education for Waldo County residents. The local Extension educator wrote grants to attempt to get this service gap funded. Agencies provided what they could. Waldo County General Hospital will serve as the fiscal agent, Belfast Public Health Nursing will provide housing and telephone, and the Salvation Army and the Maine Department of Mental Health and Retardation would provide transportation for clients. All of these agencies and many others

that serve families have referral forms and encourage participants in their programs to take part in the dental project.

***Scope of Impact: State Specific***

***Move and Improve*** is a program that encourages individuals to stay physically active at all stages of aging. An Extension staff member was involved as a member of the Move and Improve coalition, sponsored by Eastern Maine Medical Center, which published an article addressing the new Dietary Guidelines for Americans. The article appeared in the quarterly *Move and Improve* newsletter, which reached over 5,000 program participants.

- The program participants have increased annually; 1997 - 1,305 participants at 55 sites; 1998 - 2,593 participants at 80 sites; 1999 - 3,530 participants at 143 sites; and 2000 - 4,700 participants at 173 sites.
  - Nearly 500 Move and Improve program participants attended the event celebrating the completion of the program in June.
  - Of the Move and Improve participants, more than 1,000 responded to the program evaluation, with 81.1 percent of the respondents expressing that the program increased their personal activity level. Extension staff based in Orono, Penobscot, Hancock, Somerset, and Piscataquis Counties were invited to participate in the 11 week program.

***Scope of Impact: State Specific***

***Aging and Sensory Changes:*** Providing people with information about the experience of sensory changes which impact daily living leads to a greater understanding of, and sensitivity to, how those changes affect an individual's ability to relate to the people and environment around them. Learning how to compensate or adapt to these changes can improve a person's well-being and quality of life. To address this issue a program entitled "Sensory Changes: The Effect on Daily Activities and How Can We Remain Safe as We Live, Work, and Play" was developed and delivered. The program was presented to limited-income seniors and a small group of agency staff who work directly with limited-income families with medical needs. A total of 72 people



participated in the program from three Maine counties.

***Scope of Impact: State Specific***

**Key Themes: Birth Weight, Human Health, Human Nutrition, and Infant Mortality**

**Nutrition Education for Pregnant Teenagers:** UMCE planned and delivered a workshop that addressed the special nutrition requirements of pregnant teenagers. A total of 10 pregnant teenagers and their teachers/caregivers attended the session. The objectives of the workshop were for participants to identify their daily eating habits, discuss and compare their eating habits to the recommendations for pregnant teenagers using the food guide pyramid, and list changes they could make to improve the quality of their diets. At the end of the session, 90% of participants reported that they had increased their knowledge related to nutrition during pregnancy. Participants said that they would plan to pay closer attention to what and how much they eat in a day, balance their meals and snacks, minimize soda and fast food, eat more vegetables, make meals more colorful, try to get more calcium, and eat breakfast.

**Scope of Impact: State Specific**

**Eat Right, Stay Healthy:** The general population can benefit from eating more vegetables, including those available locally at farmers' markets. Parents need to understand the parent-child feeding relationship. UMCE provides nutritional education to parents and limited-income families a balanced diet. To address this need:

- Extension Homemakers conducted workshops entitled: Making Nutritious Meals and Cooking Tips;
- limited-income participants in Knox County completed the learn-by-mail series "10 Steps to Good Nutrition";
- the Moms Club (12 moms and 13 children) included a two-hour session on feeding toddlers and a two-hour session on the necessity and problems of breast-feeding, and;
- a series of lessons on eating locally grown vegetables, called "5 A Day", was given at the Farmer's Market in Rockland. Nineteen individuals purchased locally grown vegetables at the Farmer's Market. Seven said they were trying new vegetables.

***Scope of Impact: State Specific***

***Key Themes: Human Health, Human Nutrition and Medicinal Plants***

***The Nutrition Publications Program Leadership Team***

has the responsibility to manage written publications to support the Plan of Work indicators for a healthy, well-nourished population.

- During the last nine months of the year, 13,344 publications in the nutrition field were used to support programming.
  - Sixteen new publications, and a set of ten publications that function as a series, have been added to the list of publications in the area of health and nutrition.
  - A display of Extension publications and resources was prepared and staffed for the annual School Wellness Conference. Over 250 people attended in teams for schools and agencies throughout the state. A focus of the display was increasing the use of fruits and vegetables. Most participants received material to use in health and wellness programming in their schools.
  - *Menus for Small Families* was published. This fact sheet series provides information about menu planning, food shopping, food buying, and food preparation for elderly and other small families.
  - Publications to help families and agency staff create and provide healthy meals for children were purchased and added to the UMCE Publications Catalog. Another publication entitled *Tips for Using the Food Guide Pyramid* and a companion poster were added to the publications inventory.

***Scope of Impact: State Specific***

***The Temporary Housing of Teens Committee*** is comprised of personnel from a number of agencies interested in adults and teens. They are working to create a volunteer network of households willing to take in youth that need to leave home for a few days. The conditions of safe housing are that the youth remain in school and that the youth, and if possible the youth's family, accept community services to help reestablish relationships in the home. The group is seeking funding to hire a coordinator to help accelerate the program.

***Scope of Impact: State Specific***

***Key Themes: Birth Weight, Health Care, Human Nutrition and Human Health***

Waldo County residents need support in maintaining a healthful environment for their families. All of the agencies providing services to families in Waldo County meet monthly. This group keeps abreast of what is going on, identifies local needs, creates and builds cooperative programs, determines gaps in services and seeks ways to fill those gaps, and seeks joint funding. Program groups are working on these issues:

- Supporting parents of children from birth to age 8
  - Maintaining a low-cost dental clinic
  - Creating affordable housing
  - Developing a mechanism for temporary housing for adolescents who must leave home, and for securing services for the whole family
  - Establishing a reliable transportation system to transport low-income people to food stores and medical appointments
  - Making existing housing more safe and livable for those who already own a house or mobile home

***Scope of Impact: State Specific***

***Key Themes: Health Care, Human Health, Human Nutrition and Infant Mortality***

***Parents Are Teachers Too (PATT)*** has been accepted as a model for Maine communities. The state has partially funded the Waldo County site and three other counties to carry out the PATT program. There are grants in conjunction with Preschool and Family Services to provide literacy education and nutrition education to parents of young children. Several Waldo County agencies are working with their sister organizations in Knox County to help establish a strong collaboration. They have shared their experience with this group and helped them request parent education funds of the state. This was the first joint effort of the Knox County organizations including Pen-Bay Hospital, UMCE, Knox County Child Abuse and Neglect Prevention Council, and Knox County Children's Services.

***Scope of Impact: State Specific***

## CSREES Goal 4 Greater Harmony Between Agriculture and the Environment

### **Executive Summary**

The agricultural and natural resource-based programs of the University of Maine Cooperative Extension (UMCE) are designed to meet the educational needs of Maine's agricultural producers, gardeners and horticulturists, fishing and aquaculture industry, and youth, by teaching environmental knowledge and skills. Development and implementation of such strategies has improved the long-term viability of the environment in Maine and helped many Maine citizens achieve their personal, family and business goals in an environmentally aware manner.

#### ***Pesticide Applicator Training***

Keeping growers certified to spray pesticides in a trained, responsible manner is a keystone of the Pesticide Applicator Training and Re-certification program. Extension faculty conducted training on alternative weed-management strategies for 77 producers at the Maine Agricultural Trades Show. A county faculty member delivered programs to 55 producers at Maine Farm Days, 25 people on selecting the proper pesticide and sound use of the chosen product, and over 200 producers that attended and received pesticide re-certification credits at the annual Maine Potato Conference.

#### ***Changes in Maine's Dairy Industry to Protect Water Quality***

Maine dairy and livestock producers are now required to develop and implement Comprehensive Nutrient Management Plans (CNMP) and demonstrate how and where they will use livestock manure on their farms, to prevent groundwater nitrate contamination. Cooperative Extension has been involved in providing leadership and education in CNMP development, and is continuing to address specific needs of farmers as they meet these challenges.

#### ***Water Quality and The Maine Lakes Project***

The number of Maine lakes at risk of eutrophication is increasing. Increased lakefront development, intensification of agricultural production and soil erosion from various land uses has elevated phosphorus levels in many lakes, leading to algal blooms. Over half of Maine lakes are considered to be moderately nutrient rich, and small additions of phosphorus can stimulate algae growth. When algae and plants die, bacterial decomposition at depth in stratified lakes reduces dissolved oxygen concentrations, leading to the loss of cold-water fish species like salmon and togue. The adverse impact of unwanted aquatic vegetation on recreational uses of the lake, drinking water quality, and property values has been well documented. UMCE's lake-water-quality protection efforts are important to enhance local economies, maintain Maine's scenic beauty, and in some cases to protect drinking water resources (68 Maine communities use lakes as public water supplies).

### ***Composting Education***

In order to protect the environment and achieve the state goal of a 50 percent reduction in the solid waste stream, Extension's educational programs—in collaboration with the Maine State Planning Office, the Maine Department of Environmental Protection and the Maine Department of Agriculture—have increased recycling and composting activities for the organic portion of the waste stream. Our efforts are focused on home, municipal, and commercial composting education.

### ***Home Horticulture Team***

The UMCE home horticulture team is dedicated to providing educational programs to Maine citizens that expose and encourage them to adopt practical, sustainable, research-based horticultural practices, improve their home gardening successes, and lead to improved health and quality of life. During the 2000 programming year the team and its programs reached over 140,000 Maine residents. The major effort included

- training Master Gardener volunteers;
- developing demonstration gardens;
- participating in the Plant-A-Row project;
- programs and workshops for home gardeners and others;
- problem solving consultations;
- horticultural therapy projects;
- back yard habitats;
- familiarizing citizens with Maine agriculture; and
- entering businesses in the horticulture industry.

### ***Master Gardeners Help Provide Food Security***

Food insecurity is a problem for many Maine citizens. The Master Gardeners program gives citizens the skills to help provide for themselves, trains master gardeners who commit to volunteer community outreach education, and coordinates the Plant-A-Row program which supplements community food banks.

### ***Home Horticulture Programs and Workshops***

The demand for workshops on home gardening, urban gardening and home horticulture topics continues to grow. Team members reported a total of 243 educational workshops and events attended by 15,576 Maine citizens. Programs were designed for age groups from youth to elders in an attempt to respond to family needs. The following impacts have been documented in the various programs:

- Twenty five percent of 56 respondents to an evaluation from a backyard habitat program indicated a reduction in home pesticide use.
  - One third of the 39 respondents to an evaluation of a vegetable gardening program indicated a reduction in pesticide use. Sixteen percent indicated that the workshop information had helped them save money.
  - Fourteen participants in a landscape design program reported expected savings of \$650 per person in plants and professional fees and an additional purchase of \$110 per person of new plants from Maine's green industry.
  - One youngster in a youth gardening program stated, "I saved my Mom

and Dad a lot of money with my garden.”

#### ***4-H Earth Connections (UMCE's Environmental Education Programs)***

Today's youth will be tomorrow's stewards of our land and water resources, yet little time during the school year is devoted to helping students understand and appreciate these ecosystems and our dependence on them. Traditional classroom teaching involves few opportunities for hands-on, outdoor experiences. It has been suggested that Maine youth know more about California redwoods than Maine's white pine, more about South American rainforests than Maine's forests, more about Australia's coral reefs than Maine's rocky shore. Education today is squeezed indoors using textbooks and other teaching resources designed for larger, more densely developed states. In order to be successful in today's world, Maine youth need to acquire skills in communication, decision-making, problem solving, honoring and celebrating diversity and developing and maintaining healthy relationships. Research into the background of today's leaders in the fields of environmental education and natural resources management indicate two common childhood experiences: time spent outdoors in beautiful places and the presence of a caring adult. Residential camps are a proven strategy for teaching these skills and for preparing future leaders.

More than 6,000 youth participated in direct, hands-on natural resources learning experiences during 2000. Of these, 5,476 demonstrated knowledge of natural resources, ecology and an understanding of their connections with the earth. This result is especially significant, since one of the primary objectives of 4-H Earth Connections programs is to bring about a shift in the way people see themselves in relation to the earth, toward seeing themselves as a part of the earth's ecosystems. Extension's 4-H Earth Connections programs teach from an ecological perspective, that we are part of these natural systems and that our health is dependent on the health of these systems. From follow-up evaluation it was determined that two-thirds of the 6,000 youth participating in 4-H Earth Connections educational experiences took actions to protect the environment and/or adopted sustainable living practices.

UMCE offers several youth environmental education programs and employs a variety of other strategies to educate Maine youth about natural resources:

- School-based studies
- Residential and day camps
- Festivals, fairs and field trips

Many of these programs are offered in collaboration with schools, state agencies and non-profit organizations.

#### ***Understanding and Managing Pest Problems While Minimizing Pesticide Use***

In 1997 Maine's Legislature passed "An Act to Minimize Reliance on Pesticides." This act stated that the Maine Board of Pesticides Control, in cooperation with UMCE, should study ways to improve pesticide information databases and optimize analysis of the information. Furthermore, the act states it is the policy of the state to work to find ways to use the minimum amount of pesticides needed to effectively control targeted pests. Also, the state shall promote Integrated Pest Management (IPM) and science-based technology to minimize reliance on pesticides.

- More than 1,400 producers used IPM practices to grow apples, potatoes, sweet corn, strawberries and cranberries, as well as greenhouse products.
- Nearly 1,800 Maine citizens made informed decisions or changed attitudes concerning pesticide applications through the pesticide applicator-training (PAT) program.
- Over 65,000 individuals accessed information or understood the ecology of beneficial and pest organisms through the Master Gardener program or Pest Management Office programs.
- In support of this new mandate 4,275 consultations were made, 132 workshops were held, 13 publications, and 61 newsletter issues were written in the past year.
- The news media contained 33 reports with a circulation of 649,523; there were 9,400 publications distributed and 4,367 people attended workshops.
- A sprayer calibration clinic was held for 14 producers to teach how to properly calibrate a boom sprayer to apply proper pesticide rates.
- Training for 120 greenhouse operators was conducted in Maine, New Hampshire and Vermont on IPM and pest identification.
- Training was held in cooperation with the Maine Board of Pesticides Control and Friends of Casco Bay for 250 people on the dangers of pesticide use.
- Cranberry growers used a bacterial insecticide instead of chemicals; made use of an on-line cranberry insect identification quiz; used an on-line newsletter and created tactical agricultural teams to address pest management needs.

### ***Non-Industrial Forest Landowners Receive Education***

An important component of Maine's economy is its abundant forest resources. Forests cover nearly 90 percent of the land area of Maine, almost 18 million acres. Nearly one hundred and eighty thousand non-industrial private owners hold slightly over half of the forestland in Maine. These non-industrial private forest landowners have educational needs that include Best Management Practices, non-timber forest products, timber harvesting, silviculture, forest ecology, Maine Tree Growth Taxes, forest management plans, estate planning, forest inventory, and selecting professional assistance.

Outcomes of non-industrial forest landowner educational programs include the following:

- One hundred eighty-seven individuals developed goals and objectives for their forests.
  - Sixty individuals or groups developed management plans for their forests.
- Three thousand acres were included in forest management plans.
- Twenty-five individuals implemented their management plans.
- Approximately 21,500 acres were affected by environmentally appropriate management practices.
- Two hundred nine individuals considered non-timber income opportunities for their forestland.
- Four hundred two individuals consulted with UMCE on forest management.
- Fourteen workshops were presented with an attendance of 322.
  - Five hundred twenty-five people were included in groups formed for



- forest management education.
- Ten publications on forest management were written.
  - Eleven thousand three hundred fifty publications were distributed.
  - Three audio-visual resources were developed.
  - Ten articles were published in the news media.

### ***Maine Forest Products Manufacturers***

Maine's forests support well over 1,000 enterprises consisting of nearly 500 sawmills, over 300 secondary manufacturers with employees, 16 paper mills and countless small businesses with one or several employees. Forest products constitute a majority of the state's gross domestic product in the private sector. Many of the forest industries in the state have needs for education in wood machining, wood drying, sawmill maintenance, wood identification and general topics in wood technology. There is a large and growing interest in portable sawmills for both personal and business use. The people interested in portable sawmills are frequently new to the technology and have high motivation, but lack technical expertise, and can benefit from selection and safe operation education.

During the past year, UMCE staff members have reached nearly one quarter of a million wood products contacts through workshops, consultations and magazine articles. There is direct evidence of nearly \$200,000 in positive financial benefits from this effort. We have documented 18 new or expanded opportunities for forest products and 108 firms that understand the relationships of production, environmental and economic variables in making management decisions. Approximately 30,000 informational publications were distributed and a circulation of 200,000 in related magazine and news media was achieved.

### ***Extension Serves as Catalyst For Actions To Improve The Environment***

Abundant natural resources are an important part of Maine's economy. Many people have a strong interest and desire to work to improve the environment, but lack the knowledge and skills to take effective action. Actions to improve the environment are most effective when taken in concert as part of a group and in collaboration with local communities and other public officials. UMCE provides the necessary training and organizational support necessary for individuals to form groups with the intent of taking positive actions to improve the environment. Extension often serves as a catalyst to create or strengthen communities. With support and training from UMCE, Maine citizens applied the principles of sustainable resource management to protect and enhance the ecological values of forests in their communities. UMCE served as a catalyst to form several new groups and organizations during the past year. These groups include a community forest program in Lewiston and Auburn, a new non-profit corporation to support youth and adult environmental programming and a statewide organization dedicated to the reestablishment of the American chestnut tree in Maine. In addition, Extension provided support for town conservation commissions, local land trusts and other community groups, and provided linkages for farmers and state and national agencies to facilitate understanding about environmental issues and regulations.

***Maine Natural Resource Professionals Receive Continuing Education.***

The forest industries, government, and various independent service providers employ several thousands of natural resource professionals. Since 1985, Maine law has required state licensing for any person measuring wood products from the forests for the purpose of providing payment for goods or services. Thus many professionals need continuing education. UMCE, in collaboration with the Maine Department of Agriculture has offered semi-annual Wood Measurement Workshops to enable participants to obtain Apprentice Wood Scaler's licenses. An outgrowth of the Wood Measurement Workshops was that natural resource professionals began to realize that they needed education on processing forest products to optimize value recovery. They were especially interested in techniques for maximizing value while manufacturing high-grade hardwood saw and veneer logs. To address these needs, UMCE provided workshops on Hardwood Log Grading and Scaling: Methods and Techniques to Improve Profits.

*Plan of Work Performance Goals  
Outcome Indicators and Output Indicators*

<b>Performance Goal 4-1</b>		
<b>Agricultural producers will recognize and reduce the risk of pesticide and nutrient contamination to surface water and groundwater resulting from production activities.</b>		
OUTCOME INDICATORS: Behaviors and Impacts		
	R eported	Pr ojected
<b>Total Days:</b>	889.5	1295
<b>Producers will implement pesticide and nutrient Best Management Practices to protect surface water and groundwater systems.</b>	1850	520
<b>Management plans will be written as a result of UMCE efforts.</b>	245	70
<b>Producers will reduce negative impacts of livestock on streams.</b>	8	5
<b>Producers will adopt testing strategies as a part of management practices and use results in their management process.</b>	2239	750
<b>Crop producers will identify yield-limiting factors and increase long-term productivity.</b>	2006	490
<b>Potato and blueberry producers will understand and use thresholds for pest treatment.</b>	2405	900
<b>Producers will use strategic planning, record keeping, and prediction models in their management practices.</b>	1873	400
<b>Agricultural producers will implement Integrated Pest Management programs in Maine.</b>	1796	455
<b>Producers will maintain pesticide certification by attending pesticide recertification programs.</b>	1780	250
<b>Producers will change pesticide application techniques and attitudes using Pesticide Applicator Training practices.</b>	846	50
<b>Producers will evaluate non-chemical pest control methods because of the Pesticide Impact Assessment Program.</b>	42	50
<b>Poultry and aquaculture producers will adopt Integrated Pest Management practices.</b>	61	50
OUTPUT INDICATORS		

<b>Number of consultations</b>	2114	5925
<b>Number of workshops/events</b>	94	114
<b>Number of people attending the workshops/events</b>	5870	7495
<b>Number of groups formed (ad hoc or formally organized)</b>	2	1
<b>Number of people involved in groups formed (above)</b>	20	15
<b>Number of volunteers trained</b>	0	40
<b>Number of publications written</b>	12	33
<b>Number of publications distributed</b>	10,265	6010
<b>Number of issues of newsletters written</b>	19	53
<b>Number of people receiving newsletters within a year's time</b>	4879	4100
<b>Number of audio visual resources developed (video, slides, displays)</b>	11	19
<b>Number of articles in news media</b>	38	38
<b>Number of visits to cranberry website</b>	0	60
<b>Circulation of articles in news media</b>	25,002	25,000

<b>Performance Goal 4-2</b>			
<b>Maine citizens will understand how surface water and groundwater systems function, better understanding the threats to water resources, and take actions to protect Maine's natural resources.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	
<b>Total Days:</b>	493.5	327	
<b>Maine Citizens will form weekend watershed conservation teams to take action to correct easily correctable problems with the assistance of UMCE staff.</b>	0	10	
<b>Maine citizens will use appropriate home horticulture practices to protect water resources.</b>	277	185	
<b>Maine citizens will complete lake watershed surveys</b>	101	2	
<b>Maine citizens will have increased awareness of the threats to drinking water.</b>	20,476	70	
<b>Maine citizens will take action to protect shellfish resources.</b>	124	600	
<b>Maine citizens will monitor phytoplankton for an early warning system for toxins affecting public health</b>	215	100	
<b>Community groups will be involved in watershed</b>	187	1	

<b>management initiatives.</b>			
<b>Acres will be covered in watershed management initiatives.</b>	57,736	1000	
<b>Maine citizens will be involved in leadership training to protect natural resources.</b>	132	55	
<b>Maine residents will protect wetland and riparian habitats.</b>	29	15	
<b>Maine citizens will protect wildlife habitat in suburban and rural settings.</b>	30	15	
<b>Farmers and homeowners within source water protection areas will assess and take action to prevent water contamination.</b>	291	5	
<b>Maine citizens will conduct coastal watershed surveys</b>	0	0	
<b>Maine citizens will have increased awareness of threats to marine habitats</b>	0	0	
<b>Maine coastal groups will learn capacity building techniques to protect marine resources</b>	0	0	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations</b>	249	116	
<b>Number of workshops/events</b>	62	23	
<b>Number of people attending the workshops/events</b>	4113	710	
<b>Number of groups formed (ad hoc or formally organized)</b>	17	11	
<b>Number of people involved in groups formed</b>	288	120	
<b>Number of volunteers trained</b>	1588	720	
<b>Number of publications written</b>	7	9	
<b>Number of publications distributed</b>	14,202	485	
<b>Number of radio programs produced</b>	21	1	
<b>Number of radio program listeners</b>	8700	7500	
<b>Number of issues of newsletters written</b>	9	10	
<b>Number of people receiving newsletters within a year's time</b>	250	740	
<b>Number of audio visual resources developed (video, slides, displays)</b>	7	4	
<b>Number of articles in news media</b>	20	8	
<b>Circulation of articles in news media</b>	1,182,000	100,000	

<b>Performance Goal 4-3</b>			
<b>Maine's agricultural producers, private businesses, municipalities and residents will</b> compost residual organic materials to enhance nutrient management, improve solid and reduce the solid waste stream in the state.			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	
<b>Total Days:</b>	401	488	
<b>Agricultural producers will start composting.</b>	203	25	
<b>Municipalities will start composting.</b>	9	5	
<b>Private compost facilities will be established.</b>	30	30	
<b>Households will start composting.</b>	222	265	
<b>Volunteer hours will be given by Master Composters for community projects.</b>	1029	280	
<b>People will participate in Master Composter projects.</b>	118	250	
<b>Master Composter projects will be created.</b>	30	15	
<b>Private Composters will attend programs.</b>	146	400	
<b>Master Gardener Volunteers will be train in composting education.</b>	235	30	
<b>Residents will attend home composting programs.</b>	342	410	
<b>Master Composters will be trained.</b>	10	50	
OUTPUT INDICATORS			
<b>Number of consultations</b>	205	550	
<b>Number of workshops/events</b>	43	55	
<b>Number of people attending the workshops/events</b>	1447	1035	
<b>Number of groups formed (ad hoc or formally organized)</b>	10	12	
<b>Number of people involved in groups formed</b>	61	40	
<b>Number of volunteers trained</b>	121	105	
<b>Number of publications written</b>	0	3	
<b>Number of publications distributed</b>	1272	2325	
<b>Number of issues of newsletters written</b>	0	13	
<b>Number of people receiving newsletters within a year's time</b>	0	1700	
<b>Number of audio visual resources developed (video,</b>	3	5	

slides, displays)			
<b>Number of articles in news media</b>	6	5	
<b>Circulation of articles in news media</b>	1204	1500	

