Massachusetts Agricultural Experiment Station & UMASS Extension

FY 2001 Annual Report

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2001 Plan of Work Addendum

Certification:

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Dr. Mark S. Mount, Associate Director Date
Massachusetts Agricultural Experiment Station

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Dr. Patricia Manfredi, Assistant Director Date
UMass Extension

Executive Summary

The Massachusetts Agricultural Experiment Station at the University of Massachusetts in Amherst is reporting on 16 Multistate Research Projects, which have an integrated component to Extension. Several other projects are not reported on in this annual report due to the fact that they have not yet reached a degree of maturity and will be reported on in subsequent years. The stakeholder input on research projects "piggy-backs" with Extension and it is that Extension element that drives the research. Stakeholder issues include those elements such as land use, marketing and economic development use of chemicals, production and management technologies, labor, child and elder care, food safety, food sanitation, regulations and good manufacturing practices, poverty, hunger, agrochemicals, public knowledge and education, global markets and the environment, land vs. population, and children, youth and families at risk. Certainly, all of the projects address the needs of the under-served and under-represented populations of the State as well as those in all sectors of the Commonwealth population. In particular projects NE-185, NE-172 and NC-223 targeted the under-served under-represented populations of the State. *Please note that goals were chosen using the crosswalk designed for CRIS.

Each National goal is represented by at least 1 or more Multistate Research Projects.

Goal 1. An agricultural system that is highly competitive in the global economy.

Total Dollars	FTEs	MSR Projects	MSR Dollars
$1,259,903	39.02	13	$265,355

- Postharvest Physiology of Fruits (NE-103)
- Rootstock and Interstem effects on Pome and Stone Fruit Trees (NC-140)
- Association of Fertility with Temporal Changes in Ovarian Function of Domestic Ruminants (NE-161)
- Private Strategies, Public Policies and Food System Performance (NE-165)
- Conservation and Utilization of Plant Genetic Resources (NE-9)
- Characterization and Mechanisms of Plant Responses to Ozone in the Northeast (NE-176)

- Genetic Improvement of Dairy Cattle using Molecular Markers (NC-209)
- Multidisciplinary evaluation of New Apple Cultivars (NE-183)
- Environmental and Economic Impacts of Nutrient flows in Dairy Forage Systems

Goal 2. A safe and secure food and fiber system

Total	FTEs	MSR	MSR

Dollars		Projects	Dollars
$178,106	6	1	$10,431

- Private Strategies, Public Policies and Food System Performance (NE-165)

Goal 3. A healthy, well-nourished population.

Total Dollars	FTEs	MSR Projects	MSR Dollars
$165,253	3.0	2	$101,158

- Nutritional Risk and Antioxidant Status in the Elderly. (NE-172)
- Nutrient Bioavailability – A Key to Human Nutrition. (W-133)

Goal 4. Greater harmony between agriculture and the environment

Total Dollars	FTEs	MSR Projects	MSR Dollars
$425,515	14.8	3	$35,986

- The National Atmospheric Deposition Program (NRSP-3)
- Characterization and Mechanisms of Plant Responses to Ozone in the Northeast (NE-176)
- Benefits and costs transfer in Natural Resource Planning (NE-133)

Goal 5. Enhance economic opportunity and quality of life for Americans

Total Dollars	FTEs	MSR Projects	MSR Dollars
$91,288	3.1	1	$20,976

- Financial Management Skills and Coping Strategies of Mothers on Welfare (NC-223)

UMass Extension is reporting on selected programs, as described by Program Area Directors, team and project leaders. UMass Extension continues to be challenged by University-wide budget cuts, as a result of the overall Commonwealth budget situation.

UMass Extension is currently administratively responsible through the Vice Chancellor for Outreach, with faculty and staff in the School of Public Health and Health Sciences, and the College of Food and Natural Resources. The retirement of Robert Helgesen as Interim Vice Chancellor and the naming of Dr. John Mullen as Vice Chancellor for Outreach occurred this year.

The UMass Extension Board of Public Overseers continued to give leadership to overall program direction. Appointed by the Governor, this Board meets every six-eight weeks.

Planned Programs

Programs and Project Impacts Listed by Goal

Goal 1
An agricultural system that is highly competitive in the global economy

Key Theme: Biotechnology & Plant Genomics
NE-140 (Tattar, T., Mount, M. S., Bernatzky, R.) (MAS00066)
Department of Microbiology & Department of Plant & Soil Science
On American chestnut, numerous antagonistic fungi and bacteria have been isolated, and many have shown potential for chestnut biocontrol in field tests. Several of these fungi are now being "DNA fingerprinted" to identify isolates with highest levels of antagonism against the chestnut blight fungus. States involved: CTH, GA, KY, MA, MI, MN, NJ, NYC, TN, TX, VA, WV, USDA/SIFG

Source of Funding: Hatch

Long-Term Critical Issues.

Key Theme: Agricultural Profitability
NE-103 (Bramlage, W.) (MAS00517) Department of Plant & Soil

In today's highly competitive apple market, providing the consumer with a new, high quality cultivar can be very financially rewarding. Thus, many new cultivars are being tested or offered for sale by nurseries. If a grower chooses to invest in one of these, the cost of establishing it in a modern orchard system is $10,000 to $15,000 per acre, and maintenance will cost another $1,000 to $2,000 per year until it reaches full production. This is a major investment for most cash-poor fruit growers, and it will be at least four or five years before the grower will recoup this investment.

Success depends on a wise choice of cultivars. Most cultivar testing is based on growth characteristics of the trees and appearance and taste of the fruit at harvest. This is satisfactory information for initial returns on harvested fruit, but as the trees become larger and yield increases, it likely will be necessary to store fruit for orderly marketing. Storageability of these cultivars is usually unknown until after many plantings have been made, and if unexpected

problems develop, severe (and possibly financially ruining) losses can occur. We are trying to evaluate storage characteristics of promising cultivars before major plantings occur, and to find ways to avoid problems that a cultivar may potentially have.

'Honeycrisp' is a new cultivar with extremely high edible quality, and it is being extensively planted. We have observed some major potential storage problems with this cultivar, and can present strategies to overcome them. 'Honeycrisp' are moderately susceptible to Bitter Pit, but this can be controlled by calcium treatments in the orchard or at harvest. Late harvest often results in development of off-flavors during storage, but this can be avoided by earlier harvest, using starch-test as a guide. This cultivar is very susceptible to Soft Scald, a devastating

disorder, but keeping the fruit at room temperature for 2-3 days before cold storage and storing fruit at 2C rather than 0C appears to minimize the risk. It also is susceptible to Superficial Scald if harvested early, but this can be controlled by treatment with an antioxidant or by marketing within less than 3 months of cold storage.

Other promising cultivars we are testing have a variety of postharvest problems, and we are characterizing these, determining if the cultivars' potential values merit the risks involved, and if so, strategies to avoid the problems, as described above for 'Honeycrisp'. In this way, we hope to help guide grower selections of new cultivars so as to avoid disastrous surprises when the trees reach full production.

Planting new apple cultivars is a long-term investment. Our results identify cultivars that are and are not worth the investment. Survival of cash-poor growers may hinge on this knowledge. Consumers benefit when superior apples are available. CA, DC, GA, MA, MD, MI, NC, NYC, NYG, OR, PA, WA, CANADA, USDA/ARS

Source of Funding: Hatch

Long-Term Critical Issues.

Key Theme: Agricultural Profitability
NC-140 (Autio, W., Greene, D., Cooley, D.) MAS00539 Department of Plant & Soil Science

Approximately 250 acres were planted to dwarfing rootstocks during the last year. These rootstocks, as defined and recommended by this project, will reduce pruning and harvest labor by 50%, increase fruit quality, increase size by 10-20%, and enhance the economic return on this acreage by as much as 50%. Further, smaller trees require 70% less pesticide because of reduced canopy volume. The net effect of the planting in 2001 is to reduce the amount of spray material in total by about 250,000 gallons per year in Massachusetts. States Involved: IN, IA, KS, MI, MN, MO, OH, SD, WI, AR, CA, CO, GA, KY, MA, MD, ME, NC, NJ, NYG, OR, PA, SC, TN, UT, VA, VT, WA, WV.

Source of Funding: Hatch

Long-Term Critical Issues.

Key Theme: Agricultural Profitability
NE-183 (Greene, D. W., Autio, W. R., Cooley, D. R.) MAS00747
Department of Plant & Soil Science
While this planting is still very young, these data are significant in that it gives us a very early indication of which cultivars are precocious and have a tendency to bear early. Further, it provides initial information on fruit quality characteristics. States involved: AR, CTH, GA, MA, ME, MI, MO, NC, NH, NJ, NYC, NYG, OH, OR, PA, VA, VT, WA, WI, WV, PA/RODALE,

WV (USDA), CANADA

Source of Funding: Hatch

Long-Term Critical Issues.

Key Theme: Diversified/Alternative Agriculture

NE-185 (Mangan, F., Carter, A.) MAS00828 Department of Plant & Soil

There are many brassica species that are popular among the growing Asian groups found in Massachusetts. Thirty farmers in Massachusetts were given seed for brassica species that have been identified as popular among Asian groups. Information learned from this project will help growers to grow and market brassica crops that are popular among Asian consumers and increase the profit margin in Massachusetts. CA, IA, KS, LA, ME, MI, MN, MO, NJ, NYC, NC, PA, PR, TX, WA, WV, WI

Source of Funding: Hatch

Intermediate to Long-Term Critical Issues.

Key Theme: Agricultural Waste Management

NE-132 (Herbert, S.) MAS00763 **Plant & Soil**

Farmsoft is an agricultural waste management program that we developed to assist farmers with better nutrient planning and utilization of on farm nutrient sources. This program contains a site vulnerability index to show the appropriateness of applying additional nutrients to fields. IL, IN, MD, MA, MI, NJ, NYC, PA, UT, WA, WI, WV, USDA/ARS

Source of Funding: Hatch

Long-Term Critical Issues

Key Theme: Animal Production Efficiency

NE-161 (Duby, R.) (MAS00620) Department of Veterinary & Animal Science

These findings suggest that immature bovine and mouse oocytes at either G1 or PM1 may be useful to induce haploidization of somatic cells and provide an alternative method for cloning and production of transgenic animals. CTS, ME, MA, NH, NY, OH, PA, WV

Source of Funding: Hatch

Intermediate to Long-Term Critical Issues.

Key Theme: Agricultural Profitability
NC-209 (Jerry, D. J.) (MAS00714) Department of Veterinary & Animal Science
Genetic mechanisms determining persistency of lactation are poorly understood. Our experiments seek to identify the molecular partners that interact with p53 to regulate apoptosis in response to acute interruptions in milk removal. Naturally occurring polymorphisms in these genes may be exploited to assist genetic selection. IL, IA, MI, MN, OH, SD, WI, AZ, CA, MA, VA, USDA/ARS.

Source of Funding: Hatch
Long-Term Critical Issues.

Title of Program: Northeast Local Food School

Key Contact Person: Cathy Roth

Email: croth@umext.umass.edu

Theme: Agricultural Profitability

Brief Description of Program or Activity: The Local Food School engages community groups in actively learning about and supporting local agriculture. Leaders of these groups chose to become Local food School "Fellows" who are trained to provide community leadership for direct marketing and greater local food consumption. Three key training areas were chosen based on ease of replication and proven effectiveness. These include: 1) building restaurant/farmer partnerships, 2) establishing contracts directly between farmers and local public school food service managers, and 3) developing agricultural educational curriculums for K-12 classrooms.

Short Impact/Accomplishment Statement: Over 65 "Fellows" and leaders who represent 3000 community members from 10 northeast states have received training. In one Massachusetts county alone (Berkshire) participating farmers have increased net income by $5,000 over a two-year period by participating in a restaurant/farmer partnership established by the community-based organization called Berkshire Grown. In the state of New York an entire school district is buying all its apples from local growers through the leadership of the community-based organization called NY Farms. The project is in its infancy, but has the potential to engage thousands of community leaders in organizing active support for local food and farms.

Source of Funding: State, Smith-Lever 3b&c, revenue based trust fund

FTE's: 1

Scope of Impact: Multistate Extension (MA, VT, NH, ME, RI, CT, NY, PA, NJ. DE, MD, WV, DC)

Title of Program: Understanding of the modes of action of plant hormones and plant growth regulators development.

Key Contact Person: Douglas Cox

Email: dcox@pssci.umass.edu

Theme: Plant Production Efficiency

Brief Description of Program or Activity: Non-traditional uses of chemical plant growth retardants were evaluated including late season applications of paclobutrazol drenches to poinsettia and application of paclobutrazol by subirrigation. The efficacy of these uses was tested because chemical plant growth retardant applications can be costly and are subject to many of the same restrictions as other agricultural chemicals.

Short Impact/Accomplishment Statement: The results of the work have been disseminated through to growers through state newsletter articles and national trade publications.

Source of Funding: private industry grants

FTEs: 1

Scope of Impact: state specific

Title of Program: Enhancing adoption of new apple cultivars in Massachusetts

Key Contact Person: Duane W. Greene

Email: dgreene@pssci.umass.edu

Theme: Agricultural profitability, plant germplasm, sustainable agriculture

Brief Description of Program or Activity: A number of apple cultivars have been under trial a the University of Massachusetts Horticultural Research Center for several years. The intent of this research has been to identify cultivars particularly suited to Massachusetts climatic conditions and to roadside-stand sales. Information and recommendations have been transmitted to fruit growers through educational programs, the periodical *Fruit Notes*, the newsletter *Healthy Fruit*, and the website *UMass Fruit* Advisor.

Short Impact/Accomplishment Statement:

- Approximately 60 acres of new apple cultivars were planted by commercial orchardists.
- New apple cultivars resulted in increase sales at roadside stands of 20%.