<b>Performance Goal 4-4</b>			
<b>Maine citizens will be exposed to and encouraged to adopt practical, sustainable,</b> research-based horticultural practices, which will improve their home gardening success and lead to improved health and quality of life. The delivery of this information will foster an understanding of Maine agriculture.			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	
<b>Total Days:</b>	1149	907	
<b>Volunteer hours will be given by Master Gardeners to provide horticulture information to the public and develop community horticulture projects.</b>	12,917	6400	
<b>Educational and community projects will be developed and/or run by Master Gardeners.</b>	180	48	
<b>People will participate in Master Gardener educational events and community projects.</b>	20,880	1600	
<b>Master gardeners will further their education through college classes or technical programs.</b>	451	7	
<b>Master Gardeners will start a horticulture-based business</b>	40	7	
<b>Specimens will be collected.</b>	1674	800	
<b>People will start a garden.</b>	231	102	
<b>Soil tests will be submitted.</b>	2096	825	
<b>People will expand their garden space.</b>	514	840	
<b>Soil tests will be interpreted.</b>	1051	90	
<b>People will report reduced pesticide use.</b>	609	570	
<b>People will donate vegetables to food pantries.</b>	374	25	
<b>People will adopt ecologically sound landscape practices that enhance wildlife habitat.</b>	439	50	
<b>Pounds of produce will be donated to food pantries.</b>	17,092	500	
<b>Value (in dollars) of food will be donated to food pantries.</b>	17,854	350	
<b>Responses will be made to public requests.</b>	5710	7000	
<b>Horticultural therapy programs will be started.</b>	8	1	
<b>People will use adaptive gardening techniques.</b>	113	10	

OUTPUT INDICATORS			
Number of consultations	5920	3400	
Number of workshops/events	261	70	
Number of people attending the workshops/events	28,289	3230	
Number of groups formed (ad hoc or formally organized)	28	2	
Number of people involved in groups formed	357	100	
Number of volunteers trained	647	230	
Number of publications written	4	7	
Number of publications distributed	45,396	6250	
Number of issues of newsletters written	40	43	
Number of people receiving newsletters within a year's time	16,725	2410	
Number of audio visual resources developed (video, slides, displays)	11	14	
Number of articles in news media	148	26	
Circulation of articles in news media	730,804	112,000	
Number of people reached through Farmers' Markets	2500	2000	
Number of television segments produced	65	30	
Circulation of articles in news media	90,000	11,500	
Number of Master Gardener volunteers successfully completing training	284	80	
Number of horticultural therapy adaptive gardening workshops/consultations	44	25	

<b>Performance Goal 4-5</b>			
<b>Maine youth will acquire the knowledge and skills to protect the natural environment and conserve natural resources.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	
<b>Total Days:</b>	540	250	
<b>Youth will demonstrate a knowledge of the laws of ecology and/or an understanding of their connections with the earth.</b>	5476	200	



OUTPUT INDICATORS			
Number of consultations	222	106	
Number of workshops/events	180	213	
Number of people attending the workshops/events	6022	6785	
Number of groups formed (ad hoc or formally organized)	138	122	
Number of people involved in groups formed	3873	2667	
Number of volunteers trained	352	70	
Number of publications written	6	6	
Number of publications distributed	1471	10,525	
Number of issues of newsletters written	28	4	
Number of people receiving newsletters within a year's time	10,979	2725	
Number of audio visual resources developed (video, slides, displays)	39	3	
Number of articles in news media	39	13	
Circulation of articles in news media	217,282	127,000	

<b>Performance Goal 4-6</b>		
<b>Maine Citizens will understand and manage pest problems while minimizing pesticide use.</b>		
OUTCOME INDICATORS: Behaviors and Impacts		
	R eported	Pr ojected
<b>Total Days:</b>	1216	1000
<b>Number of producers changing pesticide application techniques and attitudes using PAT practices.</b>	836	1000
<b>Number of producers evaluating non-chemical pest control methods because of the Pesticide Impact Assessment Program.</b>	3	20
<b>The USDA receives accurate information on pesticide use in Maine. Information gathered through a PIAP survey of the agricultural community. Number of surveys conducted.</b>	26	30
<b>Number of Maine producers implementing pesticide best management practices to protect the environment.</b>	104	100
<b>Number of Maine citizens who become certified pesticide applicators.</b>	98	100
<b>Number of Maine citizens making an informed decision regarding a pesticide application.</b>	849	2000

<b>Number of gardeners and others who understand the ecology of beneficial and pest organisms and/or pest issues related to a specific commodity, crop or household situation.</b>	1369	2000
<b>Number of Master Gardeners who are able to successfully identify beneficial and pest organisms and utilize appropriate management techniques.</b>	342	500
<b>Number of Maine citizens who address a pest management issue after consultation or diagnosis by Pest Management Office staff.</b>	1314	2500
<b>Maine Citizens will access up-to-date information on the Pest Management Office website and UMCE web page.</b>	61,260	50,000
<b>OUTPUT INDICATORS</b>		
<b>Number of consultations</b>	4275	5000
<b>Number of workshops/events</b>	132	100
<b>Number of people attending the workshops/events</b>	4367	4000
<b>Number of groups formed (ad hoc or formally organized)</b>	6	5
<b>Number of people involved in groups formed</b>	65	50
<b>Number of volunteers trained</b>	25	100
<b>Number of publications written</b>	13	10
<b>Number of publications distributed</b>	9400	8000
<b>Number of issues of newsletters written</b>	61	50
<b>Number of people receiving newsletters within a year's time</b>	3661	3500
<b>Number of audio visual resources developed (video, slides, displays)</b>	14	10
<b>Number of articles in news media</b>	33	20
<b>Circulation of articles in news media</b>	649,523	500,000

<b>Performance Goal 4-7</b>			
<b>Non-industrial forest landowners and stewards will apply decision-making skills and adopt practices that contribute to forest health, productivity and long term sustainability.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	Reported	Projected	
<b>Total Days:</b>	221	200	
<b>Number of individuals or groups who develop a forest management plan.</b>	60	100	
<b>Number of acres of forest included in forest management plans.</b>	3000	3000	
<b>Number of individuals who implement their forest management plan.</b>	25	50	
<b>Number of environmentally appropriate forest management practices adopted and the number of acres affected</b>	36	50	
<b>Number of environmentally appropriate forest management practices adopted and the number of acres affected</b>	21,500	1500	
<b>Number of participants who consider alternative income opportunities for their land</b>	209	300	
<b>Number of alternative income opportunities adopted.</b>	4	10	
<b>Number of BMP's adopted and the number of acres affected</b>	0	0	
<b>Number of erosion control measures adopted and acres affected</b>	0	0	
OUTPUT INDICATORS			
<b>Number of consultations</b>	402	300	
<b>Number of workshops/events</b>	14	10	
<b>Number of people attending the workshops/events</b>	322	350	
<b>Number of groups formed (ad hoc or formally organized)</b>	1	2	
<b>Number of people involved in groups formed</b>	525	50	
<b>Number of volunteers trained</b>	10	10	
<b>Number of publications written</b>	10	10	
<b>Number of publications distributed</b>	11,350	1000	
<b>Number of issues of newsletters written</b>	0	6	

<b>Number of people receiving newsletters within a year's time</b>	0	200	
<b>Number of audio visual resources developed (video, slides, displays)</b>	3	1	
<b>Number of articles in news media</b>	10	5	
<b>Circulation of articles in news media</b>	172,000	200,000	

<b>Performance Goal 4-8</b>			
<b>Producers of raw and manufactured forest products will adopt new practices that will improve the quality and quantity of value-added forest products, assure a safe and healthy work environment, and sustain the profitability of their business.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	Reported	Projected	
<b>Total Days:</b>	109	100	
<b>Total dollars saved or earned as a direct result of implementing new management changes learned through Extension programs to utilize forest products more effectively.</b>	100,000	75,000	
<b>Number of manufactures adopting safety practices</b>	2	5	
<b>Number of manufacturers who can describe the relationship of production, economic and environmental variables in making management decisions.</b>	108	100	
<b>Number of firms implementing strategies or practices to increase product value or dollars earned</b>	94	75	
<b>Total dollar value from value-added strategies to local communities.</b>	0	0	
<b>Number of new or expanded market opportunities for forest products.</b>	18	15	
<b>Number of firms incorporating strategic planning, record keeping and predictive models in their management practices.</b>	13	10	
<b>Number of firms implementing changes in management as a result of developing strategic goals and objectives.</b>	83	50	
OUTPUT INDICATORS			
<b>Number of consultations</b>	212	200	
<b>Number of workshops/events</b>	4	4	
<b>Number of people attending the workshops/events</b>	3565	3000	

<b>Number of groups formed (ad hoc or formally organized)</b>	0	0	
<b>Number of people involved in groups formed</b>	0	0	
<b>Number of volunteers trained</b>	0	0	
<b>Number of publications written</b>	4	5	
<b>Number of publications distributed</b>	30,000	10,000	
<b>Number of issues of newsletters written</b>	0	0	
<b>Number of people receiving newsletters within a year's time</b>	0	0	
<b>Number of audio visual resources developed (video, slides, displays)</b>	1	1	
<b>Number of articles in news media</b>	3	5	
<b>Circulation of articles in news media</b>	205,000	100,000	

<b>Performance Goal 4-9</b>			
<b>Maine citizens, decision-makers, and communities will apply the principles of sustainable</b>			
forest resource management to develop programs and policies that protect and enhance the ecological values of forests in their communities.			
<b>OUTCOME INDICATORS: Behaviors and Impacts</b>			
	<b>R</b> eported	<b>Pr</b> ojected	
<b>Total Days:</b>	46	50	
<b>Number of urban forest resource management plans developed and implemented.</b>	0	0	
<b>Number of participants completing the Covert Projects training.</b>	0	0	
<b>Number of volunteer hours given by Coverts Cooperators to provide wildlife and forest resource information to the public and develop community outreach projects.</b>	0	0	
<b>Number of youth and adults participating in Coverts Project outreach efforts.</b>	0	0	
<b>Number of acres affected as a result of Coverts Cooperator outreach projects.</b>	0	0	
<b>Number of environmentally appropriate practices adopted as a result of Coverts Cooperator outreach projects.</b>	0	0	
<b>Number of communities starting a public policy process involving wetlands, timber harvest, endangered species and other resource issues.</b>	0	0	
<b>Number of acres protected and enhanced by</b>	0	100	

implementing strategies acquired as a result of public policy educational programs on sustaining renewable natural resources.			
Number of acres protected but not enhanced by implementing strategies acquired as a result of public policy educational programs on sustaining renewable natural resources.	0	100	
<b>OUTPUT INDICATORS</b>			
Number of consultations	54	50	
Number of workshops/events	0	0	
Number of people attending the workshops/events	0	0	
Number of groups formed (ad hoc or formally organized)	2	2	
Number of people involved in groups formed	30	20	
Number of volunteers trained	0	0	
Number of publications written	2	5	
Number of publications distributed	225	1000	
Number of issues of newsletters written	0	0	
Number of people receiving newsletters within a year's time	0	0	
Number of audio visual resources developed (video, slides, displays)	0	0	
Number of articles in news media	7	5	
Circulation of articles in news media	70,000	50,000	

<b>Performance Goal 4-10</b>			
Through continuing education, natural resource professionals, educators and service providers will be exposed to new information and ideas and will incorporate that knowledge and will adopt current or new practices in their work.			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	
<b>Total Days:</b>	31	30	
<b>Number of natural resource professionals, educators and service providers attending continuing education instruction delivered by Extension staff or in collaboration</b>	3	50	

<b>with partners.</b>			
<b>Number of natural resource professionals, educators and service providers incorporating new knowledge and adopting new practices in their work.</b>	0	10	
<b>Number of acres affected by the adoption of current or new practices.</b>	0	500	
<b>Number of natural resource professionals who obtain their apprentice wood scaling license as a result of attending Extension programs</b>	0	20	
<b>Number of loggers attending safety workshops.</b>	0	10	
<b>Number of loggers adopting safety practices.</b>	0	10	
<b>Number of safety practices adopted.</b>	0	5	
<b>Number of natural resource professionals and service providers implementing BMP's as a result of attending Extension programs.</b>	0	10	
<b>Dollars saved or earned as a result of implementing BMP's</b>	0	2500	
<b>Acres affected as a result of implementing BMP's</b>	0	250	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations</b>	1	20	
<b>Number of workshops/events</b>	1	4	
<b>Number of people attending the workshops/events</b>	5	60	
<b>Number of groups formed (ad hoc or formally organized)</b>	0	0	
<b>Number of people involved in groups formed</b>	0	0	
<b>Number of volunteers trained</b>	10	15	
<b>Number of publications written</b>	0	0	
<b>Number of publications distributed</b>	6	100	
<b>Number of issues of newsletters written</b>	0	0	
<b>Number of people receiving newsletters within a year's time</b>	0	0	
<b>Number of audio visual resources developed (video, slides, displays)</b>	0	0	
<b>Number of articles in news media</b>	0	0	
<b>Circulation of articles in news media</b>	0	0	

<b>Performance Goal 4-11</b>		
------------------------------	--	--

<b>Maine citizens will be exposed to and encouraged to adopt practical, sustainable, research-based marine resource management practices leading to improved health and quality of life. The delivery of this information will foster an understanding of marine fisheries and aquaculture.</b>		
OUTCOME INDICATORS: Behaviors and Impacts		
	Reported	Projected
<b>Total Days:</b>	587	500
<b>People will make informed decisions demonstrating environmental stewardship and sustainable marine resource practices.</b>	1162	120
<b>People will take steps to achieve personal and community goals.</b>	906	180
OUTPUT INDICATORS		
<b>Number of consultations</b>	317	500
<b>Number of workshops/events</b>	75	30
<b>Number of people attending the workshops/events</b>	3707	600
<b>Number of people involved in groups formed</b>	219	5
<b>Number of volunteers trained</b>	161	30
<b>Number of publications written</b>	2	3
<b>Number of issues of newsletters written</b>	5	0
<b>Number of people receiving newsletters within a year's time</b>	900	0
<b>Number of audio visual resources developed (video, slides, displays)</b>	12	10
<b>Number of articles in news media</b>	24	8
<b>Circulation of articles in news media</b>	196,000	120,000



**that: Evaluation of selected Outcome Indicators and Output Indicators reveals**

- over 1,800 producers were educated to implement pesticide and nutrient Best Management Practices to protect surface water and groundwater systems, 1,330 more than projected;
- more than 2,000 crop producers were informed of ways to identify yield-limiting factors and increase long-term productivity, 1,516 more than projected;
- two thousand four hundred five potato and blueberry producers understand and use thresholds for pest treatment, 1,505 more than projected;
- over 13,950 consultations were conducted and 886 workshops/events related to agricultural and environmental harmony were held in Maine during the programming year;
- three hundred twenty-eight articles were published in state and regional news publications, potentially reaching 3,448,800 citizens;
- two thousand one hundred fourteen volunteers were trained to support programming efforts in 2000;
- two hundred sixty-seven Maine citizens took action to protect Maine's natural resources, particularly lakes, by becoming watershed stewards. This represents 162 more than projected;
- two hundred seventy-seven Maine citizens used appropriate home horticulture practices to protect water resources;
- fifty-two people graduated from UMCE's Compost School, 203 agricultural producers began composting, and 9 municipalities began composting;
- over 12,900 volunteer hours were given by Master Gardeners to provide horticulture information to the public and develop 180 community horticulture projects, more than twice our projections;
- Master Gardeners started forty horticulture-based businesses, 33 more than anticipated;
- eight horticultural therapy programs were started;
- nearly 4,000 youth demonstrated environmental stewardship and/or sustainable natural resource practices and 5,476 youth demonstrated knowledge of the laws of ecology and/or an understanding of their connections with the earth;
- Maine citizens accessed up-to-date information on the Pest Management Office website and UMCE web page more than 61,200 times;
- one hundred four Maine producers implemented pesticide Best Management Practices to protect the environment;
- twenty-one thousand five hundred acres were affected by environmentally appropriate forest management practices adopted in 2000;
- One-thousand one hundred sixty two people will make informed decisions demonstrating environmental stewardship and sustainable marine resource practices.

### Source of Funding

Performance Goal	FTE Days	Funding Source		State Funds	Total Funding per Performance Goal
		Smith/Lever [b] & [c]	Smith/Lever [d]		
<b>Goal 4-1</b>	885	136,972	112,000	292,566	541,537
<b>Goal 4-2</b>	482	66,275		195,753	262,028
<b>Goal 4-3</b>	501	89,912		265,569	355,481
<b>Goal 4-4</b>	1,049	146,465		432,605	579,070
<b>Goal 4-5</b>	514	73,065		215,807	288,872
<b>Goal 4-6</b>	1,216	149,074		440,311	589,384
<b>Goal 4-7</b>	221	33,000		97,470	130,469
<b>Goal 4-8</b>	109	17,114		50,548	67,661
<b>Goal 4-9</b>	46	7,626		22,523	30,149
<b>Goal 4-10</b>	31	4,586		13,544	18,130
<b>Goal 4-11</b>	351	57,156		168,818	225,974
<b>Goal 4 Total</b>	5,404	781,243	112,000	2,195,513	3,088,756

## Significant Program Accomplishments Corresponding to Key Themes

### *Key Themes: Integrated Pest Management, Water Quality, and Pesticide Application*

**Changes in Groundwater Pesticide Levels:** In 1994, 14 percent of the well water samples collected and analyzed for corn herbicides contained detectable levels of atrazine. In 1999, no well water samples contained detectable levels of herbicides. This dramatic statistic is a result of growers reducing atrazine and other highly leachable pre-emergence herbicide applications and moving to alternative post-emergent herbicides.

#### *Scope of Impact: Integrated Research and Extension*

### *Key Themes: Integrated Pest Management*

**A Change in Weed Management Strategies:** One key educational program that has been vital to improving pesticide detections in groundwater is the increased use of cultivation. Out of 57 growers surveyed at the 2000 Agricultural Trades show, 66 percent of the respondents are regularly using some cultivation in their work. The specific use reductions are as follows:

- Twenty-five percent have cut herbicide application by half.
- Twenty percent have cut herbicide application by one third.
- Thirty percent have cut their herbicide application by one quarter.
- Only 10 percent of those with cultivators do not use them.

While cultivation costs money, growers are, in effect, paying themselves for their time instead of giving money to the pesticide industry. Most importantly, this represents a significant reduction in pesticide use. This increased use of cultivation to reduce or replace herbicides is likely part of the reason why pesticide detections in groundwater near cornfields have dropped to zero in 1999.

#### *Scope of Impact: Integrated Research and Extension*

**Cranberry IPM:** The number of Maine's cranberry growers has increased to the point that it is no longer feasible, or even practical, for UMCE to conduct pest management services on their behalf. Currently, Maine's cranberry growers have a great need for hands-on training to enable them to properly monitor and manage their own pest situations with little or no outside assistance. This need is being met by UMCE with the creation of TAg (Tactical Ag) teams—teams comprised of growers, one or two extension IPM specialists, and county Extension agents, all of whom gather weekly at one or two member's farms for hands-on IPM training. To date, three such teams have been created. There have been two meetings with all three groups and a total attendance of 35 people. There are from four to six growers in each team, as well as a few potential growers, grower employees, and even a boy of 12 (one of the grower's grandchildren).

#### *Scope of Impact: Integrated Research and Extension*

**TAg (Tactical Ag) Team On-line Newsletter:** An online newsletter, called

*TAg Notes*, has been created as an accompaniment to Maine's Cranberry TAg Team Program. It consists of high quality digital photos and MPEG movie files showcasing various pests (solely insect thus far) that have been talked about during a given TAg field meeting. To date, **four** issues have been created and a **5th fifth** is underway. ~~The University of Maine Cooperative Extension~~ **UMCE's** Cranberry associate Psought input for how the newsletter might be improved. Two insect identification quizzes have also been added to the newsletter's homepage.

***Scope of Impact: State Specific***

***Key Theme: Pesticide Application***

***Pesticide Education and Planning Efforts:*** In order for agricultural impacts to groundwater to be minimized across the region, planning efforts are required to share state successes and make plans that will further this effort. Extension staff and state lead agency staff from several northeast states, plus EPA and USDA personnel, organized a National Pesticide Certification and Training Conference in Portland, Maine. The workshop was attended by approximately 300 people from across the U.S. and Canada. Regional and national pesticide issues were addressed at a conference held in August 1999. Cooperation between New England states was determined on developing crop profiles to be used in the National Agricultural pesticide impact assessment program database. Some national pesticide issues were resolved, and planning for the future (next 10 years) of pesticide education in the U.S. and Canada was started.

***Scope of Impact: Multi-State Extension; USA and Canada***

***Cranberry Caterpillar Treatment:*** A UMCE cranberry associate consulted with cranberry growers who had economic populations of early-season caterpillar pests about the possibility of spraying Bt to combat them as opposed to a conventional pesticide. Two of six growers with economic levels of caterpillars on their cranberry beds sprayed Bt (Dipel brand) on a total area of 14.5 acres, with very positive results. Blind follow-up scouting inspections yielded minimal caterpillar pests on any of the four beds that were randomly checked. Bt use is environmentally favorable to other conventional pesticides, since it is nontoxic to humans, fish, and wildlife. Bt specifically targets Lepidopteran larvae, thereby preserving precious pollinators (bees), and natural enemies such as spiders and parasitic wasps that can go on to attack future insect pests on cranberry beds.

***Scope of Impact: State Specific***

***Key Themes: Nutrient Management, Agricultural Waste Management, and Sustainable Agriculture***

***Nutrient Management Manual Development:*** In response to new state mandates for farmers to create and implement a nutrient management plan for their facilities, a UMCE faculty member was contracted by the Maine Department of Agriculture to develop a nutrient management training manual, testing procedure and training program.

***Scope of Impact: State Specific***

***Nutrient Management Software*** A computer nutrient management program was developed by UMCE faculty and has been widely used across the state to develop comprehensive nutrient management plans. The program was distributed on CD-ROM and included the nutrient management program, an AutoOpen menu with a custom installation menu, two narrated PowerPoint tutorials on the program, a program manual, all of the Extension nutrient management fact sheets, and support programs to read all of the above. Additionally, an Excel spreadsheet was developed by UMCE to do similar calculations. The nutrient management program is being used by all natural resource conservation offices in Maine, as well as the Maine Department of Agriculture and several independent consulting firms and farmers. This low-cost program is the program used by virtually every person preparing nutrient management plans in Maine.

***Scope of Impact: Integrated Research and Extension***

***Nutrient Management Training:*** To meet state law, Maine farmers have two options for certification: they can seek a commercial certifier to review their plan, or pass a competency-based exam that allows them to certify their own plan. During the last programming year UMCE has conducted statewide workshops on commercial certification and on farmer certification, providing them with information to help farmers become better crop managers. In January, February, and March 2000, workshops were held at nine locations in six of Maine's 16 counties. An additional workshop was held in June 2000, for people who provide certification for MOFGA (Maine Organic Farmers and Gardeners Association). This first phase of preparing farmers for nutrient planning has been very successful. To date, 175 farmers have attended private certification workshops, and 115 have chosen to take the exam immediately after the training. Of these, 65 farmers have passed the exam and become private certifiers. This program will continue in the fall and winter of 2000/2001 and will be supported by workshops to help farms develop nutrient plans.

***Scope of Impact: State Specific***

***Manure Management Planning on Farms:*** UMCE staff developed and helped to implement plans for seven farms in surface water recharge areas. Plan development and implementation lowered the surface water risk assessment rating for that specific public water supply as part of the Source Water Assessment Program. This work further helped UMCE meet its goal of having 70 percent of the farmers in specific water quality project areas complete Certified Nutrient Management Plans (CNMP) and 40 percent also complete farmstead assessments. Our goal was to have producers that we worked with improve nutrient distribution on their farms and identify specific problems that could threaten water quality. The specific accomplishments listed below indicate that we met our goal:

- Four farms in Skowhegan significantly changed application procedures as a result of CNMPs. Each improved manure-use efficiency resulted in reduced

cost of purchased fertilizers, or in meeting its nutrient deficiencies with off-farm produced manure applications.