Source of Funding: Smith-Lever, RRF NE-183, Massachusetts Fruit Growers Association

FTEs: 0.5

Scope of Impact: Multistate Integrated Research and Extension (MA, RI, CT, NY, VT, NH, ME)

Title of Program: Storage of Honeycrisp apples

Key Contact Person: Sarah Weis

Email: sweis@pssci.umass.edu

Theme: Agricultural profitability, plant germplasm, sustainable agriculture

Brief Description of Program or Activity: The most planted new apple cultivar in Massachusetts is Honeycrisp. It lasts better than virtually any other apple cultivar; however, quality can vary greatly depending upon harvest time and conditions of storage. Research is underway to determine best conditions for short- and long-term storage of Honeycrisp grown in Massachusetts. Information and recommendations will be transmitted to fruit growers through educational programs, the periodical *Fruit Notes*, the newsletter *Healthy Fruit*, and the website *UMass Fruit* Advisor.

Short Impact/Accomplishment Statement:

- Appropriate harvest time of Honeycrisp was identified to ensure optimal fruit quality after storage.

- Best storage conditions for Honeycrisp were identified.

Source of Funding: Smith-Lever, RRF NE-183, Massachusetts Fruit Growers Association

FTEs: 0.2
Scope of Impact: Multistate Integrated Research and Extension (MA, RI, CT, NY, VT, NH, ME

Title of Program: Enhancing adoption of new rootstock cultivars for fruit trees in Massachusetts

Key Contact Person: Wesley R. Autio

Email: autio@pssci.umass.edu

Theme: Agricultural profitability, plant germplasm, IPM, sustainable agriculture

Brief Description of Program or Activity: A number of apple and peach rootstocks have been under trial a the University of Massachusetts Horticultural Research Center and at a few commercial orchards for several years. Particular attention has been paid to rootstocks that provide a reduction in tree size, thus reducing labor required to prune and harvest and reducing the amount of pesticide needed per acre. Also, rootstocks have been selected that are well adapted to our weather conditions and are resistant to normal pest pressures. Information and recommendations have been transmitted to fruit growers through educational programs, the periodical *Fruit Notes*, the newsletter *Healthy Fruit*, and the website *UMass Fruit* Advisor.

Short Impact/Accomplishment Statement:

- Approximately 150 acres of new dwarfing apple

rootstocks were planted by commercial orchardists.

- Current year=s planting, and planting during the previous four years resulted in overall pesticide-use reduction of approximately 10%.

- Current year=s planting and planting during the previous four years resulted in approximately a 10% increase in profitability.

Source of Funding: Smith-Lever, RRF NC-140, Massachusetts Fruit Growers Association

FTEs: 0.5

Scope of Impact: Multistate Integrated Research and Extension (MA, RI, CT, NY, VT, NH, ME)

Title of Program: IPM in Butternut squash and pumpkin

Key Contact Person: Ruth Hazzard

Email: rhazzard@umext.umass.edu

Theme: IPM, Plant Health, Niche markets, new uses for agricultural products, agricultural profitability

Brief Description of Program or Activity: Squash and pumpkins are grown by approximately 500 farmers on 4,700 acres in Massachusetts and plays an important role on vegetable farms, providing a magnet for customers at roadside stands, a late season crop for fall income, and a storage crop that can be sold throughout the winter. Acreage in increasing for these crops and the importance of these crops in direct sales and niche markets has increased their value. A value-added product, peeled butternut, is sold throughout the winter and provides farm income during the off season.

The goal of this multi-year project of the Vegetable Team is to improve crop yield and quality of cucurbit crops, especially butternut squash and pumpkin, using through multiple IPM tactics. Program activities included the following: survey of grower practices and priority needs, evaluation of cultural practices, development of a threshold for pre-sidedress nitrate test, demonstration trials with cooperating farmers, disease surveys on cooperating farms, evaluation of spray schedules for disease management in stored butternut squash, identification of the cause of new disease symptoms in pumpkin and butternut and development of strategies, publication of

fact sheets, newsletters, and web-based information, and educational programs in winter meetings and on farms. Fact sheets on insect, disease, deer, and weed management were published and distributed to 300 growers. Timely alerts on insect and disease conditions and management were published weekly throughout the growing season to 300 growers.

Short Impact/Accomplishment Statement:

In 1999 and 2000, disease surveys and diagnostic testing determined *Erwinia tracheiphila*, the bacterial wilt pathogen to be the primary cause of new wilt disease symptoms in pumpkin and

butternut. Thresholds were adjusted to reduce the disease by controlling the vector (striped cucumber beetles). 400 growers received training and 30 growers reported achieving better control and testing new techniques for control.

Field trials determined that there was no increase in butternut squash yield when side-dressed nitrogen was added if the nitrate-N level was above 30 ppm. 40 growers used the PSNT to adjust sidedressed N, resulting in lower nitrogen use with no reduction in yield.

Research trials with butternut squash and calabaza demonstrated an increase in yield of 30% using transplants instead of direct-seeded crops, 15% using black plastic, and 10% using floating row cover. These cultural practices also improved earliness. 300 growers received information about these results and 50 incorporated one of these methods into their production practices resulting in improved yields.

Research trials on spray schedules and thresholds for fungicides for control of powdery mildew showed that transplanted squash is more likely to resist infection with black rot compared to direct-seeded squash, and it required more sprays to protect direct-seeded squash, although treatment differences were mitigated during long-term storage at 55 ^{o}F. 120 growers received information on the results of this trial.

Grower surveys identified deer damage as a significant cause of crop loss in butternut and pumpkins. A fact sheet on preventing deer damage, with designs for cost-effective electric fencing, was published and distributed to 350 growers. Fencing was demonstrated to 120 growers at on-farm meetings. Approximately 30 growers adopted fencing and reduced crop loss as a result.

Cucurbit crops on 30 cooperating farms were scouted over 5 seasons, and farmers received recommendations on management practices and timing. Growers reported better timing of sprays and cultivation, better control of bacterial wilt and other diseases, improved crop growth from sidedressed nitrogen when needed, better understanding of diseases, and better harvest quality as a result of better timing.

Ten major and two minor diseases were identified in statewide surveys, including two diseases new to Massachusetts.

Recipients of newsletter reported better understanding of diseases, use of appropriate disease control measures, timeliness of management tactics, use of new technologies, weed control measures, and alerts to scout for certain pests.

Source of Funding: State IPM , Smith-Lever 3b&c, industry grants

FTEs: 3.5

Scope of Impact: Multi-state Integrated Research and Extension (MA, ME, VT, NH, CT)

Title of Program: Agricultural Land Preservation

Key Contact Person: Daniel Cooley

Email: dcooley@microbio.umass.edu

Theme: Agricultural Communications

Brief Description of Program or Activity: A project was designed to increase public understanding of the value of agricultural land to a community. The pilot was run in Amherst, MA, a town with an agricultural land zoning law designed to preserve the best farmland in a parcel slated for development. A team of Extension and Massachusetts Department of Food and Agriculture, and USDA NQCS personnel contributed to the effort.

Short Impact/Accomplishment Statement:

- A brochure containing general information and contacts was produced and has been distributed to communities around the state.
- Team of federal, state and university professionals formed to work with communities on agricultural land preservation.
- Plan for pilot site modified to reduce impact on best agricultural land.

Source of Funding: Smith-Lever 3d/In kind state and federal

FTEs: 3.0

Scope of Impact: State specific

Goal 2
A safe and secure food and fiber system

Key Themes in Massachusetts:

Food Accessability and Affordability Food H andling Food Quality Food Recovery/Gleaning Food Resource Management HACCP	Food Safety Food Security Foodborne Illness Foodborne Pathogen Protection

Key Theme: Food Safety
NE-165 (Caswell, J., Rogers, R., Lavoie, N) MAS00625
Department of Resource Economics
This project is providing current analysis of the performance of the domestic and international food system. It analyzes how the system operates domestically, the prices and values it offers to consumers and producers, its competitiveness in international markets, and its ability to assure food quality, particularly food safety and nutrition. The results of this project are used in decision making by the private and public sectors. AR, CA, CTS, FL, GA, IL, IN, IA, KS, LA, MD, MA, MI, MN, MT, NE, NH, NJ, NYC, NC, OH, RI, TX, VA, WI, USDA/ERS, USDA/RBS, USDA/AMS, USDA/PSA, CDCP, FDA, GAO

Source of Funding: Hatch

Short-Term Critical Issues.

Key Themes – Food Safety, Food borne Illness, HACCP, Food Handling

Program: Food Safety Education Program for Food Workers and Consumers

Key Contact Person: Rita Brennan Olson, ritabo@nutrition.umass.edu

Brief Description: UMass Extension NEP promotes and conducts food safety education for regulators and professional and nonprofessional staff who serve vulnerable populations. Participants increase knowledge of key food safety principles and improve food-handling practices.

Impacts/Accomplishments: In FY=01:

A. 1,922 food workers and regulators serving high-risk populations attended 68 12- hour ServSafe courses held in 6 regions across the state:

80% of participants achieved a passing score (75) and obtained nationally recognized food sanitation certification with National Restaurant Association.

Over 50% of participants indicated they plan to change food practices such as setting up flowcharts, checking temperatures, setting up record keeping systems and training staff in safety procedures.

B. 486 human service professionals, food workers and volunteers attended 33 Food Handling is a Risky Business (FHRB), Cooking, Cooling, Contamination & Kids and Food Safety Update workshops in collaboration with state and local educational and agricultural agencies, elder and child care providers, and emergency food networks.

70% of FHRB participants increased knowledge of safe food practices: wash hands, thaw, cook, cool and store foods safely, and clean and sanitize utensils and equipment properly.

- 77% of participants planned to change food practices to prevent FBI (Food Borne Illness).
- 75% indicated they plan to improve food storage practices.
- 70% indicated they plan to improve practices such as hand washing
- 67% indicated they plan to improve thawing practices
- 56% indicated they plan to cook foods thoroughly
- 53% indicated they plan to clean utensils more thoroughly

C. UMass Extension has continued to make food safety education materials available to professionals, and educators through the UMass Extension website http://www.umass.edu/umext/nutrition/foodsafety, with links to the MA Department of Public Health, http://www.state.ma.us/dph/fpp/retail/training.htm and USDA at http://www.nal.usda.gov/foodborne/fbindex

UMass Extension has continued to provide leadership and coordination of food safety education

efforts in the Commonwealth through the Massachusetts Partnership for Food Safety Education (MPFSE) enhancing outreach efforts by collaborating with health, education, human service, child and elder care agencies and organizations to promote training and resources for over 100,000 regulators, food service personnel and consumers. Through hundreds of volunteer and in-kind hours and the strong support of Partnership members we have begun to address the needs of diverse groups on a number of critical food safety issues.

Five meetings were held representing over 200 hours of volunteer/inkind service from USDA - Food & Nutrition Service and USDA - Food Safety & Inspection Service (NERO), US FDA

Consumer Protection and Food Protection, MA Dept. of Education, MA Dept. of Food & Agriculture, MA Dept. of Public Health, Div. of Food & Drugs, MA Executive Office of Elder Affairs, Massachusetts Food Banks, Massachusetts Head Start, MA Food Association, MA Restaurant Association, MA Environmental Health Association, MA Health Officers Association, MA Milk, Food and Environmental Inspectors Association and MA School Food Service Association, Shaw's and Stop & Shop Supermarkets.

UMass Extension Strategic Investment funds ($10,000) were used to support the Massachusetts Partnership for Food Safety activities toward the coordination of the Partnership and production of print materials to be used by members and collaborators in food safety education efforts across the state. The Partnership received in-kind support from the MA Restaurant Association (exhibit space valued at $2,000) as well as over 90 volunteer hours for exhibition at the North East Food Service and Lodging Conference reaching more than 5,000 food service operators from the region in April 2001. Two grants for a total of $10,000 were obtained from the MA Dept of Education and the US Food & Drug Administration.

- 2 Programs on Food Safety Issues and MA Regulations were conducted for over 300 Massachusetts school food service personnel.
- The Partnership publication Food Safety Principles for Food Workers was translated into Spanish, Chinese, Vietnamese, Portuguese, Russian and Haitian.
  (Print versions of Spanish, Vietnamese, Portuguese, and Haitian have been distributed to Partnership members.)

Source of funding: Smith Lever 3b & c – FSQ Initiative
Grant/Contract – MA Department of Education, US Food & Drug Administration
County
Revenue Based

FTE's: 1.0

Scope of

Impact: State Specific (Massachusetts only) and National resource availability

Program Title: Food Safety Education Program for Food Producers and Processors

Key Contact Person: Rita Brennan Olson, ritabo@nutrition.umass.edu

Brief Description: UMass Extension continues to promote and deliver accurate and timely information, education, and resources through collaboration of state and federal agencies and associations representing workers and consumers from farm to table.

Impacts/Accomplishments:

A. Using Good Agricultural Practices for Small Farm Production ($471,000) a New England-wide research, teaching and Extension project is designed to improve food safety knowledge and practices of small farms producing fruits and vegetables.

- **Massachusetts** completed a survey of over 600 growers to determine food safety knowledge, attitudes and practices and is working with the Dept of Food Science to conduct microbial testing of products. The third phase of this project involves the development of educational programs and materials for growers.
- 60 members of the New England Berry and Vegetable Growers Association and the NorthEast Organic Foods Association attended presentations on an overview of the project and preliminary results of the survey.

B. Food safety education resources are made available through The New England Small Food Processors Project and HACCP Resource Center and Lending Library.

Source of funding: Smith Lever 3 b & c, FSQ Initiative
Grant/Contract USDA CSREES Integrated Research and Extension Grant

FTEs: .10

Scope of Impact: Multistate Integrated Research and Extension (MA, ME, CT, RI, NH, VT)

Goal 3
A healthy, well-nourished population

Key Theme: Human Nutrition & Health Care
NE-172 (Cohen, N. L., Laus, M. J.) MAS00663 Nutrition
Consumption of fruits and vegetables, major contributors of dietary antioxidants, is below recommended levels in the United States. Identification of demographic, attitudinal, knowledge, and institutional factors that impact negatively on the distribution of fruits and vegetables to low income consumers is important in developing effective nutrition education programs to increase consumption of fruits and vegetables and thus promote a more healthy diet. CTS, DC, ME, MD, MA, NH

Source of Funding: Hatch

Long-Term Critical Issues.

Key Theme: Health Care
W-133 (Clydesdale, F., Decker, E.) MAS00762 Department of Food Science
Identification of the bioavilability and antioxidant properties of wheat phenolics and carnosine provides important information supporting the use of these compounds in functional foods. Several dietary fats are essential for health including the fat-soluble vitamins (A, D, E and K) and the omega-3 fatty acids. There is strong evidence that the current level of healthy dietary fats is inadequate in many populations. It is essential that the consumption of healthy fats is adequate in order to promote maintenance of good health, especially for pregnant and lactating women, and individuals with coronary heart disease, diabetes and immune response disorders. Consequently, there is an urgent need for inexpensive, desirable and convenient functional foods containing physiologically significant amounts of healthy fats. This research project will focus on the development of the emulsion delivery system containing nutritionally important fats and its subsequent incorporation and stabilization in foods, *e.g.,* dairy, meat, desert, beverage and condiment products.

Our research is initially focusing on fats that are high in omega-3 fatty acids. Omega-3 fatty acids are beneficial because they lower blood lipid and cholesterol levels, are critical for infant brain and eye development and they improve immune responses. We are developing antioxidant technologies in omega-3 oil emulsions that prevent rancidity development. These technologies utilize antioxidants in both the water and lipid phases of the emulsion.

Once the omega-3 emulsion delivery system is developed, research will be conducted to develop methods to incorporate and stabilize the fatty acids in food products. Once these products are developed, they will then be tested in clinical trials at Harvard University to determine if the

omega-3 fatty acids in the foods are absorbed into the blood where they can lower blood lipid and cholesterol levels.

This research will impact the citizens of Massachusetts in several ways. First, the development of foods containing omega-3 fatty acids could provide an easy vehicle to increase the incorporation of beneficial fatty acids into the diet. A second benefit will be to fishing communities. Underutilized fish species such as herring, mackerel and menhaden are naturally high in omega-3 fatty acids. If technologies can be developed to stabilize the oil from these fish, an increased market would be developed thus increasing the value of the fish stock which would provide new harvesting opportunities.

There is mounting evidence that increasing the amount of beneficial fats in our diet could improve health and the quality of life. Promising new technologies are currently being developed in the Department of Food Science at the University to Massachusetts, Amherst to accomplish this goal. These foods would be beneficial to the general population but in particular to populations at risk for coronary heart disease and pregnant and lactating women who must provide high levels of omega-3 fatty acids to their infants. Multi-state collaboration for the MSR project consists of CA-B, CA-D, CO, CT, GA, IA, MA, ME, MI, MN, MT, NM, NV, NY, OH, OR, TN, UT, WA, WV, WY.)

Source of Funding: Hatch, Grant

Long-Term Critical Issues.

Key Theme – Human Nutrition

Program: *Expanded Food and Nutrition Education Program (EFNEP) - Adult*

Key Contact Person: Lisa Sullivan-Werner, **lwerner@umext.umass.edu**

Brief Description: EFNEP paraprofessional educators provide nutrition education to limited resource families with young children. EFNEP participants gain knowledge and skills to plan low cost nutritious meals, prepare food safely, and manage available food resources.

Impacts/Accomplishments: In FY ’01 1,833 families participated in EFNEP and 942 (51%) completed (graduated from) the program. Almost all participants (99%) were reached through group education methods. Impacts noted on entry and exit Food Recalls and Food Behavior Checklists include:

- 91% of participants made a positive change in consumption of at least one food group at exit from the program
- 84% of homemakers showed improvement in at least one food resource management practice

- 86% of participants showed improvement in at least one nutrition practice
- 63% of participants showed improvement in at least one food safety practice

Source of funding: Smith-Lever 3d

FTEs: 12

Scope of Impact: State Specific (Massachusetts only)

Program Title: Expanded Food and Nutrition Education Program (EFNEP) - Youth

Key Contact Person: Lisa Sullivan-Werner, lwerner@umext.umass.edu

Brief Description: EFNEP paraprofessional educators provide nutrition education to youth from limited resource families to encourage healthy food choices and behaviors.

Impacts/Accomplishments: In FY '01 1,045 youth participated in EFNEP. Thirty-four percent were between 6-8 years old and 55% were between 9-12 years old. After participating in EFNEP:

- 71% of youth increased their knowledge of human nutrition
- 41% of youth increased their ability to select low-cost, nutritious foods
- 71% of youth improved practices in food preparation and safety

Source of funding: Smith-Lever 3d

FTEs: 2.5

Scope of Impact: State Specific (Massachusetts only)

Program: *Family Nutrition Program (FNP) - Youth*

Key Contact Person: Lisa Sullivan-Werner, lwerner@umext.umass.edu

Brief Description: FNP provides nutrition education to youth from families receiving or eligible for food stamps. Nutrition education activities that encourage and build skills for healthy food choices are provided through school, after-school, and recreation programs.

Impacts/Accomplishments: In FY '01, 97,613 youth contacts were made, reaching an estimated 43,984 youth (25,716 through workshops and 18,268 through fact sheets, displays, and other methods). Pre and post surveys with youth indicate that after participating in the FNP series of lessons, the youth:

- Were significantly more likely to try new foods
- Were significantly more likely to try new fruits and vegetables
- Reported eating a significantly greater amount of fruit and liking fruit more
- Were significantly more likely to ask family members to buy healthy foods

Parent surveys confirmed that youth were more willing to try new foods and were more likely to ask family members to buy healthy foods after participating in FNP.

Teacher surveys confirmed that youth were more willing to try new foods as a result of the program.

Source of funding: Grant/Contract (Food Stamp Nutrition Education Program – USDA funding through a contract with Massachusetts Department of Transitional Assistance)

FTEs: 22.02

Scope of Impact: State Specific (Massachusetts only)

Program: Family Nutrition Program (FNP) - Adult

Key Contact Person: Lisa Sullivan-Werner, lwerner@umext.umass.edu

Brief Description: FNP provides nutrition education to adults receiving or eligible for food

stamps. Nutrition education activities that provide information and build skills to improve dietary quality and food behavior practices are provided through group lessons and workshops at a variety of community agencies.

Impacts/Accomplishments: In FY '01, 116,749 contacts were made, reaching an estimated 114,164 adults (5,903 through workshops and 108,261 through fact sheets, displays, TV shows, and other methods – TV shows account for 65,000 of these). Workshop participants who completed a post program survey indicated that:

- 78% planned to improve their diet
- 70% planned to increase the variety of foods eaten
- 62% planned to eat more foods from the grain group
- 78% planned to eat more fruits and vegetables
- 65% planned to eat more foods from the dairy group
- 72% planned to eat more foods from the meat/protein group
- 70% planned to eat fewer foods high in fats, oils, and sugars.

Source of funding: Grant/Contract (Food Stamp Nutrition Education Program – USDA funding through a contract with Massachusetts Department of Transitional Assistance)

FTEs: 8.7

Scope of

Impact: State Specific (Massachusetts only)

Program: *Family Nutrition Program (FNP) – Teachers and Agency Staff*

Key Contact Person: Lisa Sullivan-Werner, lwerner@umext.umass.edu

Brief Description: FNP provides nutrition education training to teachers and agency staff who work with youth and adults from families receiving or eligible for food stamps. Nutrition education training programs teach information and skills that can be used with low-income youth and adults to encourage healthy food choices.

Impacts/Accomplishments: In FY '01, 5,121 teacher and agency staff contacts were made, reaching an estimated 4,759 youth (1,742 through workshops and 3,017 through fact sheets, displays, and other methods). We do not currently have an appropriate evaluation and impact assessment for these activities and will be working on this for the future.

Source of funding: Grant/Contract (Food Stamp Nutrition Education Program – USDA funding

through a contract with Massachusetts Department of Transitional Assistance)

FTEs: 4.6

Scope of Impact: State Specific (Massachusetts only)

Goal 4
Greater harmony between agriculture and the environment

Key Theme: Air Quality

NE-176 (Manning, W. J.) MAS00686 Microbiology

Our results are fundamental to understanding the factors that affect ozone uptake and plant injury. This has a direct bearing on air quality standards for all people and for agricultural and natural ecosystems. The use of bio-indicators of ozone will increase awareness of the ozone problem by all people. AL, MD, MA, MN, NJ, NYC, PA, TX, VA, BTI, USEPA, USDA-ARS

Source of Funding: Hatch

Long-term Critical Issues.

Title of Program: Mill River Project

Key Contact Person: Scott Jackson

Email: sjackson@umext.umass.edu

Theme: Water Quality, Natural Resources Mgmt, Biodiversity, Land Use, Wildlife Mgmt, Riparian Mgmt

Brief Description of Program or Activity: This project is piloting an approach to community-based watershed protection in the Mill River watershed, a sub-basin of the Connecticut River watershed. The Mill River Watershed Project is an effort to identify and address environmental issues within five communities (Hatfield, Whately, Deerfield, Conway, and Northampton). The project involves working with municipal boards, conducting a variety of watershed assessments, targeted outreach, involving teachers from local schools in environmental education, and convening stream teams and a watershed council to facilitate public participation. This project is funded, in part, by the Silvio O. Conte National Fish and Wildlife Refuge and the MA Executive Office of Environmental Affairs.

Short Impact/Accomplishment Statement:

- Formation of the Greater Mill River Coalition, a grassroots organization dedicated to land conservation within the watershed.
- $5000 grant to the Greater Mill River Coalition to digitize parcel maps and compile GIS information for prioritizing land conservation efforts.
- 220+ additional acres have been acquired in the Great Swamp and along the Mill River, just above the highest concentration of federally endangered Dwarf Wedgemussels in the Commonwealth.
- Streambank stabilization along 150 feet of the Mill River has been completed using bioengineering techniques.
- Data on hydrology, fish populations, and aquatic habitat have been collected as part of the first phase in an instream habitat modeling effort aimed at protecting the river from excessive water withdrawals.

Source of Funding: Smith-Lever 3 b&c, Smith-Lever 3d, State, Grant/Contract

FTEs: 0.8

Scope of Impact: State Specific (MA only), Integrated Research and Extension

Title of Program: Sustainable Development Initiative for the Blackstone Watershed

Key Contact Person: Scott Jackson

Email: sjackson@umext.umass.edu

Theme: Water Quality, Land Use, Natural Resources Mgmt, Biodiversity

Brief Description of Program or Activity: The primary objective of this project was to develop a watershed model and outreach plan that can be used as a prototype for technical assistance in other watersheds. The process of developing a sustainable watershed plan requires integration of socioeconomic, ecological, biophysical and historic information to develop land use decisions aimed at long-term sustainability. This project demonstrated the utility of a Geographic Information System (GIS) in planning for watershed management by illustrating the interaction of multiple resources and objectives. The database management and analytical capabilities of GIS made it a useful tool for projecting long range growth, habitat loss and potential pollution loading, while its mapping capabilities made it an effective tool for sharing information with local officials and stakeholders.

Short Impact/Accomplishment Statement:

- Greenway planning efforts in Mendon, Upton, Sutton and Douglas.
- Technical Assistance to the Mill Brook Task Force resulted in a successful 319 State Department of Environment Protection grant to install a water quality forebay at Salisbury Pond in Worcester.
- Working with the National Park Service, Extension helped the local Watershed Association design and build a canoe access in Uxbridge
- More than 500 sq. ft of wetland saved.
- 20 volunteer biomonitors collecting data to assess and monitor watershed health.
- 4 Stream teams and volunteer monitoring groups collecting data on watershed health.

Source of Funding: Smith-Lever b&c, Grant/Contract

FTEs: 0.6

Scope of Impact: State Specific (MA only) Integrated Research and Extension

Title of Program: SuAsCo Watershed Project

Key Contact Person: Scott Jackson

Email: sjackson@umext.umass.edu

Theme: Water Quality, Natural Resources Mgmt, Biodiversity, Land Use, Wildlife Mgmt, Riparian Mgmt

Brief Description of Program or Activity: This project is designed to develop and implement a comprehensive education, training, and outreach model for identifying and addressing watershed-scale issues in the towns of Sudbury, Assabet and Concord, Massachusetts (SuAsCo). The watershed is facing several problems that include rapid growth and development, water quality shortages, water quality issues, invasive exotic species, and habitat protection, and for central Massachusetts watersheds. By applying University expertise and resources to the SuAsCo watershed through partnership and volunteerism, this project aims to develop capability for citizen-based assessment of water resources, strengthen existing efforts in the watershed, and develop a transferable outreach model.

Short Impact/Accomplishment Statement:

- Completion of by-laws and related training sessions, and completion of 501(c)(3) application for the Watershed Community Council
- Receipt of a technical grant for Watershed Community Council strategic planning
  - Compiled list of stream segments and related water quality problems

Source of Funding: State, Grant/Contract

FTEs: 1.2

Scope of Impact: State Specific (MA only)

Title of Program: MA Watershed Initiative

Key Contact Person: Scott Jackson

Email: sjackson@umext.umass.edu

Theme: Water Quality, Natural Resources Mgmt, Biodiversity, Land Use

Brief Description of Program or Activity: Although recognized nationally as a model for watershed innovation, the MA Watershed Initiative (MWI) is still in its formative stages. Critical to the success of the Initiative will be strategies to raise watershed awareness, promote community involvement in resource protection and enhance capacity at the local level to understand and address environmental issues.