- One of the four farms mentioned above has reduced manure application on its 540 acres by approximately 1.5 tons/acre on fields that receive manure. As a result, fields that previously only received commercial fertilizers are now receiving manure. Savings to the producer in reduced fertilizer costs are approximately \$3,500.
  - Another 426-acre farm reduced fertilizer cost by \$2,000 by efficiently using off-farm-produced poultry manure.
  - Three out of the four farms mentioned above were nutrient deficient on a whole farm basis. Collectively, they are now meeting nutrient needs through the use of off-farm-produced manure. The three farms were deficient in nitrogen (63,000 lbs/ac), sodium (17,000 lbs/ac) and potassium (54,000 lbs/ac). Instead of using commercial fertilizer, these nutrients are now being supplied with 2,322 tons of off-farm-produced manure at no cost to the producer. Given the current price of fertilizer, this manure is worth \$20.72 per ton. The total cost savings is \$48,111 in total for these producers. The use of off-farm-produced manure in this manner is beneficial both economically and environmentally because the manure is being applied to farms that can document the need for the nutrients, and over-application of manure is being reduced.
  - All farms also participated in a Farm\*A\*Syst program to evaluate potential impacts to the farm's well water supply. High-risk areas and activities on and around the farmstead were identified. The risks most frequently identified were poor storage of hazardous materials and petroleum on the farm.
  - One farm has petroleum storage identified as a high-risk activity. They did not have adequate protection around the storage tanks. They have made arrangements to install an impervious surface below the tanks and a berm to prevent spilled fuel from entering nearby surface water supplies.
  - All farms have identified spreading setbacks along waterways. Most will be spreading manure further away from streams than they had done previously.
- Scope of Impact: Integrated Research and Extension***

***Key Theme: Agricultural Waste Management and Sustainable Agriculture***

***Use of Sawdust Pads to Hold Manure Nitrate:*** Over the past few years, growers have been interested in looking at the utility of using sawdust as a means to trap nitrogen from leaching into groundwater. Extension faculty worked with a USDA team on an applied research project to evaluate the effectiveness of a sawdust cover to protect groundwater quality. Bare soil was tested, soil below chicken manure, and soil below a cap of sawdust on top of which chicken manure was stacked. The material was in place for a period of five months. After the material was removed and spread, soil samples at two depths were collected for ammonium and nitrate concentration profiles. The sawdust seemed to tie up nitrogen in the upper soil sample (0-10 inches), but the lower sample was actually higher in ammonium (10-22 inches). The results indicate that sawdust does not tie up nitrogen, and in fact it may actually create an environment that

allows ammonium to move deeper into the soil. We now have data to answer this farmer-driven question about whether sawdust placed below chicken manure might tie up nitrogen and protect groundwater in a sandy soil. This also draws attention to the state Best Management Practices (BMP) of having 24-inch-deep soils as a minimum to stack manure on. If the data follows similar trends in 2001, this will likely affect state BMP guidelines and help farmers understand the risks and benefits of stacking manure. This helps to answer questions that were raised in 1995 and 1996 by farmers in the Turner area looking for manure-stacking options.

***Scope of Impact: Integrated Research and Extension***

***The UMCE Compost School*** was established in 1997 to provide the necessary training of compost facility owners, managers, operators, and consultants in establishing and operating large-scale commercial composting facilities. Upon successful completion of a post-class examination, participants attending the week-long intensive program receive a certificate. UMCE faculty conducted a three-year impact study during the past year. The study included a survey of the 197 graduates of the UMCE Compost School. The results of this study showed the following impacts:

- Twenty-nine jobs were created or continued.
- Thirty-one people became consultants for composting operations.
- Nine municipalities have established new composting facilities.
- One hundred forty six private composters attended programs and are planning to establish 30 new composting facilities.
- A \$10 million increase in compost sales was realized.
- Approximately of 1.078 million cubic yards of new material was diverted to composting.
- Three hundred eighty-five farmers were contacted about composting. Two hundred and three have started composting and ninety-six have improved existing composting operations.

One graduate of the compost school, hoping to supplement the family topsoil business, attended the school to gain the knowledge necessary to establish and operate a successful composting facility. Upon completion of the school, the graduate constructed a 60,000-square-foot composting building to process 4,000 cubic yards of sludge from neighboring communities. This facility uses an aerated static pile method of composting, modeled after one of the facilities visited as part of a compost school field trip. With \$150,000 invested, the operation has expanded from one employee to three employees. Tip fees ranging from \$60 to \$65/cubic yard help defray operational costs and provide the impetus for future expansion. A second building of equal size is planned to increase the site capacity to 8,000 cubic yards. This graduate has paid strict attention to process control and has not had a single odor complaint since beginning the operation.

Another graduate, employed with a consulting firm, used the composting knowledge gained from the school to assist a municipality with a composting

operation. With assistance from UMCE, a business plan was developed for the community composting operation. The graduate then entered into an agreement with the community to lease their municipal composting site for a three-year period to conduct a pilot project to determine the profitability of composting the municipal organic waste stream created by community residents.

During the past year, 52 graduates have completed the UMCE Compost School program and have entered the compost industry.

***Scope of Impact: Multi-State Integrated Research and Extension; CA, CO, IL, ME, MA, NY, WA, HI, ID, PA, VI, CT, OH, NM, Canada, Mexico, Norway, Puerto Rico, Mariana Islands, US Virgin Islands***

***Key Theme: Water Quality***

***Watershed Stewards Class:*** Our key educational program in this area has been the Watershed Stewards Class. The class consists of 20 hours of classroom and field training related to lake management. Most of the classes were team-taught with the Maine Department of Environmental Protection or other state agency assistance. As a component of the course, each student was provided with a notebook of reference materials. Six programs have been conducted in previous years, affecting 10 different lakes. This year a class was held for Unity Pond in Burnham, Maine. Other effective tools have been the Lake\*A\*Syst educational tool, which is a seven-part publication on how land use impacts lake water quality.

- One hundred percent of the Watershed Stewards training program graduates surveyed are better able to recognize threats to lake water quality as a result of the training programs.
- Eighty-nine percent of those surveyed have spoken with neighbors about water quality issues/problems.
- Seventy percent of those surveyed are more involved or still equally involved in lake associations or other water quality groups.
- Over half of graduates surveyed have been involved with clean-up operations.
- Ninety percent of program participants have completed 20 hours of service to a lake.
- Over half of those surveyed feel that this program has improved a sense of community among landowners.
- Ninety-two percent feel that lake stewards are making a positive influence on protecting lake water quality.

***Scope of Impact: State Specific***

***Wesserunsett Lake Project:*** Central Maine's Lake Wesserunsett is beginning to be subjected to pressure from development and is experiencing small algae blooms. The residents want to limit run-off and potential water-quality deterioration in the future. A watershed steward training was conducted in the fall of 1999. This highly successful course resulted in trained volunteers evaluating sources of camp road erosion as well as other phosphorus inputs to Lake Wesserunsett. In fact, the watershed stewards evaluated sources of camp road erosion so effectively that the Somerset County Soil and Water Conservation



District used the volunteers' input and data to write and receive a \$13,000 grant to do a Best Management Practices demonstration project on two camp roads around the lake. Additionally, the Wesserunsett Lake Association has become a successful revitalized organization. UMCE staff led a group of people through a process to develop by-laws, identify a board of directors, and organize a lake association meeting. Over 100 residents attended the first annual association meeting on July 8, 2000. Members of the lake association have attended four Madison selectman's meetings to advocate for town ordinances that will protect the water quality of their lake. Six committees have been set up to advance the issues identified by the membership as critical to the protection of their lake. Volunteers are routinely doing water quality monitoring.

***Scope of Impact: State Specific***

***Unity Pond Watershed Stewards:*** This project started with the Unity Pond Watershed Stewards Program and ended with the students and faculty of Unity College working on erosion sites. The participants of the Unity Pond Watershed Stewards Program identified a large number of priority sites that needed attention. The Unity College day of service was a great opportunity to direct the activities of a large number of people to correct these erosion sites. On Saturday, September 16, 2000, approximately 120 people each gave seven hours of work to correct erosion sites. Fifteen teams took on 13 different projects. This is the equivalent of 840 hours of time invested on watershed improvement efforts. Thirteen high priority erosion sites were corrected. Types of projects included

- constructing plunge pools,
- using rock to rip-rap eroding lake shore property,
- developing a rock base on eroding road sections,
- installing water bars on eroding paths,
- conducting a complete shore land survey of the lake from a boat,
- rocking eroding ditches,
- repairing a boat launch area, and
- bank stabilization.

The Bangor Daily News and local television networks carried stories on this event.

***Scope of Impact: State Specific***

***Water Quality Monitoring Education:*** Youth water festivals were held at separate northern and southern Maine locations to train more than 1,600 fifth and sixth grade students in methods to monitor water quality. Students were educated about Maine water resource issues. They learned the relationship of insect tolerance to pollution, and how to use a dichotomous key to identify aquatic insects (benthic macro-invertebrates) useful in assessing water quality. Curriculum materials, also available on Extension's Water Quality Web site, were distributed to teachers.

These programs were conducted in collaboration with the Maine Department of Environmental Protection, the University of New England and Maine schools.

***Scope of Impact: State Specific***

***Key Theme: Hazardous Materials***

***Hazardous Waste Collection Day:*** One serious threat to groundwater resources is the presence of toxic waste in the home. The most convenient ways to dispose of home toxic waste are through home plumbing and dumping, both of which produce unsafe additions to our water supplies. Last spring, a UMCE agricultural educator worked with the Hancock County planning commission to organize and offer a Hazardous Waste Collection Day for Hancock County residents. Over 80 households from 10 Hancock county communities participated in the Hazardous Waste Collection Day, and 800 gallons of oil-based waste was removed from the waste stream.

***Scope of Impact: State Specific***

***Key Themes: Pesticide Application, and Water Quality***

***Changes in Homeowner Pesticide Use to Protect Water Quality:*** Due to environmental conditions, grubs have damaged many homeowner lawns. Client calls to county offices reported that insecticides spread by neighbors to kill the grubs had killed 10 sparrows. A local UMCE educator published an article in the Courier Gazette of Rockland describing grub management strategies using nematodes, and discouraging homeowners from using chemical insecticides. Extension professionals were very helpful in providing information on organic strategies to control grubs. Dozens of homeowners called to thank Extension for the "earth-friendly" advice which appeared in the news media. Many homeowners called to say they were going to use an alternative to insecticides because they were concerned about contamination of water and harming wildlife.

***Scope of Impact: State Specific***

***Key Theme: Land Use, and Natural Resource Management***

***Helping Citizens Value and Manage Riparian Areas:*** Citizens ask questions about wildlife use of riparian habitats and how riparian areas should be managed to maximize usefulness for wildlife. An Extension faculty member wrote a paper about wildlife use of riparian areas and how these areas should be managed for wildlife. The paper is being used in educational workshops at the University of Maine's Holt Research Forest for loggers, foresters and the conservation community. The Extension horticultural specialist is using it in workshops on native plants and riparian areas. The local Conservation District is using it in its riparian buffer educational program.

***Scope of Impact: State Specific***

***Key Themes: Yard Waste/Composting and Sustainable Agriculture***

***Home and Backyard Composting:*** In a focused educational effort on composting as part of the Master Gardener Program, the Master Composter Program home

composting workshops and demonstration projects have helped to spread the word of the benefits of composting organics at home. These efforts have resulted in the training of 10 Master Composters, 235 Master Gardeners with a composting component, and 342 residents in home composting. A total of 222 households have started composting at home during the past year due to this training.

- The Master Composters created 30 new home composting projects involving 118 people by volunteering 1,029 hours of work. A follow-up contact was made to determine the impact of a Master Composter Program conducted for volunteers from the Passamaquoddy Indian Tribe. The Environmental Program Coordinator for the Tribe indicated that after home composting workshops and a bin distribution program, about 38 households started composting organics at home. Since each composting household can divert 650 lbs of organics annually from the waste stream, the Tribe had succeeded in diverting more than 12 tons from their tribal land's waste stream in the first year.

*Scope of Impact: State Specific*

#### ***Key Theme: Sustainable Agriculture***

***Master Gardener Training:*** In Maine there is a growing demand for home gardening education. Master Gardener volunteers play a key role in assisting with UMCE's Home Lawn and Garden Program. A total of 279 volunteers were trained with the expectation that each would donate a minimum of 40 hours of time helping with Extension's county educational programs. Once trained, many volunteers return year after year. This year's final volunteer time tally was 12,694 hours. Using a mid-range volunteer value of \$10.00 per hour, over \$125,000 worth of time was donated to the program by the volunteers in 2000.

*Scope of Impact: State Specific*

***Soil Nitrate Testing:*** Extension educators have performed Pre-Sidedress Nitrate Testing (PSNT) on farms throughout the state. The purpose of the testing is to

- assess nitrogen supply from the spring manure application, and
- determine need for supplemental nitrogen fertilizer.

In one county alone, 29 PSNT tests, representing 500 acres, were analyzed for four farmers. Farmers were able to accurately apply nitrogen to their corn crop while minimizing excessive amounts that might endanger groundwater. Twenty percent of the tests determined that no extra nitrogen was needed. Farmers saved the cost of supplemental fertilizer on approximately 125 acres saving on average \$25-30/acre in fertilizer cost plus time to spread the fertilizer.

*Scope of Impact: Integrated Research and Extension*

***Entering Businesses in the Horticulture Industry:*** In 2000, forty Master Gardener Trainees started their own business or gained employment in the horticulture industry. Several started landscape businesses and at least four started

small retail greenhouse businesses. Over 50 trainees planned to further their education through college classes or technical programs.

***Scope of Impact: State Specific***

***Demonstration Gardens:*** County faculty members have increased their use of demonstration gardens as effective tools for hands-on teaching and as display areas for new plants and cultivars. Demonstration gardens, which include vegetable, small fruit, and ornamental plantings, are in place at 12 locations throughout the state. Over 6,000 people have visited the gardens during the year. Commercial greenhouse operators have also visited and held meetings to view new cultivars in All American Selections (AAS) display gardens and in trial plantings of new perennials and annuals. Several gardens feature displays of the newer vegetatively propagated annuals planted specifically for commercial grower observation. There is a plan underway to include new plants being trialed by University of Maine researchers in some of these gardens.

***Scope of Impact: State Specific***

***Highbush Blueberries*** The York County demonstration garden features a 5-year-old highbush blueberry planting used for teaching highbush blueberry culture to both homeowners and commercial growers. Approximately 200 people participated in workshops or personal tours of the planting and gained first-hand knowledge of their own fruit plantings.

***Scope of Impact: State Specific***

***Greenhouse Growers Group Collaboration:*** One Master Gardener demonstration garden has attracted the attention of a local greenhouse growers group. The 80-member group supports the garden by cooperating with volunteers to design and plant trial plantings. Growers supply materials and plants and Master Gardener volunteers maintain the plantings.

***Scope of Impact: State Specific***

***Plant-A-Row for the Hungry*** In 2000 the UMCE home horticulture team adopted the Plant-A-Row for the Hungry (PAR) project as a statewide priority for the Master Gardener program. Under the leadership of an Extension faculty member, the team, in cooperation with the Farm Services Agency, the Good Shepherd Food Bank, the Garden Writers of America, and Maine's outstanding seed companies (Johnny's Selected Seeds; FEDCO; and Allen, Sterling, and Lothrop), looked for the best way to implement this project. A statewide steering group was selected and through a coordinated effort provided publicity materials; obtained and distributed free seed for PAR gardeners; and set up the mechanisms for distributing information and reporting results. Master Gardeners were encouraged to plant vegetables in their demonstration gardens for donation. They were also encouraged to volunteer to coordinate PAR activities in their counties. Master Gardeners responded enthusiastically, planting vegetables, recruiting home gardeners and delivering vegetables to pantries and kitchens. Major kick-off events were held in three locations across the state. These events served both to

orient residents who had agreed to join PAR and to promote the project to gardeners who had not yet joined. The local media attended and enthusiastically reported on these events. When publicity about the kick-off events reached the public, many more gardeners joined the project. Over 400 Master Gardeners and home gardeners joined the PAR project and donated 50,000 pounds of vegetables grown in their gardens.

***Scope of Impact: State Specific***

***Home Horticulture One-on-One Consultations:*** Throughout the programming year over 5,000 client consultations were held via phone calls and field visits. These consultations are important in that they solve clients' immediate problems and ensure that proper measures are taken. Timely and informed responses build client support for and confidence in Cooperative Extension.

***Scope of Impact: State Specific***

***Gardening with Physical Limitations:*** Some gardening clients have limitations that restrict their ability to garden or visit gardens. Consequently, all demonstration gardens are made as accessible as possible for visiting clients. Some are specifically designed with raised beds for wheelchair use and most have pathways designed to be wheelchair accessible. One county offers a program on "Barrier-Free Raised Bed Gardening." The site is used as a demonstration of how to build barrier-free beds, and as an accessible community garden for a local support group for persons with mental illnesses. Twelve citizens gardened regularly there during 2000. At least 40 people visit the garden each year to learn techniques for building barrier-free gardening facilities and facilities have been constructed each year based on what was learned.

Another county offered a workshop at their raised bed facility for both agency people and the general public. The workshop was titled "Tips and Tools for Gardening with Physical Limitations" and was facilitated by a certified horticulture therapist. Participants gained knowledge about tool availability for handicapped gardeners, and new ways to use some of the tools.

***Scope of Impact: State Specific***

***Key Theme: Wildlife Management***

***Back Yard Habitat:*** Yards and gardens have always been an interest of homeowners, and wildlife is a large part of backyard nature. An Extension educator addressed backyard habitat through workshops, fact sheets, and individual consultations. As a result of these 230 educational contacts 79 percent of those responding to surveys reported that their understanding of wildlife habitat increased because of their contact with Extension and 57 percent reduced, eliminated, or more judiciously used pesticides. Participants reported a variety of actions undertaken as a result of backyard habitat education, including

- putting out bat nesting houses, placing bird feeders and protected bird nesting trees with sheet metal;

- establishing a wildflower meadow, using native plants, choosing landscape plantings as food source and protective cover;
- keeping natural habitats available around the property (such as brush piles);
- managing habitat conflicts with animals, such as groundhogs, mice, bats, deer, porcupines, and crows. One client reported “I gave up trying to get rid of woodchucks. I planned my landscaping to invite wildlife.”

***Scope of Impact: State Specific***

***Improving Wildlife Habitat In Active Farm***

***Settings:*** UMCE convened a working group of farmers, biologists from Maine Department of Inland Fisheries and Wildlife, and District Conservationists from the Natural Resources Conservation Service for the purpose of improving wildlife habitat in active farm settings. As a result, farmers are incorporating management practices to enhance habitat for grassland birds; bobolinks, northern harriers and American kestrels.

***Scope of Impact: State Specific***

***Key Themes: Endangered Species, and Forest Resource Management***

***Endangered Species Act and its Effect on Woodlands:*** A meeting was hosted by UMCE and attended by members of the Small Woodland Owners Association of Maine (SWOAM) as well as a representative from the office of U.S. Senator Susan Collins, to review the Endangered Species Act and its potential effect on forest practices. Fourteen people attended, including small woodlot owners and large regional owners.

***Scope of Impact: State Specific***

***Key Themes: Forest Crops, and Resource Management***

***Alternative Enterprises for Woodlot Owners:*** Educational programs were delivered to Maine private forest and woodlot owners in alternative enterprises to make informed decisions regarding activities on their small woodlots and enhance the value of their forest resources. Three programs were delivered by UMCE with speakers from the Maine Forest Service, the Soil and Water Conservation District, one of which focused on sustainable methods of production of maple syrup. Fifty people attended a new course, newly created in collaboration with Cornell scientists, on sustainable ginseng and oyster mushroom production. This course was popular enough to begin a waiting list for the next session. A fact sheet on oyster mushroom cultivation has been developed. An oyster mushroom trial experimenting with different methods and rates of inoculation on poplar logs is underway.

***Scope of Impact: Integrated Research and Extension***

***Identifying An Asset:*** The dismantling of the Edwards Dam in Augusta, Maine attracted nationwide attention in 1999. It also produced a mountain of

waterlogged wooden timbers that had been in the Kennebec River for over 100 years. The company that was dismantling the dam contacted UMCE to determine if the timbers might have a positive economic value. The Extension wood technologist visited the site and identified the timbers as pine, hemlock, spruce, maple and some oak. Company personnel were educated in methods for distinguishing the species of timbers being removed from the dam. Extension faculty identified 14 firms interested in purchasing old timber for recycling. The demolition company contacted these firms and reached an agreement to sell the timber. At present, the timbers from the Edwards Dam are being remanufactured into furniture and novelty items, including some high-value commemorative pens. What initially appeared to be a liability has re-emerged as an asset. The old wood is usable and in demand.

***Scope of Impact: State Specific***

***Restoration Consultation:*** A group in southern Maine is restoring a 130-year-old residential building. They needed to know the species of wood used in the original construction to duplicate the mechanical and physical properties of the original wood. Extension faculty identified samples of the wood timbers present in the building and agreed to consult with the engineers doing the restoration work in order to select the appropriate substitutions. The building has been examined and Extension staff have made recommendations as to which timbers need to be replaced. The building is being restored to its 1870 configuration with appropriate replacements for the original timber frame construction.

***Scoop of Impact: State Specific***

***Maple Syrup Production Workshop:*** UMCE organized, advertised, hosted and evaluated a statewide workshop for maple syrup producers. Because a significant number of attendees for this workshop were French-speaking Canadians working in Somerset County, a translator was present. Thirty-one people attended the workshop. Topics included

- internet marketing;
- the importance and use of agricultural statistics;
- the legislative process; getting your bill passed;
- maple tree pruning; and
- tax exemptions for Maine maple producers.

***Scope of Impact: State Specific***

***The Great Portable Sawmill Shootout:*** UMCE's wood technologist, in collaboration with *Independent Sawmill and Woodlot Management* magazine and the Northeast Loggers' Association, arranged and presented two portable sawmill events where portable sawmills competed, side by side, in a public setting. Potential purchasers were able to make more informed purchasing decisions based upon their observations. One event was held in Bangor, Maine and the other in Springfield, Massachusetts. Sawmills from the U.S., Canada, Australia and New Zealand participated. An estimated 7,000 people witnessed the events, which

were videotaped and distributed. The competitions, billed as "The Great Portable Sawmill Shootout" were also reported in special issues of *Independent Sawmill and Woodlot* for a combined readership of about 60,000, worldwide. ***Scope of Impact: State Specific***

***Consultations On Wood Manufacturing:*** UMCE's wood technologist consulted with 205 wood-manufacturing firms on wood machining, wood drying, sawmill maintenance, wood identification and general topics in wood technology. ***Scope of Impact: State Specific***

***Maine Chapter of The American Chestnut Foundation:*** The native American chestnut tree was nearly wiped out in Maine by a blight introduced in the late 1800s. The American Chestnut Foundation (TACF) is a national organization with state chapters dedicated to the development of and reintroduction of blight-resistant chestnut trees. UMCE provided organizational assistance to concerned individuals, which resulted in the formation of a Maine chapter of TACF. UMCE facilitated monthly meetings beginning in summer of 1999, culminating in the Maine chapter of TACF organizational meeting at the Medomak Valley High School in the fall of 1999. Articles of incorporation and bylaws for the Maine chapter were adopted. The Chapter's first board of directors was also elected at the meeting. The incorporation papers were filed with the Maine Secretary of State following the meeting. The creation of the newly formed Maine chapter was celebrated at TACF national meeting in Virginia. One year after its founding, the Maine chapter of TACF has an active statewide membership, a quarterly newsletter and vibrant board leadership.

***Scope of Impact: State Specific***

***Community Forestry Program:*** UMCE worked with the cities of Lewiston and Auburn to create a joint community forest program. The action was based on earlier Extension work to create a similar program for the city of Bath, Maine. The anticipated benefits would be enhanced forest health and increased access, in which citizens could benefit from these improvements. Planning meetings brought together the key players from both cities which included the city arborist, the assistant city manager, representatives from both mayors' offices, recreation department personnel, the director of public works, city park officials, the steward of a wildlife sanctuary in the city, concerned citizens and business people. A working group of eleven members developed a proposed ordinance during seven meetings, which included input from the state's community forestry program coordinator. In February 2000, the Lewiston and Auburn City Councils acted at a joint meeting to approve the proposal for the Lewiston-Auburn Community



Forestry Program and board. The program affects 63,878.40 acres, or 99.81 square miles, which is the entire land area of the two cities. Management will address publicly owned forest; landowner education and incentives will be the management technique for private lands.

***Scope of Impact: State Specific***

***Wood Measurement Workshops:*** Two Wood Measurement Workshops were presented. Forty-nine participants qualified for Maine Apprentice Wood Scalers Licenses. There were 784 contact hours of education during the workshops and numerous resultant consultations.

***Scope of Impact: State Specific***

***Hardwood Log Grading and Scaling Workshops:*** Three Hardwood Log Grading and Scaling Workshops were conducted at three locations in the state. Another 49 natural resource professionals—primarily professional foresters and loggers—attended these workshops. Licensed Professional Foresters qualified for continuing education credits for the Wood Measurement Workshops. Contact hours totaled 412.

***Scope of Impact: State Specific***

***Key Themes: Global Change and Climate Change***

***Beach Profile Monitoring:*** A beach profile monitoring partnership was built with teachers, seventh-grade students and a local volunteer water-quality-monitoring group in a junior high school in Wells, Maine. Students formed an extracurricular volunteer monitoring team known as the Marine Explorers Club. Financial support was provided through a grant to Wells Junior High from the KIDS Consortium. Students in woodworking classes built profiling equipment for use in the field. In addition to beach profile monitoring, the students have been trained to monitor various physical and chemical properties of the ocean water at their sites. Wells Harbor was dredged in the fall of 2000 and students hope to assess the impact this activity might have in the local distribution of sand beaches. This project has strengthened the link between the school and the community of Wells and has aided in both student and citizen understanding of coastal processes. ***Scope of Impact: Integrated Research and Extension***

***Key Theme: Natural Resources Management***

***Vaughn Island 4-H Environmental Summer Camp*** provides intensive environmental education and awareness programs for over 130 Maine youth each summer. Youth attend three- and four-day overnight camping programs and acquire skills in communications, group-building, outdoor living, camping and coastal

ecology. These experiences also provide time for youth to reflect and gain perspective on their lives. In the words of a sixteen-year-old teen leader, "When you visit for a few days one wishes they could stay longer. The smells, sights, sound and people are unforgettable. Now I lay half-awake in my sleeping bag by the burning embers of the campfire. I am surrounded by friends and I listened to the sounds of a wooden flute being played. In the background, I heard the waves crashing onto shore. The cold air was closing in, but it didn't bother me. The sky was crystal clear and was covered with brightly shining stars. I have been out on this Island for four summers. The significance of the place, people, and all of the things that it has taught me cannot be described. It will be something that I will remember, and be part of forever. Thanks for making this story possible for me to write. The island experience has made such an impact on my life, especially the people involved and I have you guys to thank for it."