Short Impact/Accomplishment Statement:

- MA Watershed Initiative Outreach and Marketing Strategy (final draft)
- MWI slide show and script (final)
- Draft design for educational GIS map template
- Water quality data in the Chicopee River watershed

Source of Funding: Smith-Lever 3 b&c, Smith-Lever 3d, State Grant/Contract

FTEs: 0.5

Scope of Impact: State Specific (MA only), Integrated Research and Extension

Title of Program: Watershed Education

Key Contact Person: Faith Burbank

Email: fburbank@umext.umass.edu

Theme: Water Quality, Natural Resources Mgmt, Biodiversity, Land Use, Wildlife Mgmt, Riparian Mgmt

Brief Description of Program or Activity: The Massachusetts Bays Alliance's mission is to develop a community of educators and public who can ably teach and promote strategies for responsible stewardship practices/projects that protect and restore the Massachusetts bays, shores, and watersheds in concert with the Comprehensive Conservation Management Plan (CCMP). The Alliance's long term goal is to institutionalize, write into school curriculums, watershed and coastal science, math, technological and social science concepts that lead citizens to environmental literacy, scientific based decision-making and actions to support the achievement of the CCMP action plans and measurable environmental resource improvement

Short Impact/Accomplishment Statement:

- Schools in three towns rewrote their syllabi for teaching/learning life and physical sciences.
- Schools used problem based learning projects to evaluate local watershed issues in the three participating towns.
- 4 volunteer biomonitors collected data to assess and monitor watershed health.
- 4 stream teams and volunteer monitoring groups collected data on watershed health.
- 15 people reported increased knowledge and appreciation of the importance of habitat and biodiversity conservation.

- 15 high school educators will present their collaborative action research finding to colleagues.

Source of Funding: Smith-Lever 3 b&c, State, Grant/Contract

FTEs: 0.4

Scope of Impact: State Specific (MA only)

Title of Program: Hazardous Material and Water Quality Education

Key Contact Person: Marilyn Lopes

Email: mlopes@umext.umass.edu

Theme: Hazardous Materials, Water Quality

Brief Description of Program or Activity: This program increases consumer knowledge and understanding of groundwater as a resource and the effects of solid and hazardous material disposal to water quality issues. The Barnstable County Hazardous Materials Program and Hazardous Hot Line offers technical assistance and educational support to town household hazardous waste coordinators for household hazardous waste collections and the implementation of permanent collection programs for recyclable hazardous materials. Staff specialists also provide the public easy access to up-to-date information on the proper disposal of household hazardous materials on Cape Cod. Questions answered include what is hazardous waste, how to package hazardous waste for disposal, where and when these items may be safely disposed and how to reduce the use of hazardous materials in homes and businesses.

Short Impact/Accomplishment Statement:

- Data collected at HHW collection events in 2000 and 2001 indicates that more than 56% of the participants are first-timers - people who have never brought hazardous materials to any

collection.
- More than 43,000 gallons of hazardous waste were collected and diverted from the waste stream in 2001.
- 2,800 mercury thermometers, 300 thermostats and switches, 10 blood pressure gauges and 22 bottles of elemental mercury were collected via Mercury Thermometer, Thermostat and Switch Collections sponsored by Barnstable County Hazardous Materials Program, SEMASS (Southeastern Massachusetts) and town and county hazmat coordinators.

Source of Funding: Smith-Lever 3 b&c, County

FTEs: 1.0

Scope of Impact: State Specific (MA only)

Title of Program: Recycling Education

Key Contact Person: Deborah Shiflett Fitton

Email: jfitton@capecod.net

Theme: Recycling, Water Quality

Brief Description of Program or Activity: The Cape Cod Recycling Education Program was initiated to increase recycling education in schools and in the general community. Along with the teacher guides developed with the MA State Frameworks for Science and Technology interwoven into its makeup, the program has expanded its outreach to nearly every town on Cape Cod. In addition to producing teaching materials, posters, brochures and resource kits for students, the program has developed teacher and volunteer training, in-school/class educational outreach through puppet shows and various recycling education presentations for teachers and their students.

Short Impact/Accomplishment Statement:

- 10 schools have started their own recycling programs and incorporated recycling into their science or health curricula.
- 7 AmeriCorp Cape Cod volunteers were trained in recycling education puppetry and reached over 2,000 people in the course of 7 months time. As a result of their training, they were able to write a new script for a second puppet show to be used this year and were instrumental in designing the new "Land Fill Tunnel" traveling exhibit.

Source of Funding: Smith-Lever 3 b&c, County

FTEs: 0.65

Scope of Impact: State Specific (MA only)

Title of Program: Protocols for an IPM System on Golf Courses

Key Contact Person: Mary Owen

Email: mowen@umext.umass.edu

Theme: IPM, Agricultural Profitability, Ornamentals/Green Agriculture

Brief Description of Program or Activity:
The objectives of this project are:

1. to encourage the use of economically and operationally feasible, environmentally sensible professional turf IPM protocols for golf courses
2. to promote the use of a management tool, *Protocols for an IPM System on Golf Courses*, which can be used to document and verify the use of IPM
3. to help turf managers increase pest management efficiency and when possible to reduce reliance on pesticides

This three-year project involved eighteen volunteer golf course superintendents who, along with University faculty and staff developed, refined, field tested and piloted a system of protocols for IPM. These superintendents represented golf courses that covered the wide diversity of geographical locations, ownership types, proximity to environmentally sensitive areas, proximity to neighbors, and acceptable quality level. A project advisory subcommittee that represented a broader range regulatory, industry and community expertise and interests participated in review and discussion.

Protocols for an IPM System on Golf Courses is intended to be used:

1. by golf course management professionals to develop, implement, document and verify IPM on a golf course.
2. by regulatory officials and community decision makers to specify IPM on a golf course
3. by golf course architects, construction companies and others as a model during the design, permitting and construction phases of a new golf course or during renovations of an existing one
4. by anyone to better understand the scope of an IPM system on a golf course

This project also included: a seminar on golf course IPM based on the Protocols and a news release to the general public re: IPM on golf courses.

Short Impact/Accomplishment Statement:

- *Protocols for an IPM System on Golf Courses* produced and distributed. This document can be used to develop, document, verify, specify and teach about IPM on a golf course.
- *Protocols for an IPM System on Golf Courses* chosen by the Golf Course Superintendents Association of America for inclusion in its selected book offerings for professional turf managers. Selected as 'Book of the Month'. Promoted internationally.

- *Protocols for an IPM System on Golf Courses* selected by Golf Course Superintendents Association of America as topic for "Innovative Superintendent' section of the GCSAA National Conference.
- *Protocols for an IPM System on Golf Courses* highlighted and endorsed in United States Golf Association's *Green Section Record* (a magazine for turf management professionals and others interested in golf course issues) in article entitled, *Protocols for an IPM System on Golf Courses.* International distribution.
- *Protocols for an IPM System on Golf Courses* endorsed by the Northeast Golf Course IPM Project as applicable regionally (northeast region of United States).
- *Protocols for an IPM System on Golf Courses* used by municipal regulatory body and golf course contractor during design and permitting phases in specification of at least one new golf course in Essex County, Massachusetts.
- *Protocols for an IPM System on Golf Courses* used as adult teaching tool by State University of New York faculty as well as Cornell University County Extension staff.
- Collaborated with Northeast Golf Course IPM Project in extending *Protocols* regionally
- Collaborating with Northeast Golf Course IPM Project in outreach to community decision makers and regulators

Source of Funding: State, Smith-Lever

FTEs: 0.20

Scope of Impact: International, National and Multistate Integrated Research and Extension (MA, ME, VT, NH, CT, RI,, NY, NJ, PA)

Title of Program: Annual Lawn Care Seminar

Key Contact Person: Mary Owen

Email: mowen@umext.umass.edu

Theme: IPM, Agricultural Profitability, Ornamentals/Green Agriculture

Brief Description of Program or Activity:
The objectives of this project are:

1. To provide professional turf managers with information that will enable them to manage the turf and grounds under their care in an environmentally sensible manner.

2. To provide professional turf managers with information that will enable them to manage the turf and grounds under their care using integrated pest management principles.
3. To meet identified specific turf management education needs of professional turf managers. Audience addressed: municipal grounds; public and private school grounds; public and private facility grounds; lawn care; landscape; athletic fields; construction; educators; environmental organizations; regulatory agencies; affiliated businesses.

Short Impact/Accomplishment Statement:

- 200 turf industry professionals learned about how to comply with the Massachusetts Children and Families Protection Act, a legislated regulation requiring implementation of IPM and notification of abutters and parents regarding pesticide application on school properties.
- 200 turf industry professionals learned about planning for and implementing integrated pest management on school athletic fields and associated properties
- 200 turf industry professionals learned about understanding the elements of risk.
- 200 turf industry professionals learned how to actively communicate risk and other information customers, clients and the general public.
- 200 turf industry professionals learned about successful integrated pest management strategies for turf damaging scarabs in New England
- Seminar attendees came from Massachusetts, Rhode Island, Connecticut, New Hampshire, Vermont, and New York

Source of Funding: State, Smith-Lever, Revenue

FTEs: 0.15

Scope of Impact: Multistate Integrated Research and Extension (MA, ME, VT, NH, CT, RI,

Title of Program: IPM in Butternut squash and pumpkin

35

Key Contact Person: Ruth Hazzard

Email: rhazzard@umext.umass.edu
Theme: IPM, Plant Health, Niche markets, new uses for agricultural products, agricultural profitability

Brief Description of Program or Activity: Squash and pumpkins are grown by approximately 500 farmers on 4,700 acres in Massachusetts and plays an important role on vegetable farms,

providing a magnet for customers at roadside stands, a late season crop for fall income, and a storage crop that can be sold throughout the winter. Acreage in increasing for these crops and the importance of these crops in direct sales and niche markets has increased their value. A value-added product, peeled butternut, is sold throughout the winter and provides farm income during the off season.

The goal of this multi-year project of the Vegetable Team is to improve crop yield and quality of cucurbit crops, especially butternut squash and pumpkin, using through multiple IPM tactics. Program activities included the following: survey of grower practices and priority needs, evaluation of cultural practices, development of a threshold for pre-sidedress nitrate test, demonstration trials with cooperating farmers, disease surveys on cooperating farms, evaluation of spray schedules for disease management in stored butternut squash, identification of the cause of new disease symptoms in pumpkin and butternut and development of strategies, publication of fact sheets, newsletters, and web-based information, and educational programs in winter meetings and on farms. Fact sheets on insect, disease, deer, and weed management were published and distributed to 300 growers. Timely alerts on insect and disease conditions and management were published weekly throughout the growing season to 300 growers.

Short Impact/Accomplishment Statement:

In recent years, disease surveys and diagnostic testing determined *Erwinia tracheiphila*, the bacterial wilt pathogen to be the primary cause of new wilt disease symptoms in pumpkin and butternut. Thresholds were adjusted to reduce the disease by controlling the vector (striped cucumber beetles). 400 growers received training and 30 growers reported achieving better control and testing new techniques for control.

Field trials determined that there was no increase in butternut squash yield when side-dressed nitrogen was added if the nitrate-N level was above 30 ppm. 40 growers used the PSNT to adjust sidedressed N, resulting in lower nitrogen use with no reduction in yield.

Research trials with butternut squash and calabaza demonstrated an increase in yield of 30% using transplants instead of direct-seeded crops, 15% using black plastic, and 10% using floating row cover. These cultural practices also improved earliness. 300 growers received information about these results and 50 incorporated one of these methods into their production practices

resulting in improved yields.

Research trials on spray schedules and thresholds for fungicides for control of powdery mildew showed that transplanted squash is more likely to resist infection with black rot compared to direct-seeded squash, and it required more sprays to protect direct-seeded squash, although treatment differences were mitigated during long-term storage at 55 ^{o}F. 120 growers received information on the results of this trial.

Grower surveys identified deer damage as a significant cause of crop loss in butternut and pumpkins. A fact sheet on preventing deer damage, with designs for cost-effective electric fencing, was published and distributed to 350 growers. Fencing was demonstrated to 120 growers at on-farm meetings. Approximately 30 growers adopted fencing and reduced crop loss as a result.

Cucurbit crops on 30 cooperating farms were scouted over 5 seasons, and farmers received recommendations on management practices and timing. Growers reported better timing of sprays and cultivation, better control of bacterial wilt and other diseases, improved crop growth from sidedressed nitrogen when needed, better understanding of diseases, and better harvest quality as a result of better timing.

Ten major and two minor diseases were identified in statewide surveys, including two diseases new to Massachusetts.

Recipients of newsletter reported better understanding of diseases, use of appropriate disease control measures, timeliness of management tactics, use of new technologies, weed control measures, and alerts to scout for certain pests.

Source of Funding: State IPM , Smith-Lever 3b&c, Industry Grants

FTEs: 3.5

Scope of

Impact: Multi-state Integrated Research and Extension (MA, ME, VT, NH, CT)

Title of Program: Pesticide Applicator License Training

Key Contact Person: Patricia J. Vittum

Email: pvittum@ent.umass.edu

Theme: Pesticide Education

Brief Description of Program or Activity: The primary objective of this activity is to provide study materials in preparation for the state pesticide applicator licensing exam. The program maintains and updates, as needed over 20 different study manuals. In addition, the project provides an opportunity for individuals who want additional instruction to participate in a workshop to prepare for the state administered pesticide applicator license exams. Participants attend a two-day workshop that covers the following topics: Pest Identification, Integrated Pest Management, Pesticide Types and Formulations, Health Effects of Pesticides, Personal

Protective Equipment and Safety, Pesticide Label, Environmental Fate of Pesticides, and Pesticide Laws and Regulations.

Short Impact/Accomplishment Statement**:**

- Approximately 1000 individuals received study materials to prepare for the state administered pesticide exam
- Twelve two-day workshops were held throughout the state
- 316 individuals participated in these workshops

Source of Funding: Smith-Lever 3d, Revenue Based

FTEs: .30

Scope of Impact Massachusetts primarily

Title of Program: Pesticide Applicator Recertification Training

Key Contact Person: Patricia J. Vittum

Email: pvittum@ent.umass.edu

Theme: Pesticide Education

Brief Description of Program or Activity: The primary objective of this activity is to provide an opportunity for licensed and certified applicators to maintain their license by satisfying a continuing education requirement. Topics covered in the 43 workshops offered throughout the state include: West Nile Encephalitis: A disease of concern for all applicators; New Strategies of Pest Control; Environmental Fate and Impact of Pesticides; Turf Insecticide: Life after Dursban; Personal Protective Equipment and Safety; Pesticide Laws and Regulations; EPA Worker Protection Standard (WPS) Regulations for Agriculture; Pesticide Respirator Fit Testing; and Integrated Pest Management in Schools.

Short Impact/Accomplishment Statement:

- 17 individuals obtained a pesticide respirator fit check
- 25 agricultural operators received training to comply with EPA WPS.
- 85 individuals received training on personal protective equipment
- 305 individuals received updates on state and federal pesticide laws
- 356 individuals received information about West Nile Encephalitis and mosquito pest management
- 433 individuals received information on new classes of pesticides and genetically modified organisms.

- 141 participants received information about new methods of controlling turf insect pests
- 144 individuals received information on fate of pesticides in the environment
- 673 individuals received information on integrated pest management in schools

Source of Funding: Smith-Lever 3d, Revenue Based

FTEs: .60

Scope of Impact Massachusetts (a few individuals from neighboring states)

Title of Program: Landscape Message

Key Contact Person: Kathleen Carroll

Email: kcarroll@umext.umass.edu

Theme: IPM, Pesticide Application

Brief Description of Program or Activity: The primary objective of this project is to educate ornamental horticulture pest managers in the urban landscape about pest (insects, diseases and weeds) development that will lead to timely applications of pesticides including appropriate monitoring techniques for pests. The Landscape Message is a 7 minute message, weekly from April to October. It is available by phone, fax, email and on the web. The message informs users about what insects are emerging that week, monitoring strategies, growing degree day reports, cultural problems and solutions and management strategies. Users include private and municipal grounds and turf managers, nursery operators, garden center managers, landscape architects and professional horticulturists.

Short Impact/Accomplishment Statement: 3000 calls were made to the phone message and 2400 hits to the web site in FY 01. According to an evaluation of the project: 80% of the users reported improved timing of pesticide applications, 75% reported improved results of the

applications and increased awareness of alternative pest management practices. 50% reported the decrease use of pesticides used.

Source of Funding: State, user fees, Smith-Lever 3b&c

FTEs: 3

Scope of Impact: Multistate Extension (MA, ME, VT, NH, CT, RI)

Title of Program: Management Guide of Woody Ornamentals

Key Contact Person: Kathleen Carroll

Email: kcarroll@umext.umass.edu, mowen@umest.umass.edu

Theme: IPM, Pesticide Education

Brief Description of Program or Activity: This manual provides current information on the materials and products available to manage pests of woody plants in New England. The objective is to instill a sense of environmental stewardship in users. Users include private and municipal grounds and turf managers, nursery operators, garden center managers, landscape architects and professional horticulturists. IPM concepts and the optimization of pest control through proper cultural management of turf and wood ornamentals is included.

Short Impact/Accomplishment Statement:
1000 ornamental horticulture businesses obtained the manual increased their knowledge and became aware of technical resources that can help them make environmentally appropriate decisions related to pesticide, nutrient and water management.

Source of Funding: State, user fees, Smith-Lever 3 b&c

FTEs: 5

Scope of

Impact: Multistate Extension (MA, ME, VT, NH, CT, RI)

Title of Program: IPM

Key Contact Person: William M. Coli

Email: wcoli@umext.umass.edu

Theme: Integrated Pest Management (IPM**)**

Brief Description of Program or Activity: Major foci of Massachusetts IPM projects are to: develop bio-intensive strategies for managing insect and disease pests of fruit and vegetable crops; develop effective devices for monitoring, and in some cases, controlling important insect pests; and better understand the behavioral ecology of pests.

Short Impact/Accomplishment Statement: Over the past 5 years, substantial progress has been made in developing and deploying a hand-held oil applicator that can be used to treat sweet corn (including that grown on certified organic farms) against corn earworm. The applicator is currently being marketed commercially, while further studies are underway to address poor fill of kernels at the distal tip of ears that is likely caused by the oil application.

In addition, development and field-testing continued of two traps that have the potential to dramatically affect apple IPM Programs in most of the major fruit-growing regions of North America. One trap, effective against the apple maggot fly (AMF), consists of a croquet-ball sized wooden sphere painted with red enamel latex paint containing insecticide and capped with a sugar block. This "attract and kill" strategy can result in complete elimination of any block-wide sprays of insecticide against this key summer pest. The second trap, aimed at monitoring the Plum Curculio (PC), has the potential to identify when over-wintering PC adults are migrating into orchards and, perhaps even more importantly, when they have stopped migrating. Knowing the latter means that growers can stop spraying for the pest sooner than they normally might.

Current Greenhouse IPM work is focused on developing new biological control agents for western flower thrips in bedding plants. One project is an investigation of the biology of a new kind of nematode, *Thriponema nicklewoodi*, that sterilizes adult thrips. The other is an assessment of the relative value of eight species of predatory phytoseiid mites as predators of WFT as well as the value of pollen applications in enhancing their populations.

Source of Funding: Smith-Lever 3d, State, Grant/Contract

FTEs: 4.0

Scope of Impact: Multi-state Extension (Potential impact wherever Plum Curculio, Apple Maggot, Corn Earworm and Western Flower Thrips occur)

Title of Program: Enhancing adoption of new apple cultivars in Massachusetts

41

Key Contact Person: Duane W. Greene

Email: dgreene@pssci.umass.edu

Theme: Agricultural profitability, plant germplasm, sustainable agriculture

Brief Description of Program or Activity:
A number of apple cultivars have been under trial at the e University of Massachusetts

Horticultural Research Center for several years. The intent of this research has been to identify cultivars particularly suited to Massachusetts climatic conditions and to roadside stand sales. Information and recommendations have been transmitted to fruit growers through educational programs, the periodical *Fruit Notes*, the newsletter *Healthy Fruit*, and the website *UMass Fruit Advisor*.

Short Impact/Accomplishment Statement:

- Approximately 60 acres of new apple cultivars were planted by commercial orchardists.
- New apple cultivars resulted in increase sales at roadside stands of 20%.

Source of Funding: Smith-Lever, RRF NE-183, Massachusetts Fruit Growers' Association

FTEs: 0.5

Scope of Impact: Multistate Integrated Research/Extension (MA, RI, CT, NY, VT, NH, ME)

Title of Program: Storage of Honeycrisp apples

Key Contact Person: Sarah Weis

Email: sweis@pssci.umass.edu

Theme: Agricultural profitability, plant germplasm, sustainable agriculture

Brief Description of Program or Activity: The most planted new apple cultivar in Massachusetts is Honeycrisp. It lasts better than virtually any other apple cultivar; however, quality can vary greatly depending upon harvest time and conditions of storage. Research is underway to determine best conditions for short- and long-term

storage of Honeycrisp grown in Massachusetts. Information and recommendations will be transmitted to fruit growers through educational programs, the periodical *Fruit Notes*, the newsletter *Healthy Fruit*, and the website *UMass Fruit Advisor*.

Short Impact/Accomplishment Statement:

- Appropriate harvest time of Honeycrisp was identified to ensure optimal fruit quality after storage.

- Best storage conditions for Honeycrisp were identified.

Source of Funding: Smith-Lever, RRF NE-183, Massachusetts Fruit Growers' Association

FTEs: 0.2

Scope of Impact: Multistate Integrated Research and Extension (MA, RI, CT, NY, VT, NH, ME)

Title of Program: Massachusetts Dairy/Livestock Nutrient Management Program

Key Contact Person: Stephen Herbert

Email: sherbert@pssci.umass.edu

Theme: Nutrient Management, Water Quality

Brief Description of Program or Activity:

Massachusetts is encouraging livestock producers to voluntarily adopt best management practices to minimize the environmental effects from nonpoint source pollution arising from animal feeding operations. An interagency group supports these efforts with planning, technical assistance, education, and the writing and implementation of farm plans. A computer based decision aid has been developed to simplify the planning process. This is currently being evaluated with farmers and educators. The program assists with determining manure spreader capacity, and manure spreader calibration. It calculates an estimate of manure nutrients produced, prioritizes fields for spreading

manure, and performs a nutrient balance and environmental assessment for all farm fields. After intended manure spreading is optimized for all fields, and data based best management practices have been selected for fields with site risk, a report is generated for the participating farmer. The report provides farmers with a summary sheet containing a manure spreading plan and management practices. The decision aid is user friendly and can be customized to a planners need.

Short Impact/Accomplishment Statement:

15 farmers participated in nutrient management planning and on-farm demonstrations. Farmers adopted pre-sidedress nitrogen soil tests and reduced applications of fertilizer. Nutrient management planning has demonstrated to farmers that manure can provide most nutrient needs for crops and that planning can help protect soil and water from pollution.
Approximately 150 dairy/livestock farmers have participated in educational meetings.
Interagency training has involved USDA and State agency personnel.
Interagency teams and cooperators have been established to conduct nutrient management planning with farmers.

Source of Funding: Smith-Lever 3 b&c, Grant/Contract

FTEs: 1.2

Scope of Impact: State Specific

Title of Program: Integrated management of cranberry pests using fall and spring floods

Key Contact Person: Anne Averill

Email: aaverill@ent.umass.edu

Theme: Identify and evaluate cultural controls for pests
Brief Description of Program or Activity: The primary objective of this work is to identify non-pesticidal, simple, and inexpensive management approaches for key pests in cranberry. The huge oversupply of cranberries has left growers in Massachusetts in a fiscal crisis and this project seeks grower tools via evaluation on grower-cooperator sites.

Short Impact/Accomplishment Statement: The research is ongoing. Paired treatments, fall flood or no flood, showed that cranberry fruitworm (*Acrobasis vaccinii*) was significantly impacted by a one-month fall flood, as were dewberry crowns (*Rubus*). Floods applied later in the fall were effective for fruitworm, but not dewberry. A 3-week flood was sufficient to control cranberry fruitworm but at least 4 weeks were required for effect on dewberry. Short, 2.5 – 3 week late water spring floods, offer some control of cranberry fruitworm but are less effective than the traditional 4-week flood.

Source of Funding: Hatch, Grant/Contract

FTEs: 2

Scope of Impact: Integrated Research and Extension

Title of Program: Survey and identification of grape pests in Southeastern New England

Key Contact People: Frank Caruso and Sonia Schloemann

Email: fcaruso@umext.umass.edu

Theme: Identify and evaluate pest species

Brief Description of Program or Activity: Provide research and extension effort for newly established grape industry in Southeastern New England

Short Impact/Accomplishment Statement: Seven vineyards in RI and MA were visited throughout the growing season to monitor disease and insect problems. Isolations from infected plant tissue revealed not only known grape diseases but also, a new disease that remains unidentified.

Source of Funding: Hatch

FTEs: 1.2

Scope of Impact: Integrated Research and Extension

Title of Program: Efficient nutrient management systems for plant production systems

development.

Key Contact Person: Douglas Cox

Email: dcox@pssci.umass.edu

Theme: Nutrient Management

Brief Description of Program or Activity: Applied research and education provided commercial greenhouse operators with information on use of sub-irrigation to fertilize

plants, use water efficiently, and protect water from nutrient pollution. Other programs focused on providing optimum nutrition to greenhouse crops and outdoor cut flowers while protecting the environment from nutrient pollution. Specific recommendations were developed on the use of reduced phosphorus to limit phosphorus inputs in crop production and as an alternative to chemical growth retardants to control plant size. This information was disseminated through state newsletter articles and national trade publications as well as extension education meetings.

Short Impact/Accomplishment Statement: About 200 growers received direct education on nutrient management and reduced phosphorus in greenhouse operations.

Source of Funding: Private Industry Grants

FTEs: 2

Scope of Impact: State specific

Title of Program: Identify and Evaluate Biocontrols and Methods of Use

Key Contact Person: Douglas Cox

Email: dcox@pssci.umass.edu

Theme: Biological Control

Brief Description of Program or Activity: Western flower thrips are a major insect pest of greenhouse crops responsible not only for feeding injury to plants but also for transmission of several serious virus diseases. Control of thrips by several different commercial preparations of a predatory mite, Neoseilus cucumeris, were compared to conventional chemical control at commercial greenhouses. Application of predatory mites resulted in high quality plants and a high degree of thrips suppression.

Short Impact/Accomplishment Statement: Results were disseminated through state newsletter articles and at several extension education meetings. Applied resesearch was conducted in partnership with several commercial greenhouse operations. About 100 growers received direct education on the use of these predatory mites for thrips control.

Source of Funding: State IPM, Private Industry Grants

FTEs: 2

Scope of Impact: State specific

Title of Program: Reducing Chemical Growth Retardant Use by Efficient Application

Key Contact Person: Douglas Cox

Email: dcox@pssci.umass.edu

Theme: Reducing the use of agrichemicals

Brief Description of Program or Activity: Applied research and educational programs were conducted on the use of low level applications of growth retarding chemicals in sub-irrigation systems and by precisely timed applications to greenhouse crops. Specific recommendations are under development and preliminary information was disseminated through state newsletter articles and national trade publications as well as extension education meetings.

Short Impact/Accomplishment Statement: Results were disseminated through state newsletter articles and at several extension education meetings. About 200 growers received direct education on the use of chemical growth retardants in the greenhouse.