***Scope of Impact: State Specific***

***Tanglewood 4-H Camp and Learning Center*** provides a variety of summer camping experiences for youth from early childhood to young adult. The more than 700 youth that participated in these one- to three-week experiences come from all sixteen Maine counties. Programs include residential camps for ages 8-15, day camps for ages 6-8, discovery backpacking and canoeing programs for ages 11-16, leadership training for ages 13-17, and counselor volunteer opportunities for ages 16-19. UMCE continually strives to meet the needs of Maine families through these programs. Campers shared the following comments:

- "I learned about watersheds and forestry practices."
- "Trees help us breathe."
- "I learned to trust people I did not know well."
- "There are natural waterslides."
- "To achieve goals you have to really cooperate and try everything."

The benefits of a summer camp experience at Tanglewood include

- deep and lasting friendships,
  - outdoor living skills,
  - a better understanding of the earth,
  - an increase in self-confidence, and
  - enhanced skills in communications and decision-making.

***Scope of Impact: State Specific***

***Tanglewood Schools Program*** provides 4-H Earth Connections programming for Maine schools during the fall, winter and spring. During the past year more than 2,350 students from 24 schools participated in one- to three-day trainings at Tanglewood Camp. Schools choose from these and other different program foci:

- Watershed studies
  - Seashore
  - Adaptations to winter
  - Forest management
  - Building our Human Community.

Earth Connections programs offer teachers an opportunity to help their students reinforce concepts learned in the classroom. Students benefit by gaining an appreciation of the outdoors and discovering that learning can be really fun. Because everyone learns differently, Tanglewood provides opportunities for all types of learners. All programs are designed to meet Maine's learning results criteria. These programs are enjoying great support from committed teachers who see Tanglewood programming as an integral part of their curriculums. One teacher observed, "The students were allowed to express themselves as individuals and group members, the Tanglewood staff encouraged this expression. In this way, Tanglewood helps develop and encourage strong communities!"

***Scope of Impact: State Specific***

***Tanglewood Camp and Learning Center Incorporation:*** The non-profit Tanglewood Camp and Learning Center corporation was established in the spring of 2000 for the purpose of supporting UMCE environmental education programming at Tanglewood 4-H Camp. The volunteer board of directors provides guidance and financial support for Tanglewood. The board meets regularly throughout the year and has organized itself into eight standing committees. The board is responsible for financial resources through philanthropy, forming a positive symbiotic relationship with UMCE. It has an annual budget of \$500,000 to support the educational programs and facility improvements at the center. About 5,000 Maine youth and adults annually take part in the programs at Tanglewood that include summer youth camps, school programs, Elderhostel and forestry camp.

Tanglewood is situated on the Ducktrap River in a beautiful, forested 940-acre section of the Camden Hills State Park in Lincolnville. The facility has 45 rustic buildings including a dining hall and kitchen, a nature center, classrooms, sleeping cabins, wash buildings, a swim area and playing fields. Tanglewood is a creative partnership between the Maine Bureau of Parks and Lands, (which owns the property), UMCE (which leases the property and conducts educational programs) and the nonprofit Tanglewood Camp and Learning Center Corporation, which provides financial support. This unique collaboration delivers affordable, educationally-enriching and fun-filled outdoor experiences for Maine youth that furthers their understanding and appreciation of nature, themselves, and others. Tanglewood directly addresses UMCE's environmental education goal of Maine

citizens learning to protect and enhance the healthy functioning of ecosystems, and the goal that Maine citizens will take responsibility for their lives by developing self-awareness and successful living skills. 4-H is the youth development education initiative of the Cooperative Extension system. The overall objective of 4-H is the development of youth as individuals, and as responsible and productive citizens.

***Scope of Impact: State Specific***

***Natural Resources Workshops in the Public Schools:*** Extension faculty and staff conducted natural resources workshops and presentations at many Maine schools and several children's museums. The foci of these workshops included

- the function and values of coastal estuaries,
  - science in the salt marsh,
  - beach ecology,
  - watershed ecology,
  - insects in our environment,
  - trees,
  - forests,
  - wildlife, and
  - community building.

***Scope of Impact: State Specific***

***Penobscot Riverkeepers 2000:*** Youth in the Penobscot watershed have little knowledge of the river, its history, or how it affects their lives. They need this information in order to become sound stewards of their local environment including the watershed. The Penobscot Riverkeepers 2000 program, a partnership program of UMCE, is focused on woods and water through time. Volunteers and staff developed curricula and initiated a newspaper series in the Bangor Daily News. Approximately 1,412 children in grades 2-7 learned about log drives and local history from the 1850s to the 1920s, as well as basic forestry theory and practices. They also engaged in learning-by-doing activities, some actually on the river, in botany, geology and water quality. Students and teachers in eleven communities along the Penobscot participated in the school programs and educational "campfires." A typical school response was, "Thank you for teaching us about the river. Now we can do our part and teach others."

***Scope of Impact: State Specific***

***Shellfish Growers Cooperative:*** Marine aquaculture of finfish and shellfish offers Maine communities opportunities for job development and a chance to diversify the marine-based economy along our coast. Aquaculture in

Maine, however, is a high-risk business with complex permitting, community relations and environmental issues that must be included in any successful business. To reduce the business risk and increase the success rate of new aquaculture ventures, UMCE, Maine Sea Grant, the Island Institute, the Maine Aquaculture Innovation Center, the Maine Department of Marine Resources, the Maine Science and Technology Foundation and the Maine Aquaculture Association are helping growers to develop new business strategies and improved husbandry techniques.

Small shellfish growers in mid-coast Maine are receiving annual business training, cooperative technical exchange and business financing assistance through a shellfish growers group operating from the Knox-Lincoln office of UMCE. The Georges River Clam Project organized this group in 1999 with a grant from the Maine Aquaculture Innovation Center, the Maine Department of Marine Resources, and the Economic Development Administration of the U.S. Department of Commerce.

The grant provided start-up funds for the Maine Shellfish Growers Revolving Loan Fund at Coastal Enterprises Inc., which provides shellfish growers, who are unable to obtain conventional business loans, access to loans up to \$50,000. This loan fund helped finance construction and operation of a new shellfish hatchery on the Medomak River in 2000. Seven shellfish growers were involved in the first group, meeting weekly for ten weeks to share technical shellfish husbandry information, receive training in business plan development and training in securing aquaculture permits from the Maine Department of Marine Resources.

***Scope of Impact: Integrated Research and Extension***

***Aquaculture Informational Meetings:*** Aquaculture continues to be a sensitive subject along the coast of Maine. Recently, public hearings on aquaculture leases have become extremely contentious, and concerns are often based on faulty or incomplete information. Communications with industry members, the Maine Department of Marine Resources (DMR), and members of the public indicate that discussion before the public hearing would be beneficial and productive.

In a collaborative effort between UMCE, the University of Maine Sea Grant, DMR and industry, informational meetings were developed to address general topics in aquaculture, as well as specific lease applications. Two meetings have taken place with a third planned; interest has been expressed for others in the future. The goal of the meeting is to provide ALL parties with accurate and scientifically based information in an open forum. It is important to note that this effort is not aimed at helping applicants receive their leases, but rather at creating a productive dialogue between concerned parties and the applicant, and bringing forth accurate information when needed. In so doing, the attending parties can then participate in the ensuing public hearing run by DMR with accurate information.

The meetings thus far have received good response from all attendees, with roughly 50 individuals in attendance, and one news article resulting. Attendees have noted that some education about aquaculture has occurred and that their understanding about the particular lease applicant has been strengthened. DMR aquaculture staff has also indicated that the effort has been beneficial.

***Scope of Impact: State Specific***

***Tidal Upweller Optimization:*** Upwellers are important equipment in the nursery culture of several species of shellfish. Tidal upwellers are used in regions such as Maine where tidal flow can be captured effectively. Tidal upwellers have been built thus far with a lack of scientific scrutiny, based only on trial and error. A hydrodynamic study of tidal upweller design could result in improved performance, better efficiency and higher profitability.

An Extension professional was awarded \$13,500 through the Maine Aquaculture Innovation Center to work with the bio-resource engineering department at the University of Maine to develop a more efficient and productive design for those growers interested in building a tidal upweller.

Three scale models have been built at the University, and observed under varying conditions. These observations have helped to develop a theoretical model of the forces governing the performance of the upweller. In addition, a field study has allowed the collaborators to understand and quantify the head losses experienced by the shellfish in the upweller. Work in coming months will focus on using the flow meter to gather data on the flow through the system, in response to different design criteria. An article for *Fish Farming International* is in progress, and the preliminary findings have been presented at a session at the Fish Expo, held last October in Providence, Rhode Island.

***Scope of Impact: Integrated Research and Extension***

***Shellfish Health:*** Shellfish diseases and general shellfish health are obvious concerns for shellfish growers, the public, fishing industry members, resource managers and researchers. While Maine is remarkably free from many of the pathogens that plague oyster populations in other states, Juvenile Oyster Mortality (JOM) remains a concern. In recent years, husbandry techniques have been effective against JOM, but a small outbreak in 2000 caused concern among industry members.

In mid September of 2000, the University of Maine brought the JOM incidences to the attention of an extension faculty member. Subsequent contact with various industry members and educators made it clear that a rapid response and update to the situation was warranted. In early October, we hosted a meeting with members from 13 shellfish companies, university experts, and the Maine Aquaculture Innovation Center, to review recent developments and discuss

research approaches to counter this disease. As the causative agent for JOM is yet unknown, basic research is ongoing.

As a result of our involvement, a Sea Grant proposal has been approved for partial funding. Legislative delegates have been contacted by industry members and the Maine Aquaculture Innovation Center to garner additional rapid response funding.

***Scope of Impact: Integrated Research and Extension***

***Farmed Fish Health Workshop:*** In April 2000, Extension staff organized the eighth New England Farmed Fish Health Management Workshop, a conference—attended by 160 participants— held to address salmon aquaculture industry concerns. A hatchery managers' roundtable and salmon farm tour were conducted.

***Scope of Impact: State Specific***

***Salmon Cage Cleanup:*** An Extension professional obtained \$5,000 through DMR to coordinate the removal and disposal of abandoned salmon cages in the Cobscook Bay area. Local contractors were hired and volunteer services organized from area salmon aquaculture companies to tow 17 discarded cages to a central location and have them disassembled. Emphasis was placed on salvaging all materials possible and disposing of the remainder through appropriate methods. Sixteen people were involved in this effort. Press coverage included articles in *Quoddy Tides* and *Fish Farming News*.

***Scope of Impact: State Specific***

***Fish Health Technical Committee:*** An Extension professional serves on the eight-member Maine fish health technical committee that counsels the commissioners of DMR and Maine Department of Inland Fisheries and Wildlife on fish health issues. Discussions and recommendations have included issues such as the swim bladder sarcoma virus found at the Craig Brook National Fish Hatchery, and infectious salmon anemia, currently found in neighboring New Brunswick, Canada. These issues are critical given the recent listing of the Atlantic salmon as an endangered species. It will be crucial that bio-security issues are evaluated and effective plans implemented for the salmon aquaculture industry to continue in eastern Maine. Extension is in a position to provide balanced support to this committee and make linkages where applicable to the scientific community.

***Scope of Impact: Integrated Research and Extension***

***Investigational New Animal Drug Study:*** An Extension faculty and professional are participating in the implementation of an FDA Investigational New Animal Drug (FDA INAD) study for the use of EXCIS Cypermethrin in controlling sea lice on all Maine salmon farms in Washington County. Sea lice are a major problem for farmed finfish operations in eastern Maine and maritime Canada. Activities have included

- distribution and storage of EXCIS cypermethrin for 40 participants;
  - coordinating the distribution, usage, and disposal of EXCIS Cypermethrin with all trained participants and associated company employees;
  - coordinating research to assess the effects of EXCIS cypermethrin use on the marine environment and target species;
  - coordinating all record keeping in accordance with FDA INAD protocols.

***Scope of Impact: Integrated Research and Extension***

***Lobster Zone Management (co-management):*** Extension staff are working with the state Department of Marine Resources to improve the participation in and effectiveness of the lobster zone management process. Each participating staff member has been assigned two regions along the coast where they attend regular meetings, assist with facilitation and note-taking and help to encourage greater participation by the industry. The lobster fishery is Maine's most valuable fishery, with over 7,000 licensed harvesters. Under this new co-management program, the lobstermen elect representatives to their districts and to the zone council to create a representative democracy.

The desired outcome for this project is that the lobstermen feel that their voice is being heard by state government leaders regarding key issues. The design for this process is a representative democratic system of co-management. In 2000, the Extension team helped to promote the election of district representatives. The leaders have been surveyed to assess interest and collect input regarding the development of training materials and/or sessions in the coming months. The Extension staff is a critical part of design and delivery of these materials to enhance the effectiveness of this process.

***Scope of Impact: State Specific***

***Clam Tenting:*** In comparison to the value of the landed stock, the soft-shell clam industry in Maine has had little research applied to the important problems of settlement, predation, and recruitment. Research done in cooperation with industry members has proved fruitful and productive, and the conservation work that industry members must perform provides a great source of labor. Involving industry in research adds to our knowledge of biological issues in the fishery and reduces the gap between research, industry, management, the public and others.

A study has been initiated in Huston's Cove on the Damariscotta River, using a technique known as *tenting* to capture juvenile soft-shell clam seed. Working with members of the local industry, researchers at Maine Maritime Academy, the University of Maine at Machias, DMR, the Army Corps of Engineers, and riparian landowners, eight clam tents were installed in Huston Cove in 2000. The samples collected through this process are being analyzed presently, and results will be distributed to interested parties.



The most positive impacts are the engagement of the local industry, the interest shown in this technique by other clamming groups throughout the state, and the contribution to our scientific understanding of clam recruitment. In addition, this project has thus far yielded positive results in the improved relations with riparian landowners around Huston's Cove, and the general interest that the public has shown. Two news articles and a presentation to the clam committee have received positive a response, as well. Further presentations are planned to clam committees, academic audiences, and the general public, and the development of a final report. In addition, the local clam committee wishes to use their conservation time for applied research.

***Scope of Impact: Integrated Research and Extension***

***Drift Bottle Study:*** An Extension professional has been helping to coordinate the participation of students from Shead High School in Eastport, Maine with several scientists who are studying the oceanography of Cobscook Bay. A grant of \$5,000 was received from the University of Maine Sea Grant Program and \$1,000 from the Maine chapter of the Nature Conservancy to fund this study. Sea Grant funds were used to purchase two Trimble handheld Global Positioning System (GPS) units and associated education materials. Five field trails using the floats have been conducted as of October 2000. Students designed and deployed six floats per field trial and were assisted by adult participants in tracking them throughout the course of a flood tide cycle.

Data collected using handheld GPS recorders were used in verifying this theoretical current model of Cobscook Bay. Students created animations and videos to illustrate the project's findings on their school's Web site {[www.shead.org](http://www.shead.org).} The Cobscook Bay Resource Center has produced maps of the project's findings to date. Three different tech education classes have participated in the study thus far, involving an estimated 20 students. Articles written about this project have been published in the *Bangor Daily News* and *Quoddy Tides*. Most importantly, the information has proven very useful to the scientific community, and plans to continue the model include integration of the information collected by the students.

***Scope of Impact: Integrated Research and Extension***

***Key Theme: Forest Resource Management***

***New Markets For Small Woodlot Owners:*** A workshop was offered by UMCE and University of Southern Maine for the Small Woodland Owners Association of Maine southern Maine to help expand their markets for low quality fur, spruce, and hemlock. The primary purpose was to expose members to new buyers who have recently entered the market. Forty-five people attended and learned about marketing opportunities of which they were previously unaware.

***Scope of Impact: State Specific***

***Taking Care of Your Forest Web site:*** This Web site was designed to help

new landowners, who may be lacking credible information, begin a forest management planning process based upon their interests, values, and goals. This resource includes eight information pieces which were written to assist new forest owners in formulating their values, goals and interests in owning land and forest, as well as helping them formulate this into a planned approach towards taking care of their particular forest

*Scope of Impact: State Specific*

**Key Theme: Land Use**

**Local Land Trusts:** UMCE consulted with town conservation commissions and local land trusts to provide them with information on wildlife habitat improvement and strategies for conserving Maine's native landscape.

*Scope of Impact: State Specific*

CSREES Goal 5  
Enhanced Economic Opportunity and Quality of Life for All  
Americans

**Executive Summary**

During the first year of the Plan of Work cycle, the University of Maine Cooperative Extension (UMCE) conducted a variety of innovative and effective educational programs that enhanced economic opportunities for Maine people while contributing to the capacities of residents to build sustainable communities. UMCE taught Maine residents how to evaluate, start, and grow their own small and home-based businesses, and helped potential and existing entrepreneurs access reliable research-based information to acquire new skills for improving their business management practices and decision-making capabilities. Maine youth have gained valuable knowledge and experiences in personal growth, self-discovery, and life skills. UMCE educational efforts during the past year have assisted thousands of Maine people to secure and sustain a livable income and improve their quality of life.

*Small and Home-Based Business Activities Summary*

Despite the fact that the state's economy has been growing in recent years, there are still significant economic disparities across Maine. While job opportunities continue to improve throughout the state, many of the "new" jobs are low paying and often part-time. Many people in Maine work two or more jobs to secure a livable income for their families. Regional economic disparity continues to worsen. In general, the southern third of the state is experiencing rapid economic growth, while the northern two-thirds of Maine continues to experience economic decline or stagnation. Poverty rates are relatively high across the state, but vary dramatically by region, ranging from 10% in York County (southern region) to 22% in Washington County (rural downeast region). Needless to say, the economy continues to be a top concern for Maine people, particularly to those living in rural Maine.

During the past year, UMCE worked with more than 4,000 people across the state who were interested in developing a small and or home-based business in Maine. Recent estimates indicate that 50% of our customers are new to Extension, two-thirds are currently in business and one-third are in the conceptual stage of their business development. Nearly 75% of our customers are female. Approximately 30% of the businesses we assist are natural resource-based businesses. In many instances, we work in partnership with other business-assist organizations to meet the educational needs of our business customers. We help those interested in starting a new business learn about available business resources, as well as how to evaluate information and develop a solid framework for decision-making. We also help existing entrepreneurs access resources,

enhance their personal leadership, develop sound business management skills and identify and penetrate new markets. UMCE's work with small and home-based businesses helps expand employment opportunities, increasing the likelihood that Maine families can secure and sustain a livable wage and improve the quality of their life. Since November 1999, UMCE has developed and delivered a wide range of pioneering and fruitful educational programs that are helping small and home-based businesses grow and prosper in Maine.

### ***Community Economic Impacts***

UMCE developed, updated and distributed fact sheets, reports, newsletters, Web sites and other small and home-based business education materials. We participated in a variety of applied research projects such as the Downtown Rural Revitalization study, the Piscataquis County Home-Based and Micro-Enterprise survey, as well as several economic impact studies.

### ***Supporting Parent Educators Throughout Maine***

Parent educators need information on child and youth development, family systems and family dynamics, guidance and discipline, gender development, and developmentally appropriate practices. UMCE provides resources on these and other child and family topics in a variety of formats, from county office lending libraries and workshops to creating resources to meet specific community needs.

### ***Supporting Healthy Child Development Through Publications***

Parents are busy and often don't have time to attend educational workshops. Many prefer to learn on their own, when it is convenient. During the past year, UMCE has distributed over 95,000 publications on child development. Many of these are age-paced developmental fact sheets. In addition, 72,000 Maine people receive parenting newsletters.

### ***Home Visitation Parent Education***

Extension is an active player in our state initiative to provide all new parents with home visiting services by professional parenting educators. Several educators work collaboratively on the Early Care and Education task force to extend home services through expanded state funding. Others work to replicate specific models that work well in Maine and are a part of our state initiative. The goal of all models is to support parents in this critical work and to facilitate healthy parent-child relationships in which both adults and children thrive.

### ***Positive Development and Growth-Enhancing Relationships for Adults and Families***

UMCE held 137 workshops and events designed to help adults acquire the information and skills necessary to strengthen their personal and professional relationships. Attendance at these workshops exceeded 5,650 people. Program diversity is highlighted below.

***Women's Voice and Leadership:*** Two long-term programs have focused on

supporting women in all their multiple roles. “Strengthening Voice: Speaking Up for Gender Equity” supports the on-going work of The Gender Project in York County. The second program, “Strengthening Women’s Leadership Capacity,” was developed in response to women in the Bangor area requesting leadership training, given general disparity between pay for women and men in the same occupation. The women’s resource center at the University of Maine says that, depending upon the field, women generally make 74 cents to each dollar that a man makes.

### ***Employable and Entrepreneurial Skills for Youth***

In order for Maine youth to reach their personal goals, they need to develop a foundation of skills in their careers of choice, acquire the expertise that will help them achieve success in the workplace, and discover techniques that may enhance their career opportunities in Maine. A number of programs led to success in this educational area.

### ***Maine Youth Learn Respect, Responsible Citizenship, and Effective Leadership Skills***

Maine youth need to learn effective skills to become contributing members of their communities. They need the opportunity to learn and practice these skills as they develop. This goal has been addressed through youth participation in the following activities:

- 4-H community projects to help food banks
- Visiting nursing homes and elderly shut-ins
- Cleaning roadsides, and other community beautification projects
- Animal adoptions
- Teens acting as peer educators, creating training sessions and organizing events on violence prevention, healthy choices, interactive theatre, and HIV prevention.

### ***UMCE’s Limited Income Nutrition Education Programs (LINE)***

The overall goal of UMCE’s Limited Income Nutrition Education (LINE) Program is to improve the nutritional status of limited income families through the implementation and administration of a community based, statewide nutrition education program conducted in cooperation with local and state agencies and designed to address self-reliance/self-initiative, positive family relationships, family involvement, community involvement, and positive reading habits. LINE program aides made 682 home visits and distributed 5,680 publications during the plan of work year. Twelve newspaper articles on the Limited-Income Nutrition program reached 99,000 households and 9,750 clients received nutrition newsletters. This goes beyond nutritional education into critically related subjects of self-reliance/self-initiative, positive family relationships, family involvement, community involvement, and positive reading habits.

*Plan of Work Performance Goals  
Outcome Indicators and Output Indicators*

Performance Goal 5-1			
<b>Maine people will learn about business resources as a result of attending UMCE educational programs.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	
<b>Total Days:</b>	540.3	164	
<b>People will take part in networking opportunities.</b>	613	100	
<b>People will report ease in understanding and accessing small business educational resources.</b>	368	370	
OUTPUT INDICATORS			
<b>Number of people attending UMCE educational workshops</b>	1813	1190	
<b>Number of people requesting business-related information</b>	974	515	
<b>Number of UMCE educational workshops held</b>	123	62	
<b>Number of UMCE-sponsored networking programs held</b>	5	7	
<b>Number of people attending UMCE-sponsored networking programs</b>	304	20	
<b>Number of publications written</b>	133	7	
<b>Number of publications distributed</b>	720	1975	
<b>Number of issues of newsletters written and distributed</b>	634	28	
<b>Number of articles in news media</b>	62	42	
<b>Circulation of articles in news media</b>	325,767	168,000	

Performance Goal 5-2			
<b>Potential and existing small business owners will evaluate reliable information and make appropriate decisions regarding start-up, continuance, or expansion of their business.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	

<b>Total Days:</b>	426.5	164	
<b>Enterprises will be retained/expanded.</b>	427	234	
<b>New enterprises will be created.</b>	140	107	
<b>Non-viable business will not be started.</b>	17	26	
<b>Enterprises will transition to closure.</b>	7	6	
<b>Enterprises will report increased revenues and/or decreased costs.</b>	20	63	
<b>Jobs will be created.</b>	133	147	
<b>OUTPUT INDICATORS</b>			
<b>Number of enterprises assisted</b>	809	463	

Performance Goal 5-3			
<b>Potential and existing small business owners will learn management techniques and they will utilize this information to improve their business management practices.</b>			
<b>OUTCOME INDICATORS: Behaviors and Impacts</b>			
	R eported	Pr ojected	
<b>Total Days:</b>	359.9	822	
<b>People will write business plans.</b>	166	154	
<b>People will write marketing plans.</b>	106	82	
<b>People will write customer service plans.</b>	43	48	
<b>People will develop record keeping systems.</b>	152	165	
<b>People will adopt one or more business management practices (e.g. developing a pricing strategy, etc.).</b>	995	355	
<b>OUTPUT INDICATORS</b>			
<b>Number of people attending small business clinics</b>	176	76	
<b>Number of small business clinics held</b>	109	23	
<b>Number of individual consultations held</b>	147	315	
<b>Number of existing small business owners participating in UMCE educational programs</b>	1077	545	
<b>Number of potential small business owners participating in UMCE educational programs</b>	375	65	
<b>Number of Trade Area Analyses conducted</b>	4	7	
<b>Number of economic reports disseminated</b>	14	25	

<b>Performance Goal 5-4</b>			
<b>UMCE will initiate collaborative efforts and cooperative partnerships with other business-assist organizations in Maine.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
<b>Total Days:</b>	178	164	
<b>Collaborative groups will be formed.</b>	21	11	
<b>Educational activities resulting from cooperative/collaborative efforts</b>	57	4	
OUTPUT INDICATORS			
<b>Number of cooperative efforts initiated</b>	20	5	
<b>Number of collaborative efforts initiated</b>	16	4	
<b>Number of organizations involved in cooperative efforts</b>	65	10	
<b>Number of organizations involved in collaborative efforts</b>	97	4	
<b>Number of individuals participating in cooperative efforts</b>	167	16	
<b>Number of individuals participating in collaborative efforts</b>	200	66	
<b>Number of small and home-based business owners participating in cooperative efforts</b>	75	35	
<b>Number of small and home-based business owners participating in collaborative efforts</b>	74	9	

<b>Performance Goal 5-5</b>			
<b>Small and home-based business owners will assess their business needs and define goals to enhance their personal leadership in creating successful, profitable and socially conscious businesses.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	
<b>Total Days:</b>	70.25	164	
<b>People will report mentoring other business owners.</b>	1	61	



<b>People will present/facilitate educational activities at conferences, etc.</b>	27	14	
<b>People will increased their confidence and participate in organizational or community affairs related to small business.</b>	29	28	
<b>People will report increased understanding of personal leadership skills.</b>	6	33	
<b>People will report increased understanding of others' leadership skills.</b>	14	33	
<b>People will use leadership skills to bring about change in their business and those with whom they interact.</b>	6	27	
<b>People will use leadership skills to enhance small or home-based businesses in Maine.</b>	38	22	
<b>People will be involved in public policy issues affecting small or home-based businesses in Maine.</b>	1	20	
<b>OUTPUT INDICATORS</b>			
<b>Number of people cooperatively and collaboratively planning educational events</b>	37	26	

<b>Performance Goal 5-6</b>			
<b>UMCE is a leading organization in Maine parent educator training and is a central access point to research-based materials for supporting parent educators.</b>			
<b>OUTCOME INDICATORS: Behaviors and Impacts</b>			
	<b>R</b> eported	<b>Pr</b> ojected	
<b>Total Days:</b>	238	286	
<b>Parent educators will adopt at least one new practice or skill in leading parenting classes or groups.</b>	100	252	
<b>Parent educators will adopt at least one new practice or skill in working with parents.</b>	71	215	
<b>Childcare providers will adopt at least one new practice or skill that enhances their ability to care for children and/or work with parents.</b>	104	175	

OUTPUT INDICATORS			
<b>Number of consultations</b>	17	110	
<b>Number of workshops/events</b>	19	20	
<b>Number of people attending the workshops/events</b>	76	277	
<b>People involved in groups formed</b>	48	25	
<b>Number of volunteers trained</b>	6	26	
<b>Number of publications written</b>	0	6	
<b>Number of publications distributed</b>	17	4045	
<b>Number of issues of newsletters/calendars written</b>	4	17	
<b>Number of people receiving newsletters/calendars</b>	61,062	2150	
<b>Audio visual resources developed (video, slides, displays)</b>	0	2	
<b>Number of articles in news media</b>	1	14	

<b>Performance Goal 5-7</b>			
<b>Adults statewide will support healthy child development and positive parenting skills.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	
<b>Total Days:</b>	1732.25	701	
<b>Adults will adopt at least one new parenting skill.</b>	2201	2778	
<b>Adults will incorporate new information that enhances a child's development.</b>	3216	4190	
<b>Childcare providers will adopt at least one new parenting skill.</b>	136	245	
<b>Childcare providers will incorporate new information that enhances a child's development.</b>	213	245	
<b>UMCE nutrition aides and educators will incorporate parent education materials into their programs</b>	8	11	
<b>The number of UMCE parent educators incorporating nutrition education materials into their programs.</b>	16	1	
<b>The number of coalitions with UMCE involvement that support healthy child development and position parenting skills.</b>	15	19	
OUTPUT INDICATORS			
<b>Number of consultations</b>	703	388	

<b>Number of workshops/events</b>	172	58	
<b>Number of people attending the workshops/events</b>	1105	990	
<b>Number of groups formed (ad hoc or formally organized)</b>	9	11	
<b>Number of people involved in groups formed</b>	81	116	
<b>Number of volunteers trained</b>	5	24	
<b>Number of publications written</b>	0	7	
<b>Number of publications distributed</b>	74,977	41,595	
<b>Number of issues of newsletters written</b>	74	27	
<b>Number of people receiving newsletters within a year's time</b>	66,669	19,510	
<b>Number of audio visual resources developed (video, slides, displays)</b>	0	4	
<b>Number of articles in news media</b>	2	36	
<b>Circulation of articles in news media</b>	0	5000	
<b>Number of home visits by parent educators</b>	442	1544	
<b>Number of resources loaned</b>	101	100	

<b>Performance Goal 5-8</b>			
<b>Adults and families will engage in positive development and growth-enhancing relationships.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	
<b>Total Days:</b>	226	299	
<b>Adults will adopt a least one new growth-enhancing skill.</b>	314	665	
<b>Adults will develop strategies to strengthen family and other important relationships.</b>	533	250	
<b>The number of adults enhancing their knowledge and/or skills to provide necessary care for aging family members.</b>	429	150	
<b>With UMCE involvement coalitions that facilitate building systems needed for adults will engage in positive, growth-enhancing behaviors.</b>	29	3	
OUTPUT INDICATORS			

<b>Number of consultations</b>	19	463	
<b>Number of workshops/events</b>	57	71	
<b>Number of people attending the workshops/events</b>	999	2205	
<b>Number of groups formed (ad hoc or formally organized)</b>	3	4	
<b>Number of people involved in groups formed</b>	31	35	
<b>Number of volunteers trained</b>	53	36	
<b>Number of publications written</b>	0	5	
<b>Number of publications distributed</b>	483	3400	
<b>Number of issues of newsletters written</b>	15	15	
<b>Number of people receiving newsletters within a year's time</b>	1500	3290	
<b>Number of audio visual resources developed (video, slides, displays)</b>	1	3	
<b>Number of articles in news media</b>	0	6	
<b>Circulation of articles in news media</b>	0	25,000	

<b>Performance Goal 5-9</b>			
<b>Maine youth acquire employable and entrepreneurial skills to achieve personal financial goals.</b>			
<b>OUTCOME INDICATORS: Behaviors and Impacts</b>			
	<b>R</b> eported	<b>Pr</b> ojected	
<b>Total Days:</b>	129	538	
<b>Youth will demonstrate and document workplace skills and competencies.</b>	94	310	
<b>Youth will organize and maintain appropriate personal financial information.</b>	183	80	
<b>Youth will make informed financial decisions.</b>	192	60	
<b>Youth will take steps to achieve personal financial goals.</b>	156	30	
<b>Youth will demonstrate and document the ability to work in diverse settings.</b>	128	275	
<b>Youth will demonstrate the qualities necessary to run a successful business.</b>	139	135	
<b>Youth will demonstrate the skills necessary to run a successful business.</b>	136	95	

<b>OUTPUT INDICATORS</b>			
<b>Number of consultations</b>	65	105	
<b>Number of workshops/events</b>	29	61	
<b>Number of people attending the workshops/events</b>	206	267	
<b>Number of groups formed (ad hoc or formally organized)</b>	6	23	
<b>Number of people involved in groups formed</b>	92	142	
<b>Number of volunteers trained</b>	23	56	
<b>Number of publications written</b>	2	3	
<b>Number of issues of newsletters written</b>	12	3	
<b>Number of people receiving newsletters within a year's time</b>	800	800	
<b>Number of audio visual resources developed (video, slides, displays)</b>	3	2	
<b>Number of articles in news media</b>	7	16	
<b>Circulation of articles in news media</b>	130,000	50,000	

<b>Performance Goal 5-10</b>			
<b>Maine youth develop the skills to become responsible and effective leaders.</b>			
<b>OUTCOME INDICATORS: Behaviors and Impacts</b>			
	<b>R</b>	<b>Pr</b>	
	<b>eported</b>	<b>ojected</b>	
<b>Total Days:</b>	575	890	
<b>Youth will demonstrate character development (self-discipline, managing feelings, self-responsibility, self-esteem, integrity, honesty, reliability, loyalty).</b>	1221	470	
<b>Youth will demonstrate their ability to resolve conflict through peaceful means.</b>	186	470	
<b>Youth will make appropriate decisions and resolve problems effectively in their daily lives.</b>	820	595	
<b>Youth will demonstrate tolerance and acceptance of differences (peaceful conflict resolution, social skills, cooperation, courtesy, communication, respect, fairness and justice).</b>	227	645	
<b>Youth will volunteer in their communities.</b>	700	1140	
<b>Youth will demonstrate responsible citizenship (self-motivation, teamwork, contributions to group effort, community service/volunteering and accountability).</b>	900	860	
<b>Youth will demonstrate empathy and concern for</b>	572	355	

<b>others (nurturing relationships, sharing, charity),</b>			
<b>Youth will demonstrate their ability to lead others.</b>	270	455	
<b>Youth will set appropriate and reasonable goals for themselves and others.</b>	1279	680	
<b>Youth will serve effectively on teams with peers and adults.</b>	362	270	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations</b>	360	369	
<b>Number of workshops/events</b>	104	140	
<b>Number of people attending the workshops/events</b>	3737	1932	
<b>Number of groups formed (ad hoc or formally organized)</b>	92	101	
<b>Number of people involved in groups formed</b>	852	838	
<b>Number of volunteers trained</b>	219	210	
<b>Number of publications written</b>	12	30	
<b>Number of publications distributed</b>	2103	1404	
<b>Number of issues of newsletters written</b>	69	179	
<b>Number of people receiving newsletters within a year's time</b>	4143	4430	
<b>Number of audio visual resources developed (video, slides, displays)</b>	33	11	
<b>Number of articles in news media</b>	26	94	
<b>Circulation of articles in news media</b>	88,000	112,000	

Performance Goal 5-11			
<b>Maine youth treat themselves and each other with respect and help create a safe environment in which to live and grow.</b>			
<b>OUTCOME INDICATORS: Behaviors and Impacts</b>			
	R eported	Pr ojected	
<b>Total Days:</b>	348.5	528	
<b>Youth will make healthy lifestyle choices</b>	1250	755	
<b>Youth will use peaceful means to resolve disputes with others.</b>	1156	775	
<b>Youth will develop and use safe and peaceful means to resolve disputes in their communities (town, neighborhood, and school).</b>	177	115	
<b>Youth will develop mutually caring relationships with</b>	1432	540	

<b>peers.</b>			
<b>Youth will value differences in their peers.</b>	1036	620	
<b>Youth will engage others in being supportive in their communities.</b>	213	235	
<b>Youth will help their communities embrace diversity.</b>	1193	195	
<b>Adults will participate in community-based efforts to reduce violence.</b>	40	80	
<b>Youth will practice appropriate safety procedures in home, work, or recreational activities.</b>	1222	30	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations</b>	104	2	
<b>Number of publications written</b>	2	30	
<b>Number of publications distributed</b>	901	20	
<b>Number of issues of newsletters written</b>	36	50	
<b>Number of people receiving newsletters within a year's time</b>	1412	8	
<b>Number of audio visual resources developed (video, slides, displays)</b>	6	10	
<b>Circulation of articles in news media</b>	40,966	122	

<b>Performance Goal 5-12</b>			
<b>Adults and older youth involved in Extension youth programming demonstrate and teach the knowledge and skills necessary to support positive youth development by acting as positive role models and by respecting the needs, rights and dignity of the youth with whom they work.</b>			
<b>OUTCOME INDICATORS: Behaviors and Impacts</b>			
	<b>R</b> eported	<b>Pr</b> ojected	
<b>Total Days:</b>	542	531	
<b>Adults/older youth will use developmentally appropriate hands-on, experiential educational methods.</b>	1147	385	
<b>Adults/older youth will demonstrate that they are responsible, contributing members of their community.</b>	778	430	
<b>Adults/older youth will demonstrate essential communications skills.</b>	943	293	

<b>Adults/older youth will teach peaceful conflict resolution skills.</b>	120	140	
<b>Adults/older youth will teach essential communication skills.</b>	230	104	
<b>Adults/older youth will demonstrate peaceful conflict resolution skills</b>	663	257	
<b>Adults/older youth will teach acceptance of differences.</b>	268	84	
<b>Adults/older youth will demonstrate acceptance of differences.</b>	738	234	
<b>Adults/older youth will demonstrate fairness and equity</b>	807	370	
<b>Number of adults/older youth who teach fairness and equity.</b>	182	150	
<b>Number of adults/older youth who demonstrate leadership</b>	930	90	
<b>Number of adults/older youth who teach leadership</b>	454	240	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations</b>	501	762	
<b>Number of workshops/events</b>	178	116	
<b>Number of people attending the workshops/events</b>	2569	1720	
<b>Number of groups formed (ad hoc or formally organized)</b>	57	100	
<b>Number of people involved in groups formed</b>	366	1576	
<b>Number of volunteers trained</b>	565	960	
<b>Number of publications written</b>	6	17	
<b>Number of publications distributed</b>	1644	5544	
<b>Number of issues of newsletters written</b>	82	140	
<b>Number of people receiving newsletters within a year's time</b>	6277	8350	
<b>Number of audio visual resources developed (video, slides, displays)</b>	34	9	
<b>Number of articles in news media</b>	34	68	
<b>Circulation of articles in news media</b>	329,667	21,000	

<b>Performance Goal 5-13</b>			
<b>Maine youth aspire to reach their full potential.</b>			
<b>OUTCOME INDICATORS: Behaviors and Impacts</b>			
	R	Pr	



	Reported	Projected	
<b>Total Days:</b>	473.1	370	
<b>Youth will identify personal goals, values and aspirations.</b>	2976	895	
<b>Youth will engage in activities related to their short-and long- term goals.</b>	3141	945	
<b>OUTPUT INDICATORS</b>			
<b>Number of consultations</b>	604	239	
<b>Number of workshops/events</b>	141	32	
<b>Number of people attending the workshops/events</b>	5353	985	
<b>Number of groups formed (ad hoc or formally organized)</b>	56	56	
<b>Number of people involved in groups formed</b>	336	408	
<b>Number of volunteers trained</b>	79	97	
<b>Number of publications written</b>	4	3	
<b>Number of publications distributed</b>	3065	269	
<b>Number of issues of newsletters written</b>	61	52	
<b>Number of people receiving newsletters within a year's time</b>	3860	1812	
<b>Number of audio visual resources developed (video, slides, displays)</b>	32	3	
<b>Number of articles in news media</b>	37	27	
<b>Circulation of articles in news media</b>	265,996	61,000	

<b>Performance Goal 5-14</b>			
<b>Maine individuals and families develop and maintain the necessary resources to sustain a desired way of life.</b>			
<b>OUTCOME INDICATORS: Behaviors and Impacts</b>			
	Reported	Projected	
<b>Total Days:</b>	31	71	
<b>People gathering/organizing personal, financial information.</b>	29	130	
<b>People making informed decisions.</b>	109	100	
<b>People taking steps to achieve personal and goals.</b>	103	90	
<b>OUTPUT INDICATORS</b>			

<b>Number of consultations</b>	64	35	
<b>Number of workshops/events</b>	6	11	
<b>Number of people attending the workshops/events</b>	251	170	
<b>Number of people involved in groups formed, including investment clubs</b>	0	30	
<b>Number of volunteers trained</b>	0	10	
<b>Number of publications written</b>	0	1	
<b>Number of issues of newsletters written</b>	2	23	
<b>Number of people receiving newsletters within a year's time</b>	1227	1370	
<b>Number of audio visual resources developed (video, slides, displays)</b>	0	2	
<b>Number of articles in news media</b>	0	3	
<b>Circulation of articles in news media</b>	0	25000	
<b>Number of home budget plans written</b>	7	5	
<b>Number of people requesting home budgeting information</b>	14	25	

<b>Performance Goal 5-15</b>			
<b>Participants in UMCE's Limited-Income Nutrition programs will increase in self-reliance/self-initiative, positive family relationships, family involvement, community involvement, and positive reading habits.</b>			
OUTCOME INDICATORS: Behaviors and Impacts			
	R eported	Pr ojected	
<b>Total Days:</b>	88	16	
<b>Participants will increase in contacts to community, social, or educational agencies to access needed resources or skills</b>	161	60	
<b>Participants will initiate job training/job seeking/literacy skills.</b>	94	56	
<b>Participants will attain a driver's license, business license or other bridge to employment opportunities.</b>	14	22	
<b>Participants will cease/decrease in unhealthy or anti-social behavior, addiction or lifestyle pattern, including necessary or desirable weight reduction or weight gain.</b>	95	70	
<b>Participants will express positive goals (aspirations) for the future.</b>	147	85	
<b>Participants will reduce debt or saving money.</b>	51	80	

<b>Participants will demonstrate increasing order, organization or cleanliness in the home environment.</b>	36	60	
<b>Participants will report or demonstrate increased positive communication in the home.</b>	29	38	
<b>Participants will report or demonstrate increased positive feeding relationship with children (e.g., applied knowledge of children’s serving sizes, improved mealtime atmosphere, family eating together, children assisting with cooking or food shopping, etc.).</b>	69	80	
<b>Participants will increase network of support persons/resources.</b>	123	45	
<b>Participants will increase participation in school, church or community programs, events and opportunities, including volunteer efforts.</b>	40	50	
<b>Participants will increase responding to a need with action toward solving/addressing it through use of community resources.</b>	37	50	
<b>Participants will demonstrate positive reading habits by increasingly having books visible in the home.</b>	30	30	
<b>Participants will demonstrate positive reading habits by increasingly having general reading materials (newspapers, magazines, etc.) in the home.</b>	15	11	
<b>Participants will demonstrate positive reading habits by reporting increasing visits to a local library.</b>	16	16	
<b>Participants will demonstrate positive reading habits by describing increasing reading activities (reading, finger rhymes, talking about books, etc.) with child/children.</b>	33	40	
<b>Participants will demonstrate positive reading habits by describing increasing reading for self.</b>	19	13	
<b>Participants will demonstrate positive reading habits by expressing increased enthusiasm for reading and ideas found in books.</b>	26	23	
<b>Participants will demonstrate positive reading habits by describing/demonstrating increased positive family relationships through reading and reading related activities.</b>	26	13	
<b>Participants will demonstrate positive reading habits by contacting and agency to access literacy assistance for self.</b>	3	4	
<b>OUTPUT INDICATORS</b>			

<b>Number of home visits</b>	682	450	
<b>Number of workshops/events (for the aides)</b>	386	2	
<b>Number of people attending the workshops/events (for the aides)</b>	3288	20	
<b>Number of volunteers trained</b>	5	13	
<b>Number of publications distributed</b>	5680	2100	
<b>Number of issues of newsletters written</b>	9	4	
<b>Number of people receiving newsletters within a year's time</b>	9750	300	
<b>Number of articles in news media</b>	12	2	
<b>Circulation of articles in news media</b>	99,000	60,000	

**that: Evaluation of selected Outcome Indicators and Output Indicators reveals**

- over 1,000 Maine citizens learned of and contacted business-assist organizations, nearly five times the expected number;
- Extension program participants retained or expanded four hundred twenty-seven business enterprises, and created 140 new enterprises and one hundred thirty-three jobs;
- one hundred six people wrote business plans and marketing plans, 152 created bookkeeping systems and 995 adopted one or more business management practices;
- over 2,200 adults learned at least one new parenting skill and 15 new community agency/group coalitions were created to support healthy child development and positive parenting skills;
- four hundred twenty-nine adults enhanced their knowledge of and skills in providing necessary care for aging family members;
- ninety-four youth were able to demonstrate and document workplace skills and competencies, 156 were able to take steps to achieve personal financial goals and 136 demonstrated the skills necessary to run a successful business;
- over 1,200 youth demonstrated character development including self-discipline, managing feelings, self-responsibility, self-esteem, integrity, honesty, reliability, and loyalty;
- one hundred eighty six youth demonstrated their ability to resolve conflicts through peaceful means and seven hundred youth volunteered in their communities;
- one thousand two hundred fifty youth gained the skills to make healthy lifestyle choices, and 1,193 youth helped their communities embrace diversity;
- more than 3,100 youth engaged in activities related to their short and long-term life goals;
  - after participating in UMCE's Limited Income Nutrition Education (LINE) programs, 199 clients expressed positive aspirations for the future and 122 clients enrolled in a job-training program or started actively looking for a job, demonstrating they had learned skills to increase employability;
  - as a result of participating in UMCE's LINE programs, 215 clients recognized the importance of economic stability by starting to save money or by starting to reduce their personal debt;
  - ninety two LINE participants have recognized the value of becoming active in their communities by participating in school, church or community programs, including volunteer efforts;
  - participation in a joint outreach literacy program between the Maine; Humanities Council and UMCE has allowed 151 limited income client families to receive over 800 free children's books, all with themes related to foods. Clients report they have become more motivated to develop regular reading habits for themselves after reading the books to their children and that they use the reading time as a means of communicating and bonding with their children.

### Source of Funding

Performance Goal	FTE Days	Funding Source		State Funds	Total Funding per Performance Goal
		Smith/Lever [b] & [c]	Smith/Lever [d]		
<b>Goal 5-1</b>	540	67,397		199,068	266,465
<b>Goal 5-2</b>	427	52,629		155,448	208,078
<b>Goal 5-3</b>	360	37,417		110,515	147,932
<b>Goal 5-4</b>	179	22,374		66,086	88,460
<b>Goal 5-5</b>	70	8,849		26,137	34,986
<b>Goal 5-6</b>	237	28,520		84,239	112,760
<b>Goal 5-7</b>	1,731	135,865		401,298	537,163
<b>Goal 5-8</b>	222	34,255		101,177	135,432
<b>Goal 5-9</b>	106	18,331		54,144	72,475
<b>Goal 5-10</b>	562	52,701		155,660	208,360
<b>Goal 5-11</b>	325	22,019		65,037	87,057
<b>Goal 5-12</b>	478	68,892		203,481	272,373
<b>Goal 5-13</b>	463	42,809		126,442	169,250
<b>Goal 5-14</b>	31	4,160		12,288	16,448
<b>Goal 5-15</b>	88	13,661		40,350	54,011
<b>Goal 5 Total</b>	5,819	609,881	-	1,801,370	2,411,251

## **Significant Program Accomplishments Corresponding to Key Themes**

### ***Key Themes: Home-Based Business Education and Promoting Business Programs***

***Mid-Coast Home-Based Business Conference:*** UMCE sponsored the fourth annual Mid-Coast Home-Based Business Conference, collaborating with a team of 12 individuals representing 11 businesses and organizations in planning this statewide two-day conference. Nearly 300 people (17% more than last year) from 12 counties attended this highly visible and successful conference to network, learn and increase their entrepreneurial skills and capacity. This year's conference included a trade show and more than 40 workshops.

***Scope of Impact: State Specific***

***Small and Home-Based Business Workshops:*** UMCE conducted small business-based workshops across the state with the following titles:

- E-Commerce for Home-Based Business Owners
- Effective Trade Show Display
- Starting a Childcare Business
- Record-Keeping for the Home-Based Business Owner
- Customer Service
- Planning and Marketing an Herb Business
- Plan Before You Plant
- Marketing Tips for Business Success
- Trade Area Analysis for Selected Maine Towns
- Balancing Home and Business
- Pricing Your Products
- Knowing Your Market
- Starting Your Own Business
- Understanding Your Financial Statements
- Record-Keeping for Childcare Providers
- Resources for Growing Your Business.

***Scope of Impact: State Specific***

***Business Clinic:*** Extension's highly successful Business Clinic program continued to meet the needs of our customers. The program allows business customers to meet individually in a confidential one-hour session with a UMCE business specialist and/or Extension educator. About 240 people participated in the clinics across the state. Many of those attending the business clinic program have attended a UMCE business workshop or were referred to Extension by another organization or customer.

The accomplishments and impacts in the small and home-based business program have been many and varied during the past year. Extension helped 4,000 Maine people who participated in workshops and individual consultations, and initiated requests for business-related information. Our program evaluations indicate that 90% of program participants improve their business knowledge and make positive

behavior and practice changes as a result of attending our programs. Nearly 230 customers wrote business plans, 139 wrote marketing plans, 203 developed or improved a record-keeping system and more than 1,200 customers reported adopting one or more business management practices. In addition, we helped over 600 small businesses to start, continue or expand, and provided educational assistance to more than 1,000 existing small and home-based business owners in Maine.

***Scope of Impact: State Specific***

***Marketing Begins with Customer Service:*** An Extension educator organized and presented a workshop titled, “Marketing Begins with Customer Service” to 80 members of the Maine Landscape and Nursery Association. Topics covered during the workshop included

- the buying process,
- elements of good customer service, and
- the importance of good customer service.