Source of Funding: Private Industry Grants

FTEs: 2

Scope of Impact: State specific

Goal 5

Enhanced economic opportunity and quality of life for Americans

Key Themes in Massachusetts:

Aging
Agricultural Financial Management
Character/Ethics Education
Home-based Business Education
Impact of Change on Rural Communities
Jobs/Employment

Child Care/Dependent Care
Children, Youth, and Families at Risk
Communications Skills
Community Development
Conflict Management
Consumer Management
Estate Planning
Family Resource Management
Farm Safety
Fire Safety
Home Safety
Leadership Training and Development
Literacy
Parenting
Promoting Business Programs
Promoting Housing Programs
Retirement Planning
Supplemental Income Strategies
Tourism
Workforce Preparation - Youth and Adult
Workforce Safety
Youth Development/4-H
Youth Farm Safety

Key Theme: Children, Youth and Families at Risk

NC-223 (Mammen) MAS00797 **Consumer Studies**

This study is providing the opportunity to document welfare reform impacts from the perspectives of rural family members within the community context and across communities with different social support policies and provisions and addresses **Children, Youth and Families at Risk**. Hunger and malnutrition persist among low-income families in Franklin County, MA, despite the county's long tradition of agricultural self-reliance and community cohesion. 35 Franklin county families are participating in a study led by Sheila Mammen and Gretchen May of the University of Massachusetts Center for the family, along with the UMass Extension 4-H Youth and Family Development Program. Emerging trends suggest that: 84-percent agreed with the statement, "we worried whether our food would run out before we got money to buy more." 63-percent agreed with the statement, "the food that we bought just didn't last, and we didn't have money to get more." 53-percent agreed with the statement, "we couldn't afford to eat balanced meals." 68-percent agreed with the statement, I relied on

only a few kinds of low-cost food to feed my children because I was running out of money to buy food." 11-percent agreed with the statement, "my child was not eating enough because I just couldn't afford enough food." 53-percent said that they had cut the size of their meals or skipped meals because there wasn't enough money to buy food. 58-percent said that they had eaten less than they felt they should because there wasn't enough money to buy food. Indications also showed that some parents are eating less in order to feed their children. Researchers suspect that it may have something to do with the nature of welfare in Massachusetts and the fact that it has become far more punitive than in neighboring New Hampshire - which, along with New York and Maryland, is the

only other state in the Northeast where the study is being conducted. Perhaps the most important early lesson of the Rural Families Study is the confirmation that the low income families of Franklin County, like families anywhere, are individuals - many of whom have landed in difficult positions through a widely varying combination of bad luck, problematic decision-making, and a lack of the right kind of help at the right time.

Several presentations have been given or proposals have been accepted for presentation: Leslie Richards, Sally Bowman, Corinne Corson, Sheila Mammen. Mental and Physical Health Challenges of Low-Income Rural Families. National Council on Family Relations Annual Conference, Minneapolis, MN, November 11, 2000; Sharon Seiling, Elizabeth Dolan, Sheila Mammen, Jing Zhao, Michael Meade, Suzann Knight, Patricia Dyk. How Do They Manage? Financial Management Priorities and Strategies of Rural Low-Income Mothers. Eastern Family Economics and Resource Management Association, Lexington, KY, February 1-3, 2001; Sheila Mammen, Gretchen May, Shirley Mietlicki, and Michael Meade. Financial Hardship and Food Insecurity Among Rural Low-Income Families, How to Measure Quality of Life in Diverse Populations. Conference of the International Society of Quality-of-Life Studies, Vol. 4, pp. 88; Sheila Mammen and Michael Meade. What Do Families Do When Money Runs Out? Financial Management and Coping Strategies of Young Mothers on TANF, How to Measure Quality of Life in Diverse Populations. International Society of Quality-of-Life Studies, Vol. 4, pp.89.

IN, MI, MN, MO, NE, OH, CA, CO, ID, KY, LA, MA, NH, OR, UT, WY.

Source of Funding: Hatch

Long-Term Critical Issues.

Title of Program: Community and Agricultural Development

Key Contact Person: Cathy Roth

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Theme: Local Food Systems

Brief Description of Program or Activity:

Through the multi-state, collaborative **UMass Extension Local Food School** nearly 3000 growers in the Northeast are responding pro-actively to changing agricultural realities.

An emphasis on developing strong local food systems combines economic incentive with sustainable practices to provide a stable and healthy local food supply - the basis of true "homeland security."

The focus of this program is on small, local farm operations that are finding a marketing and community development niche supported by both local communities and consumers. **Local Food Campaigns** now number over 50 in the region with well over 2500 participating farms. **The UMass Local Food School** provides development training for these campaigns through growers, farm groups, and sustainable community development organizations.

Specifically, new direct relationships are created between growers and farm "members," as well as local restaurants, country inns, resorts, public and private schools, universities and other state and private institutions. Training combines the increasing interest of both growers and local residents who wish to provide healthy food and contribute to maintaining healthy soil and water as well as strong local economies. Through this training Local Food Campaigns such as Berkshire Grown (MA), Hudson Valley Harvest (NY), Farm Fresh From Hancock County (ME), Pennsylvania Dairy Network Partnership (PA), Howard County Culinary (MD), and many others are adding over $5 million annually to farm income in the region.

Community Supported Agriculture (CSA) farms now number well over 1200 in the US, with more than 300 of those in the Northeast. CSA farms are based on partnerships between growers and farm members who share the capital risk as well as the harvest. A 2000 UMass Resource Economics study indicated that northeast CSA farms have an average net income of $21,500 on an average of 5 productive acres with small debt loads. This is significant in comparison to all northeast farms that have an average net income of $23,000 on 98 productive acres with large debt outstanding (US Agricultural Census, 2000). This research indicates that CSA farms can be a successful northeast farm alternative for entering or existing farmers who may choose to transition to a smaller operation that offers a reasonable return with smaller capital investment.

The Northeast CSA Network component of the **UMass Local Food School** provides

training to over 500 CSA farmers and farm members annually. Training and support networks help growers and members create new CSA and maintain and develop existing operations. Educational and technical assistance of this sort contribute significantly to these 500 CSA with 50,000 members who provide a total farm gate income of $50 million annually.

Short Impact/Accomplishment Statement:

The multi-state **UMass Local Food School** helps 3,000 growers as well as thousands of community members in hundreds of communities develop and maintain economically and environmentally sound local food systems. **Local Food Campaigns** and the **Northeast CSA Network**, two components of this effort, contribute $12 million annually to northeast farm income through an emerging locally-based, direct farmer/consumer relationship based on a shared interest in healthy food, soil, and water, and strong local communities and economies.

Source of Funding: State, Smith-Lever 3b&c, grants (SARE)

FTEs: 1

Scope of Impact: Multistate Integrated Research and Extension (MA, VT, NH, ME, CT, RI, NY, PA, NJ, DE, MD, WV, DC)

4-H Youth and Family Development Program

Key Contact Person: Shirley Mietlicki
E-Mail: mietlicki@umext.umass.edu

Theme: Youth Development/4-H; Leadership Training and Development

General Objectives:

Eighty percent of staff and camp directors, and 25% of key volunteer leaders will keep up-to-date on our content areas of life skills education, environmental stewardship, science and technology, teen development, and volunteer management through participation in professional development activities.

Program and Accomplishments:

It s imperative that Extension professionals remain current and relevant within their subject matter expertise and in their general knowledge of child and adolescent development issues, adult education theory, current issues facing today s youth and volunteer management. During fiscal year 2001, the educators participated in five staff meetings and a two day priority setting conference. The major focus of this year s staff meetings were on risk management issues. The fall meeting featured the university s lawyer and risk management liaison discussing insurance coverage for our staff and

volunteers, and the need for a volunteer management system; the December meeting was a presentation by a psychologist **and lawyer who deal with liability cases at camps, and other youth gatherings; and our opening meeting of this program year, involved a presentation by our Volunteer Management specialist and her team instructing staff on the use of incident forms and the development of a comprehensive parental permission form. The spring meeting addressed the results of our organizational change survey and the implementation of the goals and plans established at the Priority Setting Conference. The Priority Setting Conference was a two day retreat which was facilitated by Dr. Jan Carroll, an organizational development specialist with Colorado State University. Through an extensive process, staff determined that organizational success for 4-H would result when 4-H became known as an outstanding youth program doing great work with a variety of people across the Commonwealth by staff who are committed, productive and competent. This would evolve from such strategies as a statewide marketing plan for increasing visibility and awareness; by developing and implementing innovative statewide programs; by continually evaluating statewide and regional programs; by modifying programs to serve youth in any municipality; and by staff remaining current in youth development, volunteer management and program delivery. At this meeting, staff also identified the five curriculums to be used statewide, regionally and locally across all delivery mechanisms. These included: Babysitting, Unlock Your Leadership Potential and Moving Ahead, In-Touch Science, Sportfishing, and the Junior Master Gardener curriculums.**

Approximately 95% of our 4-H YFD staff and support staff attend these meetings on a regular basis. Our camp directors have opted to participate in our annual curriculum training sessions offered in late June. Staff also have had an opportunity to attend seminars sponsored by the Center for the Family of which all 4-H staff are associate members. Topics covered this past program year included: Overcoming Challenges: Academic Success and Parent Involvement Among Puerto Rican Female Students in Secondary Schools which featured Dr. Carmen Rolon, Department of Psychology and Education, Mt Holyoke College, MA; Families Living on the Edge by Dr. Sheila Mammen, Department Head of Consumer Studies and Gretchen May, 4-H YFD educator; Raging Storms in Families given by Kevin Lucey, a local chief Probation

officer; and Creating a Family Friendly Workplace: Strategies for Success with Ellen Galinsky, President and Co-Founder of the Families and Work Institute. Nearly 50% of staff attend these professional development seminars.

Our staff also completed the Organizational Change Survey developed as part of our commitment to the CYFAR initiative. The survey was designed to measure the six organizational components as defined by this initiative. These included the implementation of a common vision and strategic plan; training, supporting and rewarding Extension staff; recognizing Extension professionals as critical resources;

promoting diversity, inclusivity and pluralism; promoting internal collaborations; and promoting and joining external collaborations. Staff completed the survey both in February 1998 and again, in October 2000. The results indicated that there was an increased commitment to the National CYFAR vision. This was expressed in staff perception of a growing, long-term, statewide commitment as well as in their level of personal commitment. There was increased knowledge reflected in the amount of training respondents received which included increased knowledge of critical issues and the use of web-based resources, and more frequent participation in program evaluation. There was more promotion of diversity which was illustrated through the hiring of staff members with more experience serving children, youth and families at risk. Staff also indicated that populations such as minorities, single parents, and low- income families were better served. The setbacks provided by this survey indicated a less coherent strategy for attaining the CYFAR vision. Staff saw the MA and National CYFAR visions as less consistent with each other. Staff also reported receiving less support from UMASS faculty indicating less powerful internal connections. Regarding external collaborations, staff reported that they did not have the time nor money to develop relationships with external agencies and lacked knowledge on how to obtain financial support for programs which address children, youth, and families at risk. These setbacks will be continually looked at this program year.

Source of Funding: State, Smith-Lever 3b & c

Scope: State specific

FTEs: 2.6

Theme: Children, Youth and Families at Risk

Objective: *Each Extension Educator within the 4-H YFD program will spend 10-20% of their time reaching under served populations.*

Program and Accomplishments

MA is a highly urban state with a majority of its population, including the youth, living in and/or around cities. A priority area of the MA 4-H YFD program has been to reach underserved youth in these highly urban areas. To achieve this, each 4-H YFD Extension Educator has been challenged to spend a minimum of 10% of their time committed to meeting the needs of this population through out-of-school programs, building collaborations, providing trainings and resources to other youth serving professionals, and offering our core 4-H programming as appropriate.

MA has been successful in obtaining federal funding to assist us in meeting these underserved youth. We completed the fourth year of the MA Advocating State Strengths Project which has employed one educator to work with the Hispanic community in the urban city of Holyoke and one educator to work in specific neighborhoods of Boston. This grant also supports a part-time program evaluator and several program assistants recruited from these specific communities and trained by our staff in 4-H curricula.

For Holyoke, 210 youth, 18 youth volunteers, and 15 adult volunteers benefited from a variety of our 4-H curricula such as Rockets Away, Sportfishing, Unlock Your Leadership Potential, horticulture, consumerism, and the Ages and Stages of Youth Development through this project. Six youth from Nuestras Riaces, a local Hispanic organization, attended the UMASS sponsored Earth Connection Conference. Over 90 youth participated in the annual Holyoke Youth Summit sponsored in part by 4-H. Twelve youth participated in the 4-H Count-On-Me Garden Project. An evaluation indicated that 100% of the youth were able to identify the major parts of a plant; 66% were able to identify four different commonly used garden tools; and 58% were able to demonstrate the correct use of four different commonly used garden tools. Forty-two percent of the youth also indicated increased communication skills; 25% reported an increase in leadership and problem solving skills while 91% reported an increase in their teamwork abilities. The Clothing and Textile 4-H clubs have continued and a new urban gardening club has formed. New collaborations have been established with the Holyoke Community Charter School and River Valley Counseling. The Holyoke Youth Commission, of which our educators were catalysts in its development, meet regularly with the city's mayor to discuss issues facing youth in this city. A recent evaluation of the youth's participation on this commission conducted by 4-H indicated that 100% of the participants reported that they communicate better as a result of participating on the Youth Commission; 90% reported that they get along better with others and believed that serving on the Youth Commission has helped them become a leader in the their community; 80% stated that participating on this Commission changed the way they saw themselves, increased their confidence and changed the way they saw their city. This commission recently hosted a public forum on statewide, standardized testing and a Youth Summit to target strategies for improving the community.