The workshop was part of the re-certification process and participants indicated that they had gained a greater level of awareness of good customer service.

***Scope of Impact: State Specific***

***E-Commerce for the Home-Based Business Owner:*** A Extension educator, in cooperation with a business and economics specialist and a small business owner organized and presented a five-hour interactive workshop titled “E-Commerce for the Home-Based Business Owner” in a rural region of the state. The workshop was designed to help home-based business owners become more knowledgeable about options for using the Internet as a business promotion and marketing tool. The workshop took place at a public computer lab and the format included hands-on instruction by presenters as well as a panel presentation featuring small business owners who currently market their businesses using the Internet. Those attending the workshop indicated that the workshop increased their understanding of the options for using the Internet in their business. Also, several participants indicated that they planned to market their business using the Internet within six months following the workshop.

***Scope of Impact: State Specific***

***Starting a Home-Based Business – Planning for Success:*** UMCE organized and conducted a three-session workshop series at three locations across the state for those interested in starting a home-based business. The workshop series, “Starting a Home-Based Business: Planning for Success,” included three three-hour-long interactive workshop sessions. About 40 people attended this Extension-sponsored educational series. Topics covered during the workshop series included

- developing a business plan,
- market research, and
- resources for growing a home-based business.

Those attending the workshop series indicated that it helped them to better



understand what is involved in starting and operating a home-based business in Maine. Most of those attending the workshop series indicated that they planned to adopt some of the business management practices learned in the workshops.

Practices participants planned to utilize included

- writing a business plan,
- researching the market,
- interviewing potential customers, and
- setting concrete goals and objectives

More than half of the participants reported that they have started to draft a written business plan as a result of attending the workshop series.

***Scope of Impact: State Specific***

***Child Care Provider Workshops*** UMCE helped more than 75 family childcare providers across the state learn the basics of sound record-keeping. Extension staff conducted six two-hour financial record-keeping workshops for family childcare providers. The following topics were covered:

- the importance of keeping good records
- components of a successful record-keeping system
- recording income and expense items
- direct and indirect expenses
- capital expenses.

Those attending the workshops indicated that they plan to adopt some of the record-keeping principles learned during the workshops. A long-term impact study of the childcare record-keeping program found that a significant number of providers adopt some form of record-keeping system or improve an existing system as a result of attending this educational program.

***Scope of Impact: State Specific***

***Balancing Home and Business:*** An Extension educator developed and presented a Balancing Home and Business workshop to a group of participants in a local Incubator without Walls program. Twelve people representing ten businesses attended the program. The participants found the program to be extremely helpful and many plan to adopt strategies learned during the workshop.

***Scope of Impact: State Specific***

***Effective Tradeshow Design:*** An Extension educator working collaboratively with representatives from three other business-assist organizations organized and presented a workshop on effective tradeshow design to a group of small and home-based business owners from the mid-coast region of Maine. Those attending the workshop indicated that the workshop was extremely helpful to meeting their needs. Most of the attendees indicated that they would adopt strategies learned during the workshop. One week after the workshop a participant stated, "It was an excellent presentation. Because of it, I was able to make four very beneficial changes in literature, business cards, and presentation."

***Scope of Impact: State Specific***

***Plan Before You Plant:*** An Extension business and economics specialist developed and presented a seminar titled, “Plan Before You Plant” as part of a workshop organized by a UMCE Extension educator during the 1999 New England Vegetable and Berry Conference. The seminar focused on important factors to consider before starting a new farm enterprise. About 50 people from the New England region attended this presentation.

***Scope of Impact: Multi-State Extension: ME, NH, VT, CT, MA, RI***

***Key Themes: Home-based Business Education, Promoting Business Programs, and Leadership Training and Development***

***Small and Home-Based Business Consultations and Workshops:*** UMCE’s business and economics specialist and Extension faculty conducted 65 educational workshops and seminars across the state. In many cases, these educational activities were carried out in partnership with other business-assist organizations. Extension faculty wrote and distributed 85 business-related newsletters and over 2,000 business-related publications were distributed throughout the state. Extension referred 1,200 people to other business-assist organizations. More than 500 Maine people reported that Extension helped them to better understand and access small business education resources.

- A woman operating a craft manufacturing business in a remote rural area of the state reviewed the pricing method she was using for valuing her products following her participation in an Extension-sponsored pricing workshop. As a result of the changes she made in pricing her products, profits increased. In addition, she attended a follow-up small business clinic and as a result has been able to further expand the sales of her products.
- An Extension educator, in collaboration with a business and economics specialist, provided technical assistance to a Native American entrepreneur through the small business clinic program. The small business owner received help in business planning, marketing, financing and sales forecasting and has recently reopened a 2,500 square foot convenience store at Pleasant Point Reservation in eastern Maine. The business currently employs 12 full-time and part-time employees in an area that typically suffers from very high unemployment.
- An Extension educator, in cooperation with a business and economic specialist, organized and presented a customer service workshop for a group of employees of a small manufacturing/service business headquartered in a remote rural area of the state with branch offices in three locations in rural Maine. The interactive workshop, which included two role-play exercises, was designed to help their employees better understand the importance of good customer service and learn specific tools that would help them develop effective customer service skills. Several of the employees attending the workshop indicated that the workshop was extremely valuable and they planned to adopt the strategies learned during the workshop. The owner of the business said

in a letter, “I would like to thank the University of Maine Cooperative Extension for organizing and presenting the customer service seminar. It was well received and already we are seeing the results. It has made a difference from day one.”

- UMCE worked with members of the Passamaquoddy tribal council to establish Extension’s small business clinic program as a pilot project at the Passamaquoddy Tribe’s Indian Township Reservation in Washington County, Maine. Monthly small business clinics were held at the reservation where interested tribal members met with Extension staff to receive technical assistance and support in growing a small or home-based business. The pilot project is currently in process and will be evaluated after six months to assess accomplishments and impacts and identify the future direction of the program.
- Extension worked with five at-risk customers referred to a local county small business clinic program by the Maine Department of Labor. With the help of Extension, each has successfully started a small business. These businesses range from Internet marketing to a commercial fishing enterprise.
- With UMCE’s help, a home-based business owner living in a remote rural area of the state has been able to successfully expand his business. This wildlife artist has participated in many Extension-sponsored small business workshops and business clinics. As a result, he has formed an agreement with a publishing company to feature his work, use his drawings on some of their own products and make him their exclusive artist.

***Scope of Impact: State Specific***

***Business Outreach on Community Radio: Doing Business***, a new one-hour live radio show produced monthly, focuses on issues of small and home-based business owners in eastern Maine. Each one-hour live show focuses on an important issue facing the small business owner (e.g. marketing, record-keeping, etc.) and features current small business owners who share their experiences and insights with the listening audience. An Extension educator produces and hosts each show. Listeners are encouraged to phone the show with their reaction, comments and questions. An estimated 3,600 people listen to this new Extension radio program.

***Scope of Impact: State Specific***

***Virtual Resource Library (VRL)***: Extension’s small and home-based business leadership team developed a Virtual Resource Library (VRL) as a way to address the needs of our business customers and to increase UMCE’s capacity in this important program area. The library resides on UMCE’s home page and provides hotlinks to a variety of business resources such as

- small business management topics,
- business-assist organizations,
- trade associations,

- socio-demographic data, and
- UMCE's home-based business fact sheet series.

The library was developed with the assistance of a University of Maine undergraduate business student who was participating in an Extension-sponsored internship pilot project. Visit UMCE's VRL at:

<http://www.umext.maine.edu/hbbsite/html/home.htm>.

***Scope of Impact: State Specific***

***The Maine Women's Agricultural Network (WAgN)*** helped form a study group for 450 beginning farmers to meet regularly over two years in order to develop the confidence, knowledge and skills necessary for sustaining their agricultural enterprises. This study group formed to create a safe educational space for participants who have experienced social discrimination. Extension has helped the group form and has provided ongoing educational support in the areas of

- goal setting,
- marketing,
- estate planning,
- production budgeting, and
- networking.

One result of the study group has been increased marketing opportunities within and outside the group. A multi-state proposal for expanding the work of WAgN has recently been submitted to USDA to enhance farmers' risk management skills in northern New England.

***Scope of Impact: Multi-State Extension; ME, NH, VT***

***Service Corps of Retired Executives Workshop:*** UMCE actively promotes the small and home-based business education program across the state. An Extension educator was a panelist at a statewide conference for the Service Corps of Retired Executives (SCORE). The Educator shared information about Extension's highly effective small and home-based business program and distributed promotional materials to 45 SCORE counselors from across the state. As a result, SCORE has increased its referrals of customers to UMCE.

***Scope of Impact: State Specific***

***Mid-Coast Home-Based Business Conference:*** Small and home-based business owners in Maine were provided with the opportunity to enhance their personal leadership through their involvement as resource providers, facilitators, and presenters during the UMCE co-sponsored Mid-Coast Home-Based Business Conference. The conference planning committee established a policy to give area business owners the opportunity to share their knowledge and expertise with conference participants. This year, 22 business owners enhanced their personal leadership at the conference in a variety of settings from leading workshops, to being panelists, to facilitating sessions. Sixteen of the 22 business presenters at this year's conference were women.

***Scope of Impact: State Specific***

***Marketing Tips for Business Success:*** An Extension business and economics specialist developed and presented a seminar titled, “Marketing Tips for Business Success” as part of a U.S. Small Business Administration sponsored conference for small business owners in northern Maine. The conference featured Maine Senator Susan Collins as the keynote speaker. About 75 potential and existing small business owners attended this conference.

***Scope of Impact: State Specific***

***Key Theme: Community Development***

***Linkages and Partnerships:*** The UMCE home-based business team continues to strengthen existing linkages and develop new partnerships with the following research and business-assist organizations in Maine:

- The Small Business Administration
- The Service Corps of Retired Executives
- The Maine Department of Agriculture
- The Maine Centers for Women, Work and Community
- The Maine Rural Development Council
- The Maine Department of Economic and Community Development
- The Piscataquis County Economic Development Council
- Sunrise Economic Development Council
- The Small Business Development Centers
- Adult education programs
- Kennebec Valley Council of Governments
- Coastal Enterprises
- Washington-Hancock Agency
- The Maine Department of Labor.
- The University of Maine’s Department of Resource Economics and Policy
- The University of Maine’s Business College
- The Margaret Chase Smith Center for Public Policy

***Scope of Impact: Integrated Research and Extension***

***Key Themes: Impact of Change on Rural Communities, and Jobs/Employment***

***Rural Business Enterprise Grant and Trade Area Analysis:*** A business and economics specialist collaborated with representatives of a regional economic development agency on a Rural Business Enterprise Grant focusing on rural downtown revitalization. An important goal of the project was to help the communities participating in the project develop marketing plans for their downtown business districts. UMCE contracted to analyze the retail sectors of five rural communities in northern and eastern Maine. A trade area analysis was conducted for each of the five communities. The results were presented to each community and a report was prepared and distributed to those attending the seminars. Those attending the trade area analysis presentations indicated that the seminars helped them better understand their local economies. In one community, a local committee was formed to develop specific strategies for local retail development. A statewide conference on rural downtown revitalization is

being planned for early next year.

***Scope of Impact: Integrated Research and Extension***

***Rural Entrepreneurship Initiative:*** Maine Rural Development Council (MRDC) held two rural entrepreneurship policy academies in July and September 2000. Sponsored with technical assistance support from the Kauffman Foundation, the MRDC Rural Entrepreneurship Policy Academy project is a statewide effort to influence and shape state policies in support of rural entrepreneurship development. A broad range of stakeholders participated in the academy process, attending the July and September events. These stakeholders, who are presently engaged in follow-up efforts, include service providers, lenders, representatives of the utility and telecommunication sectors, policy makers, researchers and small business owners. According to one project participant, "the academy provided an opportunity for us to acquire better understanding of the relationship between entrepreneurship and economic growth, as well as how the public policy process can be used to help promote entrepreneurship—particularly in the rural, isolated counties of the state."

Two major outcomes are visibly surfacing from the project. First, the project is building a strong statewide coalition for entrepreneurship development. Second, the work of the academy has begun to shape decidedly specific policy and program initiatives being proposed to the next session of the Maine Legislature. These initiatives will call for the *local* promotion and support of entrepreneurship as a rural development strategy to create "learning networks" of current and aspiring business owners, service providers and the education community. Findings/lessons from these "laboratories" will help inform the policy process on the state level, enhancing entrepreneurial culture and climate on both the state and local level.

***Scope of Impact: State Specific***

***Island Community Listening Forums:*** The Maine Rural Development Council (MRDC) visited Great Cranberry Island and Frenchboro, two offshore island communities, on September 21 and December 18 to hold community listening forums. Members of the MRDC delegation included representatives from USDA Rural Development; the Maine Department of Transportation; the U.S. Small Business Administration; the Maine Department of Economic and Community Development; the Maine Center for Women, Work, and Community; Coastal Enterprises, Inc.; Eastern Maine Development Corporation; the Maine State Housing Authority; the Maine Community Foundation and the Island Institute, as well as community action program agencies from the coastal counties. Members of the Maine Legislature were also part of the visiting delegation. The visits initiated the council's island community building initiative, designed to deepen council members' understanding of the issues confronting small rural communities and help MRDC members think strategically about what their agencies and programs can do together to ensure a vibrant and sustainable future for Maine's island communities. These visits produced the following

results:

- UMCE and the Maine Department of Marine Resources made a commitment to offer work workshops on community-based soft-shell clam management tools and techniques.
  - Coastal Enterprises, Maine Tele-Medicine Service, and the Maine Center for Women, Work and Community made a commitment to explore ways for the islands to connect to the University of Maine's ITV programming as well as to achieve better Internet connectivity.
  - The U.S. Department of Transportation Federal Highway Administration offered to explore transportation options to get Great Cranberry Island better connected to the mainland, realizing that this must be a multi-island community effort.
  - The Washington-Hancock Community Agency and the Maine Center for Women, Work and Community will explore resource and technical assistance to support the islands' home-based businesses.
  - The Maine Department of Economic and Community Development and USDA Rural Development have committed to a joint venture to help fund the repair and possible upgrade of the community fire truck.
  - The Maine Rural Development Council and the Maine Center for Women, Work and Community made a commitment to support the community in developing a common voice, "listening to each other and working together."

*Scope of Impact: State Specific*

#### ***Key Theme: Promoting Business Programs***

***Governor's Conference:*** A workshop and educational display was co-organized and presented at the annual Blaine House Conference and Exposition for Small Business titled "Planning for the Success of Your Home-Based Business." More than 1,500 people attend this statewide two-day conference initiated by Maine's Governor Angus King. UMCE is considered the lead organization for home-based business education in the state of Maine.

***Scope of Impact: State Specific***

***Maine Entrepreneurship Task Force:*** The UMCE business specialist was invited by the Commissioner of the Maine Department of Economic and Community Development to serve on the Maine entrepreneurship task force. The task force is charged with developing a final report that includes recommendations that would strengthen Maine's support infrastructure for entrepreneurship. The task force includes representatives from a variety of Maine's small business support organizations, including the U.S. Small Business Administration, the Maine Department of Agriculture, SCORE, and the Maine Department of Economic and Community Development.

***Scope of Impact: Integrated Research and Extension***

***National Home-Based Business and Microenterprise Design Team:*** UMCE participated as a member of the USDA's National Home-Based Business and Microenterprise Design Team. During the past year, a UMCE faculty

member helped organize and present a three-day in-service training for Extension professionals and other small business outreach organizations in the Western United States. This multi-state training focused on an educational curriculum developed by the design team titled, “Cashing in on Business Opportunities: A Guide to Building a Home-Based/Micro-Business Extension Program.” The conference was well attended and participants found the conference valuable and plan to use the curriculum in their future programming efforts.

***Scope of Impact: Multi-State Extension; ME, UT, NE, CA, VI, KY, CO, WY, WA, TX, AR, and Guam***

***Key Theme: Parenting***

***Parenting News*** is an educational program used in Piscataquis County to connect parents and caregivers with timely research-based information that can be read quickly and used in a fun way with children. It is currently distributed to more than 225 families who have children under the age of five as well as childcare providers who care for young children. Some articles are written in response to reader suggestions, such as disinfecting for the asthmatic child, vegetarian diets, sibling rivalry, discipline and guidance, and cooking with children. Other articles address everyday life issues: the family bed, involving children in playing sports, getting ready for kindergarten, and tips for parent/teacher conferences. Daycare selection is an annual newsletter feature. The most recent evaluation of this newsletter (1999) suggests that for nearly three-quarters (71%) of those responding, it is their primary source of child development, parenting and nutrition information. Many new parents (59%) report trying new behaviors as a result of something they read in *Parenting News*.

***Scope of Impact: State Specific***

***Parent Educator Networks:*** Recent development of a statewide network has been highly instrumental in both establishing and increasing Healthy Families home visitation parent education programs in Maine and in working with state agencies to expand overall home visiting services to all first-time parents. Parent educators need support and the opportunity to meet and collaborate with others coordinating work, minimizing duplication and maximizing potential program impacts. Cooperative Extension has been instrumental in creating and facilitating these opportunities and networks. For the past two years, leadership for and facilitation of the Healthy Families Maine Network has come from UMCE. The expansion of home visiting services to all first-time parents was also the focus of the Maine Legislative early care and education task force, in which several Extension educators and professionals have active roles. Other parent educator networks act locally to coordinate and create parent education programs. The parent educator network in Penobscot County illustrates this type of network. Created early in 1999, it meets quarterly to plan and implement multi-agency workshops for parents on topics such as empowering kids, alternatives to punishment, and active listening.

***Scope of Impact: State Specific***



**Parents as Teachers (PAT) and Healthy Families (HF)** are two national home visitation programs championed by UMCE. An Extension state specialist serves as the state's PAT training facilitator and primary resource for the expansion of these models throughout Maine. Educators in several counties have worked diligently with other agencies to implement home visitation programs in many Maine counties. The work of one Extension educator in Androscoggin serves to illustrate the leadership role Extension has taken in this work. Her work supported and encouraged Androscoggin Healthy Families to integrate PAT into their program, thus creating a new model. Extension is now facilitating the first Maine PAT training which will support the expansion of this PAT-HF integration throughout Maine.

UMCE also actively participates in educational workshops and home visiting parent education through its own programs. In 2000, parent educators made 2,252 home visits to new parents, and conducted 172 workshops to support healthy child development and positive parenting skills. As a result, over two thousand adults will adopt at least one new parenting skill.

***Scope of Impact: State Specific***

**Parent Education Classes:** Extension offers a comprehensive range of educational programs for Maine parents and child care providers not easily matched by other singular organizations. During the past year, 1,706 parents and 318 childcare providers attended one or more of the 236 workshops or programs with the following topics:

- Young child and toddler development
- Limit-setting, discipline and guidance
- Alternatives to physical punishment
- Babysitting knowledge and skills
- Empowering kids
- Kids fighting and sibling rivalry
- Interpersonal communication
- TV and violence
- "Active" parenting
- Parenting teenagers
- Learning peacefulness in family functioning
- Public policies to protect and value children
- Health, nutrition and safety
- The feeding relationship
- Birth to age 5 childcare and school-age childcare
- Pregnant and parenting adolescents
- Grandparents raising grandchildren

In addition, Extension educators consult with parents and other adults who work with children to answer questions about child development. During the past year, educators reported 3,315 such opportunities to share research-based information with parents and other adults.

***Scope of Impact: State Specific***

***Key Themes: Parenting, Child Care/Dependent Care, and Children, Youth, and Families at Risk***

***CYFERNet Access:*** Through a USDA-CSREES Children, Youth and Families at Risk grant, UMCE has been able to provide electronic access to the latest information on child development and parenting. Computers are located in two resource centers (the Parent Resource Center in Lewiston and the Teen and Young Fathers Parent Project in Rockland) and several elementary schools. These computers are linked directly to CYFERNet, the national Cooperative Extension System's Web site and database for research on children, youth and families.

More than 100 parent educators and parents have used the Lewiston resource in the last year. The most common topics that parent educators are searching for is information on child abuse and neglect, age appropriate activities for parents and children, issues facing children of separation or divorce, and child development.

***Scope of Impact: Multi-State Extension; USA***

***Resources for Teen Moms and Young Dads:*** Over the last four years, more than 80 Knox County teen parents have benefited from Extension's Teen Parent Program and Young Father's Project. These programs provide home visitation parent education for all teen mothers and young fathers as well as match them with trained adult volunteer mentors or "doulas." These adults help the young parents by providing frequently needed role models for healthy adult development. Mentors and doulas also provide practical support such as transportation to health care providers; teaching young parents to shop, cook and balance a budget; and helping to find jobs, housing and childcare. The change this program makes in the lives of young parents provides hope. Babies are born at healthy birth weights and develop appropriately; young parents significantly reduce risk factors in their lives such as domestic violence, smoking and illegal activity; and these young parents more frequently complete high school. Very active and supportive community collaboration plays an integral role in the success of these programs by keeping the needs of parenting youth visible in the community and by raising over \$20,000 yearly to offset program costs.

***Scope of Impact: State Specific***

***The "3-5, I'm in Charge" Program:*** For many parents, there comes a time when their children need to stay by themselves, often after school. The "3-5, I'm in Charge" program teaches the skills needed by youth to successfully care for themselves for short periods of time, typically 2 to 3 hours. UMCE offers this course in collaboration with the Center for Community Health Education at Houlton Regional Hospital and with education staff at Northern Maine Medical Center in Fort Kent. The series includes a meeting for parents on assessing a child's readiness for self-care and on how to support a child in self-care. Four weekly youth meetings teach first aid skills, coping with emergencies, basic nutrition and snack information, and time management skills. On the evaluations, both parents and youth identified first aid and safety as the key issues learned.

***Scope of Impact: State Specific***

***Workshops and Programs:*** Providing local and statewide opportunities for professional development in parenting education is a central activity of Cooperative Extension. Across the state, 482 parent educators attended one or more of the 80 trainings or workshops offered by Extension professionals. The vast majority of these parent educators adopted at least one new skill in leading parent education groups or working with parents. One example of a workshop is entitled “Positive Parenting: Alternatives to Physical Punishment”. Sixty-seven educators and family-serving professionals attended this capacity-building program. The two-day workshop for educators reviewed what is known about the physical punishment of children by parents and its consequences; new methods to teach parents alternative ways to nurture and discipline their children; and ways to attempt to influence the attitudes of parents and others about the hitting of children. Eighty-two percent (82%) of the participants reported that the training provided enough background and tools to present the lesson topics. Most participants indicated they would either directly teach positive parenting or will incorporate the information into other aspects of their work (parent education, home visitation, private practice, school system).

***Scope of Impact: State Specific***

***The Growing Years*** is a series of 35 fact sheets on child development, prenatal to age 5, for parents and others who care for children. At the birth of a child, parents send a simple enrollment form to the state office for enrollment. During the first two years, parents receive a new fact sheet each month detailing new developments in the life of the child, categorized under the following topics:

- Child development
- Health and safety
- Nutrition
- Brain development
- Speech and literacy
- Appropriate toys and play
- What your baby wants you to know

These fact sheets are currently sent to over 4,000 families in Maine who have young children, and are designed to support all new parents. The fact sheets are an integral component of the “Parents are Teachers, Too” home visitation teaching curriculum. Evaluations of *The Growing Years* indicate significant impact in providing research-based information to parents. Most parents report increased understanding of and more confidence in child development issues, child normalcy, feeding, how to stimulate and play with their child, child safety, and age appropriate activities. Overall, parents tell us *The Growing Years* gives them the information and confidence they need to be better parents.

***Scope of Impact: State Specific***

***Key Theme: Character/Ethics Education***

***Healthy Choices:*** Four high school Healthy Choices teams held respect and healthy choices conferences for over 1200 peers this past spring and fall. Cooperative Extension provided training and ongoing technical assistance as well

as grant funding for the groups. Training was focused on developing leadership skills, diversity and acceptance in youth society. The four high school teams are reporting dramatic positive change in their school atmospheres and increased acceptance of others. Team members have reported dramatic learning in the areas of diversity, respect, acceptance, goal setting, leadership skills and evaluation. One team created a Public Service Announcement (PSA) and won the statewide competition among youth teams for their creative piece on respect. This fall they created a second PSA, which has been used locally. They are now planning a community-wide respect day.

***Scope of Impact: State Specific***

***Student Summits on Bullying and Teasing:*** Principals in one Maine school district were concerned that students needed some skills in getting along with one another and were interested in teaching character education skills at student summits. An Extension educator worked with the principals to plan a daylong event with multiple sessions for the students to attend. At the close of the day, each classroom created a poster that showed how they were going to work together to have a successful year. The posters were to be taken back and posted in the classrooms. More than 100 sixth-graders plan to analyze their school maps and identify how they can make their school a safer place to attend. Follow-up evaluation will be planned with the principals as the year continues and we hope to see students treating each other respectfully, using the "bridge" strategy to solve conflicts, help victims of bullying, work to make all places in their schools safe, and act as good citizens of their schools.

***Scope of Impact: State Specific***

***Friends for Life:*** Close relationships have important positive impacts on our lives. Current research suggests that friendships may be even more important in contributing to health and well being than previously realized, especially for women. The Friends for Life program was developed by Extension educators in several counties to explore the issue of friendship. Survey results indicate the following:

- Eighty percent of the individuals surveyed indicated that they had felt better after spending time with their friends.
- Sixty percent said that they made contact with an old friend as a result of the workshop and had made plans to visit with their friend on a regular basis.
- Ninety percent said that as a result of the workshop they were more attuned to their relationships with others and that they were more positive about life in general; they also indicated that it was valuable to make contact with friends with whom they had lost touch.
- Four individuals said they visited friends who had Alzheimer's and were able to connect with them for a short period of time.

***Scope of Impact: State Specific***

***The Gender Project*** of York County is one illustration of the depth and quality of programs offered to parent educators. This grant-funded program

provides parents, teachers, school administrators and guidance counselors with tools to create more positive and equitable environments for boys and girls. In the past year, 341 parents, teachers and other professionals attended 25 workshops to discuss two videos: *Tough Guise: Violence, Media and the Crisis in Masculinity* and *Reviving Ophelia: Saving the Selves of Adolescent Girls*. An additional 27 professionals borrowed the videos to show to other groups, extending audiences by another 200 people. One hundred eighty other parents, teachers and parent educators were involved in 15 community meetings and staff development sessions. These services reached 200 additional families and broadcast this important research-based information even farther. More than 200 parents and teachers receive The *Gender Project NEWS* resource packets. A local daily newspaper, the *Journal Tribune*, consistently turns to Extension for research for numerous editorials on gender issues. The impacts of this project continues to extend even farther. By serving on a steering committee supporting the development of eight videos on sexism, Extension staff distributed the videos described above along with hundreds of others and facilitated airing of the videos on community television in Portland several times. In November 2000, this steering committee sponsored the conference titled "Boys to Men: Getting There in One Piece" that involved over 200 boys and men in southern Maine.

***Scope of Impact: State Specific***

***Strengthening Voice:*** Concerns have been raised by parents, teachers and community members about how they can support both boys and girls in developing a full repertoire of skills so that they will be happy and successful in their many and varied adult roles. Mothers call saying they have tried to raise sensitive sons, but their efforts are diminished when they are picked on and bullied at school. Mothers, teachers and other female youth community leaders have said that it is hard for them to feel competent in speaking out about gender equity issues because their own gender socialization history comes up. "Strengthening Voice: Speaking up for Gender Equity" was developed to address these needs. Role-playing, movement, writing, storytelling, small group work, and case studies from the participants' experience were used to explore gender territory. Participants were able to practice their skills in speaking up for gender equity and receive supportive feedback. At the beginning and end of the series participants were asked to respond to the same set of questions to help measure shifts in thinking and specific actions that women took as a result of the series. Findings showed that the participants continue to advocate for gender equity in their workplaces and home situations. Participants noted that they feel more knowledgeable and confident about what they know. Networking between the participants continues to happen.

By attending the series, 11 women became aware of their own gender socialization and the ways in which this informed their multiple roles;

- understood the strength of their contributions and the effect they have in their interactions with young girls and boys;
- are becoming stronger advocates for the development of "whole" boys and girls;

- became part of an ongoing support network for community gender equity work.

***Scope of Impact: State Specific***

***Strengthening Women's Leadership Capacity:*** As more women move into leadership roles they need to have a place to experiment with their full, competent, powerful selves as leaders in relationships to others. This educational series was designed to address these needs. Women were invited to deepen their knowledge about their personal power and gain more understanding about their own strength and abilities and the effect of their actions on others. They also learned the developmental stages of a women's group and how to use their capacity in service of bringing about change. Additionally, they became part of a local network of women actively exploring their leadership capacity. Participants became aware of how these tools affect their ability to lead from a place of personal power. They spoke about leading themselves to a more profound sense of who they are, exploring new and familiar parts of themselves and discovering who they truly believe themselves to be. They increased their awareness of the choices that are available to them in any given moment that calls for a leadership action. The other dimension related to impacts at the personal level was the increased level of self-acceptance that evolved over the course of the series. Women spoke about honoring themselves and their contributions, valuing all parts of themselves, trusting and leading from their instincts, being more tolerant of themselves, observing instead of judging their behavior, and learning how to support themselves and their opinions, and using this awareness as a foundation for personal achievements.

***Scope of Impact: State Specific***

***Key Theme: Communications Skills***

***Strengthening Family Relationships:*** Offering training on relationship dynamics to all family-serving professionals is one way that Extension helps to strengthen family relationships. During this last year, UMCE sponsored workshops statewide on couple and stepfamily relationships. Participants then used the materials in a variety of ways, such as workshops, home study course, and newsletter articles to reach Maine adults. Participant comments reinforce the importance of understanding diverse family structures and their strengths and challenges, as well as learning and practicing growth-enhancing relational skills.

***Scope of Impact: State Specific***

***Key Themes: Parenting, and Communications Skills***

***Supporting Father-Child Relationships:*** One educator focuses particularly on supporting father-child relationships by working with other community organizations to encourage fathers to be more involved with their children. They have created specific programs and activities that highlight the importance of fathering and that provide time for fathers and children to spend time together. One highly successful event was Father's Fish and Fun Day. A local pond was stocked with trout; 4-H members provided fishing demonstrations,

games and face painting, and educators provided fathers with publications on positive fathering. Family movie nights are another way fathers and their children spend time together. Because the children's entrance fee is a can of food, it benefits the local food bank as well.

***Scope of Impact: State Specific***

**Key Theme: Aging**

***Coalition for a Maine Initiative on Aging (CMIA)*** is a collaborative public policy education effort designed to address the aging issue in Maine. Members of CMIA include UMCE, the Maine Rural Development Council, the Maine Alzheimer's Association, Maine Area Agencies on Aging, the Maine State Planning Office, the Maine State Housing Authority, the Margaret Chase Smith Center for Public Policy, and the Maine Hospital Association. Aging has become a critical issue as the result of dramatic demographic shifts now occurring. Currently, Maine's over-sixty-five population is about 14%, but is expected to increase to 21% by 2025. Such growth in the elderly population will create momentous demands on Maine's service delivery infrastructure, particularly in rural, rim counties of the state. Efforts will be made to

- understand the issues and needs confronting Maine's aging population, particularly in isolated rural places, and the implications for public policy;
  - assess where and how service delivery system(s) can be strengthened, and where and how to bridge the gaps and enhance linkages;
  - ascertain what new resources are needed;
  - think systemically about policy initiatives that are long term, sustainable and empowering;
  - build a constituency in support of these initiatives.

Activities in support of accomplishment of goals are through five regional focus groups and listening sessions, a policy round table, legislative briefings, and a policy report written for multiple audiences. During its first year CMIA has engaged over 175 seniors, caregivers and service providers from all parts of the state in debate and discussion about issues and needs confronting the elderly in Maine.

***Scope of Impact: State Specific***

**Senior Companion Program:** The UMCE Senior Companion Program is an on-going coalition that works to support and advocate for limited-income individuals 60 years of age or older and adults with special needs who could benefit from in-home visitation. Limited-income individuals serve in a meaningful volunteer position and are reimbursed for related expenses. They help at-risk or isolated adults maximize, maintain or regain their independence. For the grant year ending June 30, 2,000, volunteers contributed 72,366 hours and made more than 26,500 home visits.

***Scope of Impact: State Specific***

**Key Theme: Workforce Preparation – Youth and Adult**

***Youth Empowerment and Self-Sufficiency! (Yess!) Entrepreneur Programs:*** Four Yess! Entrepreneur programs have been conducted in Oxford

County for second, third, and fourth grade students. The program is designed to set up a mini-society in which young people create currency, operate small businesses and learn about making all society decisions. Eight students from the Come Spring School in Union, Maine successfully created or partnered a small business in the mini-society project, facilitated by school and Extension staff. Each participant had over 30 hours of learning how to set up a business, and helped create a society of their own in which to function. The participants, ages 8 – 11, were able to demonstrate the essential workings of a market economy by creating successful businesses. They demonstrated skills in pricing, marketing, production, currency development and use, decision-making, and problem solving. Further, they were able to develop a sense of their career and skill preferences.

***Scope of Impact: State Specific***

***Youth Aspirations:*** Sixteen teens from across Oxford County took part in job shadows, resume writing, job mentorship, portfolio work, career education and a 10-day career education trip this spring, as part of a youth aspirations program. The group went on an in-depth career education program in Florida, which included the following: marine biology studies on injured sea turtles and manatees at Sea World, a whale training session, a research project on communication with dolphins, computer animation and film animation, international exploration, international cooking with a 5-star chef, seining on the Indian River, aquatic life research, entomology studies, nature center tours, a tour of an orange grove, a behind-the-scenes visit to Kennedy Space Center, and the technical magic effects at the Disney Institute.

***Scope of Impact: State Specific***

***Key Theme: Youth Development/4H***

***Youth Aspirations Newsletters:*** Twelve 4-H newsletters and three teen newsletters focused on youth aspirations were distributed through schools across the U.S.

***Scope of Impact: State Specific***

***AmeriCorps 4-H Program:*** Twenty-eight high school workshops have been held for juniors and seniors on community service and the AmeriCorps 4-H program. Over 1,400 students have attended and 45 teens have completed enrollment packets. Teens in grades 11 and 12 at Stearns High School in Millinocket learned about the AmeriCorps program and the ways in which they could earn educational scholarships for community service. Presentations were made over two days to a total of 131 teens in 10 classes. Presentations about AmeriCorps and farm safety were also made during two meetings with the East Millinocket recreation department staff. As a result of these presentations, 11 teenagers applied for AmeriCorps positions. Ten of these teens received six hours of Volunteer Ongoing Learning and Training (VOLT) training and went on to conduct the summer recreational program for East Millinocket youth. Three other students from the greater Bangor area also took AmeriCorps positions and are



performing duties that range from helping at Leonard's Mills Museum to working in a public library. One of the students said, "I'm really glad I did this. I didn't make as much money as I would have in a regular job, but I think I learned a lot more."

***Scope of Impact: State Specific***

***4-H Community Projects:*** 4-H clubs throughout the state have participated in community service projects of their own selection and recorded the activities in meeting minutes. Some examples include

- horse camp food baskets to elderly shut-ins;
- local clean-up projects, including roadsides and an Earth Day park clean-up;
- adopting a whale, adopting a rain forest;
- making bookmarks for the local library.

***Scope of Impact: State Specific***

***The Peer Education Program*** educates and encourages teens to take on leadership roles in their schools and communities with a focus on teen issues. The Oxford county teen leadership project has expanded this year by two new high schools. Thirty-eight teens became involved for the first time this year and attended leadership and HIV prevention training and directed a daylong HIV prevention education program. The program included the Maine AIDS Quilt, guest speakers from the NAMES Project and a young person infected with the HIV virus. Over 250 teens attended the educational event. In addition one team created an interactive theatre presentation focused on HIV prevention. The initial impacts from the education day show that over 80% of teens say they are more concerned with contracting the disease and plan to make healthier choices. Over 85% of those reporting said they learned something new about the disease from the guest speakers and the AIDS 101 course.

Up to 23 teens from 4-H, Girl Scouts, DARE, Smoke-Free Catholic Schools and the YWCA met at the Extension office in Bangor two to three times each month from May through October to learn how to plan four daylong educational conferences which they delivered to for approximately 160 other teens. The conferences focused on building character, preventing substance abuse, managing conflict, and developing leadership. The teens spent the last three meetings exploring the six pillars of character (trustworthiness, respect, responsibility, fairness, caring, and citizenship) and engaging in exercises to help them identify and practice these traits. They then selected and presented to each other hands-on learning-by-doing activities appropriate for middle school students.

***Scope of Impact: State Specific***

***Foster Children Group:*** A group of 12 foster children and their Extension program aides learned planning and cooperation skills by creating a group gardening project at the Somerset County Extension office from May until August. Program aides reported that the foster children learned to plan, care for

and nurture themselves as well as their crops. They learned that decisions and activities in the present can have benefits in the future. This gardening group donated 27 pounds of produce to the Skowhegan Food Cupboard and learned that they can be valuable contributing members of their community.

***Scope of Impact: State Specific***

***High School Financial Planning Program (HSFPP):*** Teachers attending the High School Financial Planning Program workshop identified their need to learn about teaching methods and resources for teaching money management to their students. An Extension educator, in cooperation Somerset County, conducted an HSFPP workshop at which nine teachers completed the training. This was a hands-on, learn-by-doing workshop in which participants practiced the materials that they would be teaching students. Topics included spending recalls, spending plans, credit, insurance, values, decision-making, and goal setting. All nine teachers said they planned to deliver this program in their classrooms in the coming year, ordering student workbooks for 530 students in seven high schools in Maine

***Scope of Impact: State Specific***

***Youth Cultural Exchange:*** Maine youth need opportunities to learn how to appreciate other cultures and to have cross-cultural experiences. The Japanese exchange committee is comprised of Extension staff and volunteers. During the programming year over twenty Maine families had the opportunity to experience firsthand a part of Japanese culture by hosting 23 Japanese young people for a month in their homes. Maine families were recruited and matched with the Japanese youth based on what type of experience each Japanese young person was looking for. Maine youth were given the opportunity to live and communicate with young people from another part of the world, and learn to appreciate differences and the opportunity to form lifelong friendships.

***Scope of Impact: State Specific***

***Horse Camp:*** Somerset County Horse Camp was held during the summer of 2000. Participants included 18 youth and eight leaders and parent volunteers. Campers received instruction in Western and English riding techniques for both advanced and beginner riders, instruction on horse dental care and mouth evaluation, attended a poisonous pasture plant workshop and attended a standard bred breed and harness racing demonstration. On camp evaluations, 75% of the 4-H members learned the life skills of leadership, contribution to group effort, self-responsibility, managing feelings, personal safety, problem solving, planning/organizing, communication, social skills, nurturing relationships, and concern for others.

***Scope of Impact: State Specific***

***Appalachian Trail:*** In summer 2000 UMCE faculty and staff designed a one-week Appalachian Trail backpacking trip for youth ages 12-14, giving young people a unique outdoor educational and recreational opportunity. Program

evaluations elicited the following responses: "I can go further than I thought I could; I learned to trust my friends; it takes more than one person to cook and clean; always be prepared to change your plans; drinking water is important; setting up tents requires teamwork; I learned a lot about other people; I learned how to identify plants; I learned about no trace camping; I learned that I love backpacking in Maine." Many of the campers commented that they would like to do a more challenging program next summer. These campers proved that one could reach their full potential if they set realistic goals, work cooperatively with others, and strive to improve their knowledge.

*Scope of Impact: State Specific*

***Key Theme: Youth Development/4-H, and Agricultural Financial Management***

***Livestock Marketing:*** A series of eight workshops and clinics were presented to help youth in agricultural enterprises understand how to manage their finances, use their resources wisely, keep accurate records, market their animals successfully, and calculate profit and loss following a sale. Volunteer leaders in the lamb and beef projects agreed that educational emphasis should be placed on the marketing aspect of the projects this year. Youth learned how to develop a marketing strategy that included methods of contacting, securing and thanking buyers. They also attended record-keeping workshops or participated in consultations that evaluated their techniques. The training enabled 4-Hers to capture record prices at the 2000 4-H Livestock Auction at the Bangor State Fair. The fifteen 4-Hers who marketed steers received from \$1.20 to \$1.525 per pound live weight, averaging \$1.32 per pound. The twenty-four 4-Hers who marketed lambs received between \$3.00 and \$6.25 per pound live weight, averaging \$4.16 per pound. One boy wrote, "This was really fun! I didn't know how to do it last year, so I just went to the auction and hoped somebody would buy my steer. This year I contacted three buyers, and all of them came to bid." A prominent local businessman who bought a lamb said of the girl who raised it, "She baked me cookies! And she personally brought them over to my house, along with a thank-you note. You know darned well I'll be at the auction again next year if she contacts me." Individual consultations were held with 4-Hers who wanted to know specific ways of improving their record-keeping techniques.

*Scope of Impact: State Specific*

---

***Key Theme: Family Resource Management***

***Born to Read:*** Maine has a high illiteracy rate, and there is a need to link literacy efforts within a broader context of "family literacy" that includes the ability to communicate, problem-solve, and make decisions. One county educator collaborated with the Maine Humanities Council (MHC) beginning in 1997 to bring MHC's new Born to Read initiative to UMCE. The project began in a two county area. MHC trained the three nutrition aides in techniques for reading and sharing books with children, and role modeling for the parents. MHC purchased enough children's books with themes related to food, nutrition and health so that each aide could give participating families up to four books. The following year,

the program was expanded to all southern Maine counties with limited-income nutrition programs, and this year, the program went statewide. The statewide expansion of the program was reported in the *Lewiston Sun Journal* and on Channel 6 television, both reports featuring a family that has benefited from the MHC/UMCE collaboration. In another case, a young woman from Guatemala was referred to an EFNEP Aide in Cumberland County. The young woman was not able to read or write very well but wanted very much to learn. It was difficult for her to get to and from evening adult education classes, as she did not drive. The aide made a referral to Literacy Volunteers. The Guatemalan woman is now working with a tutor twice each week and has made great strides. Last month her children wanted to make gingerbread cookies. When the aide made her visit she brought *The Gingerbread Boy* and read it to the children. When she finished reading the children all jumped up to lock the doors and check the windows so that their gingerbread boys wouldn't escape! Later the mom picked up the book and started to read it. She looks forward to the books the aide brings from the MHC since she can now read them to her family.

***Scope of Impact: State Specific***

***Get It Together, Food, Fashion, and Fun Show:*** The third annual *Get It Together, Food, Fashion, and Fun Show* addressed the need to empower people with limited incomes with a sense of confidence as they enter/reenter the workforce. It also served our goal of collaborating with other area agencies to increase our client base and resource network. A planning committee consisting of members from York County Extension, the Maine Department of Human Services, the Maine Center for Women, Work and Community, Catholic Charities, Head Start, York Cumberland Housing, and the Caleb Foundation was formed to coordinate the event. The target audience was people with limited incomes who are seeking employment opportunities. The show is based on the idea that all people, regardless of income, need enhanced self-esteem and the proper resources to accomplish their goals. Experience teaches that people need to feel good about themselves in order to make healthful behavior changes. In addition to a fashion show (models wore clothes purchased from Goodwill and averaging ~\$10.00 per outfit), the day consisted of four workshops: accessories, best of basics wardrobe, food safety, and healthy brown-bag lunches. Results from participants' evaluative comments indicated that

- 33% have shopped at a consignment store for the first time;
- 83% have used accessories (such as a scarf) to enhance an outfit;
- 50% have tried one of the featured recipes or a quick and easy meal;
- 67% have been more aware of food safety practices.

***Scope of Impact: State Specific***

## Section B

### Stakeholder Input Process

The University of Maine Cooperative Extension (UMCE) continues to operate under the policy that a credible Plan of Work is based upon input received from our stakeholders. Therefore, UMCE's established process for stakeholder input continues to include stakeholders during development and assessment of programs. In many cases this takes the form of project planning and implementing with stakeholders serving as partners and key members of focus groups, county board members, and members of advisory groups. The following selected examples illustrate our public input process:

- Each of Maine's county offices have a County Executive/Advisory Committee formed under 1958 State Legislative Action to provide advice and direction on priority programs. County faculty meet with their County Executive/Advisory Committee's at least eight times a year to discuss current and future programming.
- The Maine Board of Agriculture is another example of our direct link to the public and state to receive information with regard to the success and direction of UMCE programs. In the spring of 1998, the Maine Legislature passed L.D. 2004, which established a Board of Agriculture. The purpose of the Board is to advise the University of Maine System and the University of Maine at Orono on matters concerning the operation and management of agricultural research conducted by the Maine Agricultural Experiment Station and the university farm based programs, including those of the University of Maine Cooperative Extension. This Board meets four times a year, involves 19 members, representing various agriculture and farm related industries and provides direct guidance to program and personnel in agriculture.
- The Wild Blueberry Commission of Maine serves the priority needs of Maine's Wild Blueberry growers and processors. It administers the wild blueberry tax, which exceeds \$800,000/year. The Commission appoints the Wild Blueberry Advisory Committee (six grower/processors and a full-time executive director) to set research priorities and make research recommendations. This committee also works to obtain research grants and supports the grant writing of wild blueberry researchers. UMCE's Blueberry Specialist meets with the Wild Blueberry Commission once or more a year and also works collaboratively with the commission in support of the Wild Blueberry Commission Newsletter.
- UMCE staff was involved in organizing, facilitating, and documenting a January 2000 meeting of shellfish aquaculturists, researchers, and agency members to discuss the data gaps and research needs for shellfish aquaculture in Maine. The meeting was sponsored by UMCE, the University of Maine Sea Grant Program, the Maine Aquaculture Association, and the Maine Department of Marine

Resources. Approximately 40 people attended the meeting, producing the document “Priorities for Maine Shellfish Growers: Research and Other Needs” which was published by the UMCE communications office and distributed to about 150 interested parties.

- A UMCE Aging and Mature Adult Lifestyles Skills program leadership team was formed and worked to identify the high priority issues facing middle-aged and older adults. The team realized it needed direct input from key stakeholders and organizational members. A survey instrument was developed and distributed in March 2000 to county executive committee members, individuals in the Senior Companion Program and Extension staff. Survey results were prepared for review by the team and a report was prepared. Results are being used to determine resource purchase priorities, future support activities, and programming direction.
- The Maine Rural Development Council (MRDC) regularly sponsors listening forums and field trips to increase council interaction with stakeholders. In 2000, MRDC forums and field trips involved community leaders and representatives of USDA Rural Development, the Maine Department of Transportation, the Small Business Administration, the Maine Department of Economic and Community Development, Maine Centers for Women, Work, and Community, Coastal Enterprises, Inc., Eastern Maine Development Corporation, the Maine State Housing Authority, the Maine Community Foundation, and the Island Institute. Community action program agencies from the coastal counties and members of the Maine Legislature were also part of the visiting delegation.
- UMCE staff regularly meets with the Maine Potato Board to discuss priority needs for Maine’s potato farmers. The Maine Potato Board is composed principally of potato farmers. The Maine Potato Board education and research committee often supports UMCE activities. In 1999 the Maine Potato Board provided funding for the UMCE Anti- Bruise Campaign.

UMCE learns directly and indirectly about stakeholders’ issues and needs by collaborating with other agencies and organizations. The following are some examples of UMCE’s collaborative efforts:

- The Coalition for a Maine Initiative on Aging (CMIA) is a collaborative public policy education effort designed to address the aging issue in Maine. Members of CMIA include UMCE, the Maine Rural Development Council, the Maine Alzheimer's Association, Maine Area Agencies on Aging, the Maine State Planning Office, the Maine State Housing Authority, the Margaret Chase Smith Center for Public Policy, and the Maine Hospital Association. Efforts will be made to:
  - understand the issues and needs confronting Maine's aging population, particularly in isolated rural places, and the implications for public policy;

- assess where and how service delivery system(s) can be strengthened, and where and how to bridge gaps and enhance linkages;
- ascertain what new resources are needed;
- think systemically about policy initiatives that are long term, sustainable and empowering;
- build a constituency in support of these initiatives.

Activities in support of accomplishment of goals are through five regional focus groups and listening sessions, a policy round table, legislative briefings, and a policy report written for multiple audiences. During its first year CMIA has engaged over 175 seniors, caregivers and service providers from all parts of the state in debate and discussion about issues and needs confronting the elderly in Maine.

- The UMCE home-based business team continues to strengthen existing linkages and develop new partnerships with other research and business-assist organizations in Maine, including the following stakeholders:
  - The Small Business Administration
  - Service Corps of Retired Executives
  - The Maine Department of Agriculture
  - Maine Centers for Women, Work and Community
  - The Maine Rural Development Council
  - The Maine Department of Economic and Community Development
  - The Piscataquis County Economic Development Council
  - The Sunrise Economic Development Council
  - Maine Small Business Development Centers
  - The Maine Adult Education System
  - The Kennebec Valley Council of Governments
  - Coastal Enterprises, Inc.
  - Washington-Hancock Community Agency
  - The Maine Department of Labor.
  - The University of Maine Department of Resource Economics and Policy
  - The University of Maine College of Business, Public Policy and Health
  - The Margaret Chase Smith Center for Public Policy
- The UMCE business specialist was invited by the Commissioner of the Maine Department of Economic and Community Development to serve on the Maine Entrepreneurship task force. During task force meetings priority economic development needs of the state are discussed.
- Collaborating with the Maine Department of Marine Resources (DMR), UMCE and the University of Maine Sea Grant co-sponsored a series of research priority workshops that addressed statewide needs with regard to key marine species.

Eight sessions were held in several locations throughout the state focusing on lobsters, soft-shell clams, urchins, shrimp and scallops. Several members of the Marine Extension Team helped organize, facilitate and document the discussions. The outcome was the creation of a Marine Research Agenda for Maine, which is now being written under contract with DMR.

- Extension staff in partnership with the Maine state Department of Marine Resources plays a critical role in design and delivery of training and educational materials to improve participation in and effectiveness of the state lobster zone management system. Each participating staff member attends regular meetings, assists with facilitation and helps to encourage greater participation by the industry, including lobstermen. Representatives of the Lobster industry are elected by their peers to serve in their zone. In 2000, the Extension team also helped to promote the election of district representatives.