Over 1,100 high risk youth benefited from our State Strengthening Project in Boston. Many of the youth participated in the 4-H embryology program, leadership training sessions, and other sponsored 4-H out-of-school activities. The 4-H Teen Council, comprised of 12 teens, continue to meet regularly and this past year, organized a Safe Night program. Over 100 teens participated and learned about violence prevention and safety, dealing with stress and getting along with others through this event. A major program thrust has been collaborating with Eagle Eye Institute and bringing 12 youth from the Washington Beech Housing Development to participate in the institute's

Learn About Forests program; 50% indicated that they were never in a forest before. Nine youth leaders participated in the Boston Peer Leadership Group. Evaluation results indicated that 50% of these youth reported a better understanding of the qualities of leadership, better listening skills and an increased ability to motivate others; 75% reported increased confidence in themselves and an increase in the extent to which they were actively working to make the community a better place; and 33% reported an increased perception of themselves as a community leader. Youth workers from seven Boston youth programs that are associated with low-income housing developments responded to a questionnaire about the programs, support and resources they had received from 4-H this past year. One hundred percent of these workers indicated that 4-H helped their organization achieve its goals, that 4-H provided resources that they would not otherwise have access to, that their organization intended to continue to work with 4-H and that the 4-H support, programs and resources had a large impact on the over 600 youth associated with their various organizations. 4-H has established collaborations with such organizations as Boston's Housing Authority sites, police department, Parks and Recreation department and public schools; the MA Department of Agriculture, Eagle Eye Institute, and the Somali Development Corporation. Many of these organizations have continued to provide financial assistance, in-kind support such as hosting events and weekly programs, and have supported neighborhood youth to attend 4-H local and state events.

The New Bedford 4-H Out-of-School program continues with support from the MA Service Alliance (approximately $30,000), the MA 4-H Foundation, the New Bedford Housing Authority, 21st Century After School grant ($45,000), National 4-H Council Kraft Feed the Hungry program, and the Public Housing Drug Elimination Grant funds. This past year, approximately 110 high risk youth, ages 5 to 13, attended the school vacation programs and the 6 to 7 week summer vacation programs which were held at two local elementary schools and two housing development sites. Ten older teens were recruited and trained to support the staff in running these out-of-school programs and received a stipend through the MA 4-H Foundation. One of these after-school programs was targeted for participation in a Community service grant. Sixty-five 4-H youth, ages 7-16, (representing 46% white participants, 14% Black, 14% Hispanics and 11% other) identified feeding the hungry, caring for the elderly, and beautifying local neighborhoods

as great community needs. Over this past year, the youth fed over 500 senior citizens. Catholic Social Services estimated that 9922 needy people were reached by the program. Over 8,000 benefited from the beautification of local neighborhoods. The program received the Colgate Youth for America Award and will be featured on ZOOM, Boston's public service television station.

The New Bedford out-of-school programs are coordinated by master teachers funded through the housing authority but trained by 4-H staff in the People Empowering People (PEP) curricula. During 2000, sixteen community residents were recruited and trained in

this program. Evaluation results indicated that participants confidence in their ability to address specific problems in the community increased from 4.7 to 5.6 based on a 7-point scale with one rated as low and 7 as high. Participants also indicated an increase in listening and parenting skills, in knowledge of parenting resources, in strategies for dealing with child abuse/neglect, and in assisting others with problem-solving as a result of attending this 10-week PEP program. This year, a follow-up survey and participant tracking procedures will assess the ongoing impact of the PEP program for the individuals who participated and their communities. This New Bedford youth program continues to be our premier program which exhibits how the core 4-H program can be implemented with underserved youth from impoverished areas.

Educators for the Boston and Holyoke program spend 100% of their time committed to working with underserved youth while the educator for the New Bedford program spends her time equally between the core 4-H program and reaching underserved youth through these out-of-school programs. 75% of our other educators have committed at least 10% of their time towards reaching these underserved youth. Many have become involved with Extension's Family Nutrition Grant program offering nutrition and healthy lifestyle sessions to low-income youth in out-of-school programs. This past summer, three 4-H educators reached 331 youth through this grant in the urban areas of Boston, Brockton and Taunton.

Funding: Smith-Lever 3b & c; State, grant/contract, MA 4-H Foundation; USDA Family Nutrition Grant; for New Bedford, support from New Bedford Housing Authority, MA Service Alliance, and National 4-H Council and the Public Housing Drug Elimination Grant Funds.

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Scope State specific

FTEs 3.3

Objective: As a result, minority participation of youth and volunteers involved in the program will increase by 5%.

Program and Accomplishments:

It's critical that the 4-H YFD program continue to reach out to underserved and minority youth within MA and to recruit adult and teen volunteers that are more representative of the populations in which they work.

This past year, 36,141 youth were reached through our camp, club, school enrichment and out-of-school programs. Eighty-four percent of the youth participants were white,

6% were Black, 8% were Hispanic, and 2% were Asian/Pacific Islander, mixed and/or American Indian. Of the 2,271 volunteers working in our program, 96% were white, 3% Hispanic, 1% Black, and less than one-half % were Asian or Pacific Islander. These percentages are similar to the previous reporting year and are reflective of the total population in MA. Our numbers are lower from our previous reporting system which is partially due to our new computer data base system which has improved the accuracy and consistency of reporting, and partially due to maintaining new staff in our urban areas. We continue to address this problem and will continue to work to expand our youth program to underserved and under-represented populations.

Source of Funding: State/Grant and Contracts; Smith-Lever 3b & c

Scope: State specific

FTEs: 4.5

Theme: Youth Development/4-H; Leadership Training and Development

Program and Accomplishments:

Life Skills Education Ongoing and Intermediate Objectives results:

One of the major life skills developed through participation in 4-H is public speaking. Our local and state Visual Presentation Program enable youth to research a topic and present it by following a specific format to an audience of youth and adults. The presentations are judged for content, presentation, confidence in speaking and knowledge of the subject. This past program year, an extensive evaluation of this program was conducted with data collected from two distinct sources: first time program participants between the ages of 9 to 13, and parents of youth who participated in this statewide event. Sixty first time participants completed a pre and post questionnaire concerning their

public speaking, social skills and communication skills. The results indicated a modest increase in the degree to which the youth felt confident in their public speaking ability; a more substantial increase was reported in how comfortable the youth would feel in making oral presentations at school; and a substantial increase in their general level of organization when it comes to school work. Fifty-two parents of youth attending the state visual presentation program responded to a survey which focused on how participation in this program impacted their children. Data results showed that:

*98% of the parents agreed or strongly agreed that as a result of this program, their child was a more confident public speaker.
*91% of the parents believed their children were more confident in general;
*76% thought this program would help their child succeed in college;
*93% believed that their child's participation in this program would help their child throughout his/her career.

This data provided an overwhelmingly positive appraisal of the effects upon their children of participating in this program.

Source of Funding: State, MA 4-H Foundation

Scope of Impact: State specific

FTEs: 4.55

Theme Workforce Preparation:

Long Term goal: 50% of youth statewide enrolled in the 4-H YFD program will increase their workforce preparedness skills.

Program and Accomplishments:

Under the umbrella of workforce preparedness, 4-H Youth and Family Development Extension Educators are working to assist youth in developing entrepreneurial skills. These skills will enable youth to be productive workers, either in their own businesses or working for others. The MA 4-H Foundation continues to support monetary grants to 4-H members, ages 11 to 19, interested in starting businesses. One MA educator worked closely with the New England Workforce Preparation Task Force to develop the Becoming an Entrepreneur work sheets which are six, short guides that assist 4th to 6th grade youth in learning about and working through the most common phases of starting a

business. These work sheets have been distributed to all 30 MA 4-H educators and to over 400 volunteers who attended the Northeast 4-H Volunteer Forum in RI. The Mini-Society program, funded through the Kaufman Foundation, will continue to be implemented this year with high risk youth in New Bedford.

Source of Funding: State, MA 4-H Foundation, Kauffman Foundation; Smith-Lever 3b & c

Scope of impact: State specific

Mini-Society
Multi state Extension: CT, MA, ME, NH, RI, and VT.

FTEs: 4.55

Theme: Youth Development/4-H

Science and Technology Intermediate and Long Term Objectives Results:

4-H has always been rooted in the natural sciences of agriculture, nutrition, environment, various life sciences and now, technology. A major goal of the 4-H YFD program is to assist youth in their understanding of science and technology topics in preparation for working competently within their own environment and as a part of a greater global environment. This past year, our Science and Technology team of Extension Educators, sponsored an in-service training on the in-touch science curricula developed by faculty at Cornell University. Forty staff, key volunteers and representatives from the MA Department of Education participated in this one day training. Staff, in turn, provided in-touch science workshops throughout the state reaching 68 camp staff, 14 teachers and 2066 youth at 4-H camps and other 4-H events. Almost 800 youth benefited from our rockets away curriculum at camp, local neighborhood centers and other 4-H sponsored events. Over 8000 youth participated in our in-school embryology program while 8220 youth participated in our plant science programs.

The Sportfishing curriculum seemed to be a natural match for our coastal state of Massachusetts. Instilling a sense of stewardship for our aquatic resources at an early age was the intent of using this nationally recognized 4-H Sportfishing program. The initial core sportfishing team of six 4-H educators, two 4-H camp staff and two 4-H volunteers, trained by the national team, then, implemented 22 trainings and workshops across the state reaching 221 diverse youth, 41 4-H volunteers and 205 youth service providers and other adult leaders. The majority of the funding for this program, almost $13,000, was provided by the MA 4-H Foundation which allowed us to buy sportfishing kits for each of our five camps, two for our urban areas of Boston and Worcester and one, for our western MA towns. The greatest achievement for this program was shown at the camps.

Almost 2,700 campers (with duplications) participated in the wildlife and fisheries programs offered at camp during the 2000 camping season, compared to 300 campers in 1999. More than 1,500 campers participated in aquatic ecology workshops during 2000, compared to 260 in 1999. A summative evaluation of campers during one week of camp at our five camps indicated that 41% of the 99 campers increased their skill level in sportfishing and aquatic ecology by very much; 29% of 247 campers increased their skill level in aquatic ecology by very much; 34% of 175 campers indicated an interest in continuing to develop their skills in sportfishing, while 36% of 239 campers indicated an interest in expanding their skills in aquatic ecology. Thirty-eight percent of 298 campers

within a given week indicated that their appreciation for the natural environment had increased by very much since attending camp.

Our 4-H staff liaison to our five 4-H camps continues to work with camp directors to maintain the ACA accreditation of the respective camps. She annually provides training to camp staff on new 4-H curricula. This past year 68 camp staff participated in the Sportfishing, Archery, In touch Science, Gardening, Rocketry and Small Craft Safety workshops; 65 participated in CPR training and 37 in first aid training. She also provides training for camp boards. During this program year, 12 camp board members attended a session on Working with Camp Staff and Staff Working with Campers and 15 attended a strategic board training workshop.

Source of funding: State/revenue based/Foundation support; Smith-Lever 3b & c
Other support for camps: Camps, National Sportfishing Program

Scope: State specific

FTEs: 2.85

Intermediate Goal : Facilitated by the Science and Technology Team, 20 youth will participate in a statewide Tech Corps where they will increase their computer knowledge and skills thus improving their employability skills.

Program and Accomplishments

The Tech Corp in MA has been in transition. Two of the educators affiliated with this program have since left our employment. One of our urban educators, Kim Anderson was assigned to the task. Unable to bring the youth together at the state level, she organized a group of teens at her local level and just recently, two volunteers came forward to lead this group. The group is currently working on their future plan and direction.

Source of Funding: State and MA 4-H Foundation; Smith-Lever 3b & c

Scope: State specific with potential of more involvement with the northeastern states.

FTEs: .50

Theme: Energy Conversation

Intermediate Objective: Environmental Stewardship
Program and Accomplishments:

Another goal of the 4-H YFD program is to increase youth's understanding of the role of the environment in enhancing their quality of life and in protecting their future. To achieve this, the Environmental Stewardship team continues to sponsor a two-day conference on community service and the environment for teams composed of high school-age youth and their advisors as well as 4-H participants and their leaders. These conferences attempt to support and inspire youth who want to address environmental issues in their own communities. They provide resources and skills for community-based learning and action, and serve as a forum for participants to share excitement and ideas, successes, and lessons learned. They offer in-depth workshops; an EnviroTrek for youth to meet faculty enmeshed in environmental teaching, research and practice; roundtable discussions; and ample time for reflection and future planning.

One hundred fifty youth representing 63% white participants, 17% Hispanics, 10% Black, 5% Asian/Pacific Islander and 5% multi-racial, and 34 advisors with 9% representing minority populations attended the 2001 Earth Conference on the UMA Amherst campus. Almost one-third of these participants represented youth from the highly urban areas of Boston, Chelsea, Revere, Lawrence, New Bedford, Springfield, Worcester, Lynn and Holyoke. Because of funding constraints, this program will be a one-day event this year.

Source of Funding: State, revenue based and supported through funding from the International Paper Co

Scope: State specific

FTEs 1.35

Long term objective: All 4-H YFD projects and learning activities will have an environmental stewardship connection.

Program and Accomplishments

To increase the use of records by 4-H members, a records committee has been newly formed to make the form easier, more user friendly and more pertinent to the project area The environmental stewardship connection will continue to be a component of this record Form.

Source of Funding: State; Smith-Lever 3b & c

Scope: State specific

FTEs: 2.85

Long term objective: Staff involved in the environmental stewardship initiative will implement a community greening project involving unemployed teens and resulting in the revitalization of neighborhoods in targeted Boston communities.

Program and Accomplishments:

The Environmental Education team has identified the junior master gardener curriculum as its major educational tool for this program year. Plans are being made for a statewide training on this curriculum and implementation of it throughout the neighborhoods of Boston, Worcester and Holyoke.

Source of funding: State; State Strengthening grant; 4-H Foundation;
Smith-Lever 3b & c

Scope: State specific

Theme: Youth Development/4-H
Leadership Training and Development

Ongoing objective: 75% of teens will improve their self-confidence and increase their leadership capacity through participation in staff coordinated learning opportunities at the local, regional, state and national levels.