UMCE often responds to legislated educational needs in priority populations and subject areas:

- Integrated Pest Management (IPM) is an integral part of pesticide education. In 1997 the Maine state legislature mandated minimum reliance on pesticides through IPM. UMCE's Pesticide Management Office offers Pesticide Applicator Training (PAT) tailored to meet the needs of individuals and various commodities as directed by the PAT advisory committees. The committees bring together UMCE and lead agency staff, commodity specialists, industry representatives and interested applicators for the purpose of fine-tuning and coordinating the program. UMCE staff developed and maintains the required Pesticide Education Manual. In 1999 UMCE Pest Management and other Extension staff and state lead agency staff from several Northeast states plus EPA and USDA personnel organized a National Pesticide Certification and Training Conference in Portland. This workshop was attended by about 300 people from across the US and Canada.
- Maine passed a nutrient management law which required any farm enterprise with more than fifty (50) animal units to file a nutrient management plan by January 1, 2000. A UMCE faculty member was contracted by the Maine Department of Agriculture to develop a nutrient management training manual, testing procedure and training program. A computer nutrient management program was developed and has been widely used across the state to develop comprehensive nutrient management plans. The nutrient management program is being used by all natural resource conservation offices in Maine including the Maine Department of Agriculture
- Certification of organic farmers was conducted by UMCE in partnership with the Maine Organic Farmers and Gardeners Association.
- Extension's educational programs, in collaboration with the Maine State Planning Office, the Maine Department of Environmental Protection and the Maine



Department of Agriculture, have increased recycling and composting of the organic portion of the waste stream by focusing our efforts on home, municipal, and commercial composting education.

- UMCE, in collaboration with Maine Department of Agriculture, has offered semi-annual Wood Measurement Workshops to enable participants to obtain Apprentice Wood Scaler's Licenses.

The following are a sample of other stakeholders who have been included in our process (listed alphabetically):

- 4-H Leaders Associations
- Agricultural Council of Maine (AGCOM)
- Maine Beef Producers Council
- Maine Children's Task Force
- Maine Cranberry Growers Association
- Maine Dairy Herd Industry Association
- Small Woodland Owners of Maine
- State legislators
- Sustainable Agriculture Society
- United Way of Maine
- The University of Maine Agricultural and Forest Experiment Station
- The University of Maine and New Hampshire Sea Grant Aquaculture producers
- Western Mountains Alliance
- Wild Blueberry Growers Association

## Section C

### Program Review Process

There have been no changes to the Program Review Process throughout the first programming year of the 2000 – 2004 Plan of Work. The process, named *Merit Review Process* in the Plan of Work, is excerpted and updated, and included below:

UMCE will institute a merit review process that is based on clear, specific and measurable criteria. These criteria will include items related to the relevance, uniqueness, potential impacts and quality of our programs. The process will include reviewers such as outside experts with in-depth expertise in the program area as well as agencies, advisory groups and clientele. It is our intention to use this review to gain a wide variety of viewpoints and incorporate those into future planning and program change. Many of the stakeholders, partners and collaborators named in our input process will also be involved in the review process. For example, UMCE will request that the Maine Board of Agriculture be one of its reviewers. The make-up of this group includes:

Lavon Bartel, Director, The University of Maine Cooperative Extension  
David Bell, Maine Blueberry Commission  
Alfred Bushway, The University of Maine Department of Food Science and Human Nutrition  
Michael Corey, Maine Potato Board  
Judith Dimock, Chair of Board of Agriculture  
Sandy George, President, Maine Farm Bureau  
William Guphill Sr., Wild Blueberry Commission of Maine  
Steven Jones, Landscape/Horticulture Business Owner  
Howard K. Jones, Director, Div. of Market and Production Development, Department of Agriculture  
Richard Kneeland, Maine State Legislature  
Galen Larabee, Maine Dairy Industry Association  
Russell Libby, Maine Organic Farmers & Gardeners Association  
Bill Longfellow, Alden Longfellow Gardens  
Donald Marean, Maine Dairy Breeder  
Fred Olday, Jasper Wyman & Son (Blueberry Processors) and chancellor's representative  
Linda Rogers-Mckee, Maine State Legislature  
Robert Spear, Commissioner, Maine Department of Food and Rural Resources  
Gregory Porter, The University of Maine Agricultural Faculty Representative  
Ford Stevenson, Small Fruit/Vegetable Grower

In addition, the six directors of the New England states have agreed to share all state plans with one another. A possible outcome is to have two or more states cross-assess other plans during FY 2000 and advise on opportunities to strengthen and collaborate.

UMCE realizes the value of such a review and welcomes this opportunity to continue the dialogue with its partners.

We will also share our plans with the University of Maine Provost/Vice President of Academic Affairs, Vice President of Research, Director/Dean of the Agricultural and Forest Experiment Station and the Director of the Maine Agricultural Center.

The quality of our work will be improved because the reviewers are individuals who actively participate in the businesses, agricultural commodities and communities that UMCE will be addressing through its POW. Based on personal experience, the reviewers have the ability to determine that our programming is relevant, timely and will address the priority issues of Maine. The review will evaluate our POW to determine that we are addressing the challenges and opportunities facing Maine's agricultural industries, communities and families. The review will not only examine what we are planning to do but also how we intend to accomplish our work. Initial feedback indicates that UMCE is expected to be efficient, avoid program duplication, collaborate with others whenever possible and create measurable outcomes of our work. This process requires thorough program planning and will focus on producing measurable impacts in a cost-effective manner.

The quality of our work will improve as we are able to show that we are achieving the goals set forth in our plan. The plan is also a springboard for future change. We intend to continue the review and feedback process throughout the five-year POW cycle. We expect that our programs will change and improve as a result of these reviews and as new needs emerge we will be able to develop new methods of working with our audiences.

In summary, the review of the UMCE plan of work by stakeholders, program partners, elected officials and others is an ongoing method of quality control that ensures relevancy of our plan to the people of Maine.

## **Section D**

### **Evaluation of the Success of Multi and Joint Activities**

The University of Maine Cooperative Extension (UMCE) faculty and program professionals contact and work with colleagues from other institutions to address the program needs of Maine farmers, families, and communities. Partnerships with other states helps Maine staff and clients to expand their knowledge base and participate with other states to increase efficiencies where related work is underway. While collaborative programs are numerous, formal tracking is limited and thus fiscal sheets with “actual expenditures” only cover personnel and activities with a clear auditable trail.

#### ***Multi-State***

***New England Vegetable and Berry Conference:*** UMCE regularly works with other New England states in the planning and implementation of regional vegetable and berry grower education. Extension vegetable and pest management specialists from six New England states formed a committee with farmers and industry leaders to develop the New England Vegetable and Berry Conference, held in Sturbridge, Massachusetts. Attended by over 1,200, the conference included 26 educational sessions, with over 100 presentations by academic experts and experienced farmers, addressing areas of need expressed by potential attendees. Ninety-seven percent rated the educational sessions as good to excellent, and 68 percent said that the information they gained from the sessions would improve the profitability of their farms. Many issues addressed the needs of the underserved population of small farmers.

#### ***Beach Profile Monitoring and "The State of Maine's Beaches"***

***Conference:*** The Beach Profile Monitoring project goal is to establish sustainable volunteer monitoring teams on each of southern Maine's most threatened sandy beaches. These volunteers take profiles of their beaches once a month throughout the year. The collected data is compiled at the University of Maine to provide

baseline data to inform the beach management decision-making process. UMCE worked with the project's principal investigators, graduate students, and Maine Sea Grant to coordinate "The State of Maine's Beaches" conference held in July 2000 in which a docent workshop on the theme of coastal geology and coastal processes was presented to roughly 50 docents from southern Maine and coastal New Hampshire.

***New England Vegetable Management Guide:*** Extension Vegetable and Pest Management Specialists from the six New England States developed the *2000-2001 New England Vegetable Management Guide* which provides up-to-date information on integrated pest management, nutrient management, and production practices for over 30 vegetable crops. It is estimated that over 1,500 New England farmers will use this guide as their primary reference when making decisions regarding pest and nutrient management practices for vegetable crops on their farms. Information contained in this guide should allow growers to reduce pesticide and nutrient inputs in their production practices, reducing environmental risks and increasing farm profitability.

***New England Small Fruit Pest Management Guide:*** Extension small fruit and pest management specialists from five New England states developed the *2000-2001 New England Small Fruit Pest Management Guide*. This guide will provide over 800 farmers with up-to-date information regarding integrated pest management for strawberries, raspberries, highbush blueberries and grapes. General information is also provided on nutrient management and cultural practices for these crops. Surveys of previous editions to this guide indicate that it is the primary reference used by small fruit farmers in New England to make decisions regarding pest management. The information contained in this guide is designed to minimize pesticide use in small fruit production, reducing environmental risk and increasing farm profitability. This issue addresses the needs of the underserved population of small farmers.

***New England In-Service Training Conference:*** UMCE planned and organized an in-service training conference for Extension co-workers from around New England. Topics covered at this conference included biosecurity, milk marketing, nutrient management, and development of a web page. One result of the training was increased communication for 65 extension educators from across New England who are now connected via an email group. In post-conference evaluation, most participants felt that they had gained new knowledge on most of the topics presented.

***New England's Green Industry:*** UMCE and University of Vermont Extension horticulture specialists conducted the first-ever comprehensive survey of New England's green industry (nurseries, greenhouses, garden centers, florists, landscape designers, installers, maintainers, lawn care professionals, and tree care professionals), for wholesale, retail, production, and service providers. The green

industry is a strong part of New England agriculture, and in some states is the largest agriculture sector. However, when counting only wholesale production (as most sectors are counted), the green industry is not fully accounted for. For example, counting the potato industry at off-farm value makes sense, because the potato industry loses control of the potatoes after that point. The green industry, however, adds significant value to its products through retail sales, and through services such as landscape installation and maintenance. The industry had requested this data to support their efforts in influencing local and state policies and laws, developing educational programs for their needs, developing market agreements within and beyond their industry, leveraging research and development funds, and establishing public relations projects and campaigns.

The data from the survey has been distributed widely to the stakeholders (industry leaders). Trade journal articles are now being written to disseminate the survey findings more broadly to the entire industry, and to suggest ways the data can be used to accomplish the industry's goals. Impacts will be tracked across the six New England states over the next several months.

***New England Poultry Health Conference:*** UMCE planned and organized the New England Poultry Health conference for 150 people representing the poultry and biotech industry in New England, Pennsylvania, New York, and Atlantic provinces in Canada. The conference plans arose from a needs assessment done by exit survey from a previous year's conference, and were developed through use of a stakeholder-based planning committee and individual client input. Topics addressed included respiratory diseases, emerging diseases (including West Nile virus), Avian Leucosis J-virus, public relations issues (including GMO, animal welfare and food safety), food safety, proper use of antibiotics, biosecurity and nutrient management plans. All issues address needs of underserved populations (small farmers). Post-conference impact evaluation is underway.

***Task Force On Workforce Preparation:*** As part of the six New England states' task force on workforce preparation, UMCE contributes to delivering needed programs and resources to youth and adults through youth programming, focusing on entrepreneurship education. To meet this need, a three-day workshop, offered to youth staff and volunteers within 4-H and other programs, was co-presented by UMCE mini-society program educators and the Extension youth development specialist. Funding was provided by the Kauffman Foundation and the Extension programs in New England for 33 participants to attend from the six states. The objective was to empower all participants with the confidence to teach, lead, and facilitate this program with youth at home. The end of conference evaluation indicated that all participants felt comfortable enough with the material to do the program.

***Natural Resources Agricultural Engineering Services (NRAES)*** is a multi-state cooperative made up of the thirteen states of the Northeast region of the United States, and others. The regional members include Maine, Vermont,

New Hampshire, Rhode Island, Connecticut, Massachusetts, Pennsylvania, New York, New Jersey, West Virginia, Delaware and Maryland. Together the states develop meaningful publications and educational sessions that would be difficult for states to accomplish individually. UMCE utilizes NRAES publications as a supplement to what is offered in our publications catalog. The publications are also used as references for staff conducting field-based programming and are essential to on-going professional development.

Conferences held this year as a result of stakeholder input are:

- Milking Systems and Parlors: Planning and Managing for Quality Milk and Profitability. Jan 30-Feb1 2001
- Dairy Manure Systems: Equipment and Technology. March 20-22, 2001
- Biotechnology - Progress or Problem? January 17-19, 2001

***Safe Food Laws through Better Informed Public and Legislators:*** The tri-state (Maine, Connecticut and Vermont) project, "Safe Food Laws through Better Informed Public and Legislators," was completed this year. Project material included videotape, audiotape and three fact sheets:

- Preparing Yourself to Address the Issues
- Understanding Food Biotechnology
- Food Irradiation

The material will be distributed nationwide and will be featured in statewide workshops for legislators and the public in 2001.

***Twelfth Annual Beef Conference and 2<sup>nd</sup> Annual Grazing Conference:*** The livestock industry in Maine remains an important sector of the agricultural economy. Many small businesses are part of this sector, and these businesses face numerous challenges in producing and marketing their products. Over the last year, UMCE has coordinated and sponsored the 12<sup>th</sup> Annual Beef Conference in cooperation with Rhode Island, Massachusetts, New Hampshire and the Canadian province of New Brunswick. The audience is regional as well. UMCE collaborates with the University of Vermont and the University of New Hampshire in developing the annual New England Beef Exposition.

***Food Safety and Nutrition Staff Training:*** Food safety education has occurred on a New England regional basis with the development of fact sheets and training for Extension staff in Hazard Analysis Critical Control Points (HACCP). The nutrition staff receives training as a New England region every other year. The training brings together paraprofessional nutrition aides, Extension faculty and professionals to share information and resources and receive updates on current trends in nutrition education.

***The Cows and Crops E-mail Newsletter:*** This monthly electronic newsletter is published by UMCE and distributed nationally to university and Extension educators, agricultural producers, agribusiness/government consultants,

veterinarians, students and media, and through the multiplier effect, to potentially many more. During the past year, articles from the newsletter have been reprinted in *New England Country Folks*, *Northeast Dairy Business*, the *Bangor Daily News*, the Maine Dairy Industry Association, the Maine Department of Agriculture, the Maine Veterinary Medical Association and Farm Bureau Newsletters, and the University of Maine Media Packet.

***The Northeast Katahdin Hair Sheep Project:*** This new research endeavor, a joint effort of UMCE and Bowdoin College, hopes to further develop the Katahdin breed for improved leg muscle, carcass quality, internal parasite resistance and overall profitability, and to help family farms stay viable in the global market. Additional potential benefits to producers include the elimination of shearing and docking costs. The project is in its first year and has held one field day with 75 participants from throughout New England.

### ***Multi-State and Joint Research and Extension***

***Annual Potato Conference:*** Our annual Potato Conference, coordinated with the Maine Agriculture and Forest Experiment Station, draws upon expertise from potato-growing states across the country, including Florida, North Carolina, Wisconsin and New York. In return, our Extension potato faculties serve as educational resources to several other states. We have assisted Florida and North Carolina growers and Extension staff who grow potatoes from Maine seed. A demonstration of critical soil nitrate concentration for potato growers was presented at the annual Potato Conference in Caribou, Maine. Extension staff demonstrated how to ensure sufficient nitrogen in the soil to carry a potato crop through harvest in both manured and non-manured crop production systems.

***Bio-Intensive Integrated Pest Management Program:*** UMCE vegetable and pest management specialists are cooperating with the University of Massachusetts on development of a bio-intensive integrated pest management program for sweet corn. Growers from the New England states are participating in this research program to develop organically certifiable management techniques for the major insect pests of sweet corn. We are also testing alternative control strategies such as biological controls and the use of food grade oils. Demonstration plots have been set up on cooperating farms in every New England state, and data is being gathered to determine the feasibility and effectiveness of these new control strategies. This issue addresses the needs of the underserved population of small farmers.

***Knowledge for Cranberry Growers:*** UMCE state-level specialists contact and work with colleagues from other institutions to address the agricultural needs of Maine farmers. Specific examples include our efforts to work with the University of Massachusetts to provide current and relevant information to cranberry growers. This is a new crop for Maine, and we rely on information, research and



grower recommendations from other states. The partnership with Massachusetts is allowing Maine to obtain knowledge and other states to participate in our newly emerging industry to gather data for work going on elsewhere.

### ***Multi-State and Multi-Institutional***

***New England Women's Agricultural Network (WAgN):*** Based on a needs assessment, Extension educators from Maine, New Hampshire, and Vermont are meeting to create an umbrella organization that will help support and expand the workings of each state's existing WAgN program and strengthen service to this under-served and under-represented population. A collaborative effort will reach more women, expand networking capacities, and share resources, staff, materials, training programs, and financial resources. Even in the early stages of this effort, increased networking has been established through Vermont and New Hampshire Web sites, a New England listserv and a New England newsletter.

***The Maine Dairy Seminar*** is a UMCE and Maine Agriculture and Forest Experiment Station effort regionally between the University Maine and the Universities of New Hampshire, Vermont and Connecticut, and the Maine Dairy Industry Association. The event is a large one-day seminar featuring well-known speakers who address the latest topics in dairy management. In addition to the educational presentations, the program includes a trade show, announcements, awards and a meal. The invited speakers attract producers from all over the state, help obtain sponsorship from numerous businesses, and give the program high visibility and media attention. The speakers supported regional programs in dairy biosecurity and profitability. An evaluation formed filled out by attendees at the conference indicated that 96 percent of attendees found the presentations moderately to very informative. Many of the producers identified tips from the presentations that they would apply on their farm.

***The New England Extension Consortium*** integrates program plans and promotes new collaborations through a grant process. Directors and others in leadership positions among the six New England states meet on a regular basis. We have also increased our use of communication technologies, most recently via an electronic meeting to assess grant proposals. Our organizational goals are as follows:

- 1 To improve public access to the research base of the land-grant universities and to Cooperative Extension's expertise and educational programs on issues of particular relevance to two or more states in the New England region.

- 2 To maintain and enhance the quality of technical expertise, effectiveness and educational programs offered to the public in the six New England states.
- 3 To increase the efficiency and effectiveness with which Cooperative Extension develops and delivers programs in the six New England states.
- 4 To increase the financial resources available to support New England priorities.

### ***Multi-Institutional***

***International Composting Master Class:*** The Royal Melbourne Institute of Technology (RMIT) requested assistance from the UMCE compost team to promote commercial composting in Australia. A collaborative meeting with the Maine Compost Team and RMIT faculty in the Civil & Environmental Engineering Department in May of 2000 resulted in the development of a Compost 2000 Down Under Conference, followed by an International Composting Master Class scheduled for November of 2000. The conference program was assimilated and the Master Class curriculum has been developed.

### ***Multi-Institutional and Joint Research and Extension***

***The University of Maine Sea Grant:*** Collaboration is occurring between UMCE and the University of Maine Sea Grant programs to develop shared program field and leadership positions and collaborative programs addressing issues in

- coastal resource management,
- inter-tidal wildlife habitats,
- phytoplankton research,
- lobster resource management,
- coastal water quality monitoring and pollution abatement, and
- aquatic disease suppression.

Five field-based positions and a state marine program leader comprise the marine outreach program for the University of Maine to conduct marine education programming in collaboration with Bowdoin College's Environmental Studies Center, and Cornell Extension's Long Island, New York Riverhead Office Marine Center Program.

***Nutrient Management Research:*** The management of nutrients from dairy and livestock operations continues to be an important issue in Maine. Losses of nitrogen and phosphorus pose significant threats to water, and improved

management of nutrient resources can result in both environmental and economic benefits for Maine farmers. Several research projects are underway that may improve the ability to predict nutrient availability (both nitrogen and phosphorus) from organic sources like cover crops and livestock manures. Accomplishments include

- published research on the contributions of nitrogen from cover crops to sweet corn;
- a collaborative project with UMCE faculty and research faculty at Iowa State University;
- completion of research and acceptance for publication on work to predict the availability of nitrogen from different livestock manures using growing degree-days or thermal units done cooperatively with local USDA-ARS;
- completion of research and submission for publication of a five-year evaluation of fertilizer and manure application to mixed species hayfield, done cooperatively with research faculty and industry support.

Information from these projects has been, and will continue to be, utilized for Extension programs, particularly in nutrient management education.

### ***Multi-Disciplinary***

***Project Food, Land and People:*** In a collaborative project between UMCE, the Maine Department of Agriculture and Maine Ag in the Classroom, educator training sessions were held which included activities and resources for learning about food, fiber and land use. The two trainings were a train-the-trainer model in which participants learned to apply the curriculum materials to their specific educational situation. Training participants expect to reach over 2000 clients, including low-income clients, or students with activities that teach about nutrition and agriculture within the next year. Combining the nutritional aspects and social/environmental aspects of supporting local agriculture was an efficient and effective way to give participants a larger view of our food and fiber system and its community impact. In follow-up evaluation, 64 percent said they were interested in incorporating this material into their curriculum.

***Maine Herb Grower Short Course:*** Two Extension educators teamed up to organize and conduct the second annual Maine herb grower short course. This year's short course helped 34 students across the state learn how to successfully grow, process and market herbs as a business. An Extension business and economics specialist conducted a business planning and marketing class as part of this highly successful Extension program. Program evaluations indicated that significant learning took place in the areas of herb production and business planning. A long-term impact assessment is currently underway.

***Scope of Impact: State Specific***

### ***Joint Research and Extension***

***Maine Agricultural Center:*** UMCE and the Maine Agricultural and Forest Experiment Station have joined together to form the Maine Agricultural

Center. The purpose of the Maine Agricultural Center is to coordinate the research and outreach of the University of Maine in a way that determines and addresses the highest priority issues facing Maine agriculture. The Experiment Station and Cooperative Extension have implemented a process for creating split faculty appointments between the two entities. Currently ten faculty hold joint appointments between the station and Extension. The following areas are addressed by split faculty appointments:

- Economics
- Dairy
- Poultry
- Aquaculture
- Blueberries
- Tree fruits
- The associate director of the Experiment Station.

Experiment Station faculty and Cooperative Extension faculty and professionals carry out separate activities that can be drawn together to educate agricultural producers. Examples of this include the Maine Dairy Seminar and the annual Maine Potato Conference. Both events rely on Extension and Experiment Station faculty presenting the results of their work to Maine farmers. The blending of the program to include research and extension presentations has proven to be a method valued by Maine farmers. The creation of the Maine Agricultural Center is solidifying the partnership and the commitment of the two entities to work closely together in the future.

***Maine Rural Development Council (MRDC)*** operates as an affiliate of Cooperative Extension, and is organized as a statewide coalition of federal, state, regional and community-based organizations active in rural development work. Its mission is to shape policies to meet the complex and changing needs of rural Maine; promote collaboration and partnerships among local, state and federal agencies; maximize the effectiveness of rural programs and resources throughout the state; and undertake the development and demonstration of innovative rural projects. The MRDC has three goals to achieve this mission:

- 1 Influence and shape rural policies in Maine.
- 2 Use the council forum process to articulate and sharpen issues confronting the state's rural communities.
- 3 Incubate innovative projects in response to those issues.

Section E

**Multi-State Extension Activities**

**U.S. Department of Agriculture  
Cooperative State Research, Education, and Extension Service  
Supplement to the Annual Report of Accomplishments and Results  
Multi-State Extension Activities and Integrated Activities  
(Attach Brief Summaries)  
Institution The University of Maine Cooperative Extension  
State Maine**

Check one:  **Multi-State Extension Activities**  
 **Integrated Activities (Hatch Act Funds)**  
 **Integrated Activities (Smith-Lever Act Funds)**

<b>Title of Planned Program/Activity</b>	<b>Actual Expenditures</b>		
	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY</b>

New England Consortium Activities: \_\_\_\_\_

-Faculty/ Staff Time in New England Activities\_      40,383      \_\_\_\_\_

-Additional Staff Time on New England Projects      20,825      \_\_\_\_\_

Additional Staff Time in Multi-State Activities      93,178      \_\_\_\_\_

al Multi-State Activity Paid from Smith/Lever

154,386

Lavon L. Bartel  
Director

February 28, 2001  
Date

m CSREES-REPT (2/00)



**Section F**  
**Integrated Research and Extension Activities**

**U.S. Department of Agriculture**  
**Cooperative State Research, Education, and Extension Service**  
**Supplement to the Annual Report of Accomplishments and Results**  
**Multi-State Extension Activities and Integrated Activities**  
**(Attach Brief Summaries)**

**Institution** The University of Maine Cooperative Extension  
Maine

**Check one:**  **Multi-State Extension Activities**  
 **Integrated Activities (Hatch Act Funds)**  
 **Integrated Activities (Smith-Lever Act Funds)**

*Actual Expenditures*

<b>Line of Planned Program/Activity</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>FY 2003</b>	<b>FY 2004</b>
<u>Contribution to Maine Agricultural Center</u>	<u>20,000</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>Faculty with Joint Extension Research Appointments</u>	<u>129,718</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>Local Integrated Activity Paid from Smith/Lever</u>	<u>149,718</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

m CSREES-REPT (2/00)

**Lavon L. Bartel**

**February 28, 2001**