Program and Accomplishment:

The Youth Adult Leadership team (YALT), formerly the Teen Team, again offered a three day program for older teens, ages 14 to 19 on the UMA Amherst campus. This program helps teens increase their self-confidence, learn skills for successful interpersonal relationships and develop their leadership potential. About 132 teens attended the 2001 Power of Youth Teen Conference with 17% representing minority youth from our urban areas of Boston, Worcester and Holyoke.

This past year, the team also offered a Teen Leadership Institute for teens, 14 and older, to discuss critical issues for high school students, leadership development, diversity,

conflict management and youth/adult partnerships at a two day event. The program was facilitated by the State 4-H Teen Advisory Council, comprised of 10 teens who recently participated in the National Teen Conference. One hundred and ten teens from across MA participated with 29% representing minority youth from our urban areas. Participants reported the following reflective statement as a result of this conference: "I've realized that there is a lot that we can accomplish, working together and believing in our goals"; "I'm proud of myself...to get the courage to present in front of an audience which I was never able to do before. Now I have a whole new confidence about me;" "I've become aware of my capabilities as a leader and an organizer"; "I have become aware of the different topics that are out there and how everyone is so motivated on changes and improving things and the different ways to go about doing them".

Source of Funding: State and revenue based; Smith-Lever 3b & c

Scope: State Specific

FTEs: 3.65

Short term objective: Staff, as members of the statewide Teen Team, will design and conduct a survey of teens both within and outside the 4-H YFD program to determine critical issues facing teens and define the appropriate delivery strategies for meeting these needs.

Program and Accomplishments:

The results of this survey titled: What are the Concerns and Interests of Youth Today were submitted to the National 4-H Magazine, *News and Views* for publication; we are still waiting to see if it has been accepted or not.

Source of Funding: State; Smith-Lever 3b & c

Scope: State specific

FTEs: 3.65

Theme: Leadership Training and Development

Short-term goal: The statewide Volunteer Management team, comprised of staff and key volunteers, will design and institutionalize a comprehensive volunteer management system for the 4-H YFD program.

Int**ermediate goal**: One hundred percent of staff will be trained in the utilization of this comprehensive volunteer management system.

Program and Accomplishments:

The Volunteer Management Team, , implemented a new screening process for volunteers in May 2000. This process included an application form, a code of conduct and ethics form, and providing a list of three references. The materials were adapted primarily from the University of New Hampshire 4-H process and reviewed by the university's lawyer. All staff were trained in this new process and instructed to implement this process locally during the summer and fall of 2000. By January 2001, about 50% of the volunteers had completed the process and a new date of March 1, 2001 was established for staff to complete the process. Letters and a checklist were sent to volunteers indicating the importance of completing this task and getting their paperwork to their local offices. During spring 2001, dismissal letters were sent to approximately 25 volunteers across the state who chose not to complete or partially complete the process by about one-third of our local offices. At the same time, we began to implement this same process for our statewide boards, such as MA 4-H Foundation, five camp boards and the statewide 4-H Advisory Council. Discussions with these statewide boards indicated that the forms needed to be adapted for volunteers who work on boards. These forms are currently being adapted for this purpose and are expected to be implemented in May 2002.

We were successful in hiring a full-time Volunteer Management Specialist in June 2001. She has worked closely with the team to continue and maintain the screening process. She, along with the team, has also developed incident forms, volunteer service descriptions, and parental permission forms. They are in process of developing a

consistent by-law template for all volunteer advisory boards which is to be implemented by June 2002. Their next major task is to establish a memorandum of understanding template to be used with the many organizations with whom 4-H has established collaborations including some of 4-H independent groups, and create fiduciary guidelines for 4-H organized groups.

Source of Funding: State; Smith-Lever 3b & c

Scope: State specific

FTEs: 7.95

Stakeholder Input Process

Overview:

Nearly 1000 individuals function as stakeholders involved in providing input and advice on Extension and research programs and projects in Massachusetts. While some individuals provide input on a one-by-one basis, such as through surveys, interviews and unsolicited material, the majority of stakeholder input is through organized groups. These are generally:

a. groups organized by Extension, either on an on-going basis, or convened for a one-time interaction.
b. existing groups, such as neighborhood councils, commodity associations, professional societies and foundations
c. groups formed by legislative mandate

Since the majority of UMass faculty and staff are involved in both research and extension, input from stakeholders is considered for both research and extension work. By program area, Agroecology reports 163 individuals, with 13 groups, including those appointed by the University President, and several established via legislation. Several comprehensive grower associations, such as the Massachusetts Flower Growers Association, through their elected board of directors, serve as stakeholder groups. In other commodity areas, individuals are invited to participate in focus groups to provide input.

The 4-H Youth and Family Development Program Area involves more than 600 individuals in county-wide, program or event specific or other topical advisory groups. Agency staff input through several Extension organized coalitions, such as the Teen Serving Coalition, provided a link to underserved populations. Youth and teens were increasingly represented on all 4-H related advisory groups.

The Natural Resources and Environmental Conservation Program Area has involved more than 44 stakeholders, primarily through two groups organized by Extension.

The Nutrition Education Program Area reported over 75individuals, and three groups, including one governmental body as providing input.

The UMass Extension Board of Public Overseers, created by the legislature and comprised of representatives of agriculture commodity groups, state agencies, natural resources groups, the state nutrition board and several state-wide 4-H advisory groups, meets regularly with Program Directors, the Director and Assistant Director. The legislation mandates the composition of the Board. Over the past three years, this group has addressed funding in general, as well as specifically how resources are allocated by program to meet the needs of the Commonwealth.

The Board also provides input for overall program direction. New this year is an executive committee, which meets between full Board meetings.

Actions taken to seek stakeholder input that encourages their participation

As described in the overview, stakeholder input is encouraged through regular meetings, existing organizations and one-time focus groups and other strategies. Surveys, feedback forms, e-mail and the Web are also used to elicit input, as is personal contact.

A brief statement of the process used by the institution to identify individuals and groups who are stakeholders and to collect input from them

Each program area seeks and identifies stakeholders appropriate to their program area. The process includes asking for volunteers; using criteria such as geographic representation, diversity and length of participation (long term participants as well as stakeholders less involved). Environmental scanning as part of strategic planning is also used to identify potential stakeholders.

A statement of how input was considered.

Input is considered by the stakeholder group in conjunction with the faculty and staff who are responsible for the program. Results of surveys, focus groups, discussion about reports and proposals are part of the information mix, along with the goals of the University, the mission of Extension and research, and the five USDA goals.

Program Review Process

No significant changes have been made to the review process since the 5-Year Plan of Work was written.

Evaluation of the Success of Multi and Joint Activities

A new initiative that was approved in this last year was the Center for Agriculture. One of the purposes for the Center was to promote and encourage joint Extension and Research collaborations. A new incentive of the center has been the creation of an integrated program in Grape Production of Southeast Massachusetts. Additional joint programs are expected for the coming year.

U.S. Department of Agriculture

Cooperative State Research, Education and Extension Service
Request for Waiver from Target Percentage
For Multistate Extension Activities and Integrated Activities

Institution: **University of Massachusetts Amherst**
State: **Massachusetts**

Waiver for (circle one)
Multistate Extension Activities
Integrated Activities (Hatch Act Funds)
Integrated Activities (Smith Lever Funds)

Fiscal Year (circle one)
FY2000
FY2001
FY2002
FY2003
FY2004

Type of Waiver
Pre-waiver (must be submitted prior to October 1)
Post-waiver
(must be submitted with Annual Report of Accomplishment and Results)

Justification: UMass Extension requests a waiver for FY2001 for the following reasons:

1) State law requires that compensation paid from non-state appropriations be subject to a fringe rate which averages 25% per year. The result is that UMass Extension is assessed $1 for every $4 in salary paid on Smith Lever funds, while the Commonwealth pays the fringe costs of those on state dollars. UMass Extension has chosen to put as many people as possible on state dollars as possible to maximize federal funds.

2) Further, UMass Extension leverages public appropriations with competitive grants and contracts; these often require a state match, and to replace the state dollars with federal would violate grant terms.

3) The costs of completing the paperwork associated with paying individuals on multiple sources of funding with varying project start and end dates is extremely high.

UMass Extension faculty and staff are engaged in multi-state integrated activities over a wide range of projects, and with states both in New England and across the country. For example, the Extension fruit specialist is involved in six projects involving 19 states and two Canadian provinces. 4-H Youth Development staff are working both in New England and nationally on curriculum projects and IPM staff heavily engaged in projects in the Northeast. UMass Extension is a founding member of the New England Extension Consortium, which provides funding and support to faculty and staff who conduct multi-state projects.

Stephen Demski — April 1, 2002
Director — Date

Note: all reports must be submitted regardless of request for waiver

Form CSREES-WAIVER (2/00)

U.S. Department of Agriculture

Cooperative State Research, Education and Extension Service
Request for Waiver from Target Percentage
For Multistate Extension Activities and Integrated Activities

Institution: **University of Massachusetts Amherst**
State: **Massachusetts**

Multistate Extension Activities

Waiver for (circle one) **Integrated Activities (Smith Lever Funds)**

Integrated Activities (Hatch Act Funds)

Fiscal Year (circle one) FY2000 **FY2001** FY FY2002 FY2003 FY2004

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3. The costs of completing the paperwork associated with paying individuals on multiple sources of funding with varying project start and end dates is extremely high.

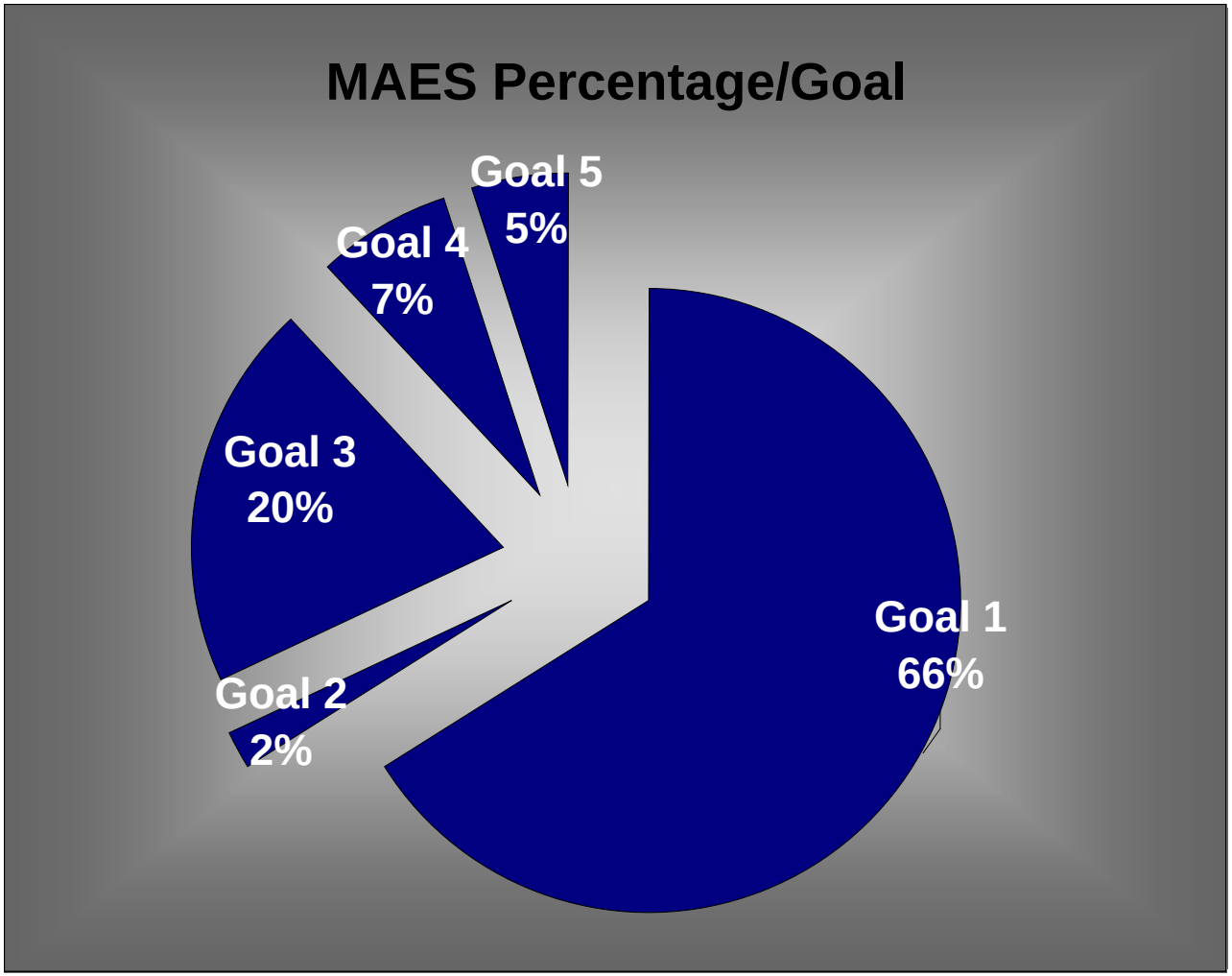
4. UMass Extension faculty and staff are engaged in integrated activities over a wide range of projects. Projects involving apples, IPM, vegetables, grapes, welfare reform, are examples of integrated research and extension projects/programs. All professional Extension Educators are members of academic

departments, and the majority of faculty with Extension appointments also hold joint research appointments. The majority of Extension program teams are comprised of faculty and staff with both Extension and research appointments.

Stephen Demski — April 1, 2002
Director — Date

Note: all reports must be submitted regardless of request for waiver

Form CSREES-WAIVER (2/00)



MAES Appendix C can be found at http://www.umass.edu/maes/integrated.htm.