

PLAN OF WORK REPORT OF ACCOMPLISHMENT



**University of Nebraska Cooperative Extension
Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln**

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**Federal Fiscal Years
2000 to 2004**

Plan of Work Report of Accomplishments

**University of Nebraska Cooperative Extension
FY 2000 to 2004**

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Plan of Work Report of Accomplishments University of Nebraska Cooperative Extension

I. INTRODUCTION:

University of Nebraska Cooperative Extension is a division of the University of Nebraska Institute of Agriculture and Natural Resources. Other divisions include Agricultural Research Division and College of Agricultural Sciences and Natural Resources.

This Annual Report describes Cooperative Extension program impacts and accomplishments for the Cooperative Extension Division for fiscal year 2002, as required by the Agricultural Research, Extension, and Education Reform Act of 1998. It includes the elements identified in the USDA document, "Guidelines for Land Grant Institution - Annual Report". This federal Annual Report is based on the current strategic plan of Institute of Agriculture and Natural Resources and on emerging issues identified through stakeholder input in anticipation of beginning the next revision of the Institute of Agriculture and Natural Resources Strategic Plan. This federal Annual Report is for the University of Nebraska Cooperative Extension Division programs only, but was developed in conjunction with University of Nebraska Agricultural Research Division's Annual Report.

Cooperative Extension Action Teams guide our work and are represented under the five Goal areas. Nebraska Action Teams include: Building Strong Families; Community and Residential Environment; Community Resource Development; Food Safety; Health and Wellness Education; Health Care Policies and Education; Integrated Animal Systems Management; Integrated Crop Management; Leadership and Public Issues Education; Natural Resources and Environmental Management; and 4-H Youth Development.

In fiscal year 2001-2002, the University of Nebraska Cooperative Extension funding in support of the programs described in this plan totals \$40,354,533 of state, non-tax, and federal source expenditures. Smith Lever Federal Formula Funds (including regular E3bc, special needs, CSRS retirement, and penalty mail) provided \$4,787,512 or 12 percent of this total. However, the reports included in this report represent all funding streams not just federal dollars.

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A. PROGRAMS (5 FEDERAL GOAL AREAS)

Goal 1: To achieve an agricultural production system that is highly competitive in the global economy.

Overview: (includes sections a, b, c & d)

Agricultural production is the foundation Nebraska's economy and is of particular importance to our rural communities. Nebraska Cooperative Extension's Integrated Crop Management (ICM) Action Team addresses the need for sustainable and profitable agricultural production systems and concerns about environmental stewardship. ICM provides educational programs for management of soil fertility, soil and water resources, pests and crop production in a way that sustains agricultural profitability and promotes environmental stewardship. The ICM program is supported by the educational program of the Natural Resources and Environmental Management Action Team. The educational programs offered to support Nebraska's agricultural producers continue to be wide ranging in the breadth of subject matter to address current needs and issues.

The livestock industry plays a significant role in Nebraska's agricultural economy accounting for approximately 60% of the total agricultural income. Livestock production offers producers an important means to add value to their grain and other crops. Nebraska has 23 million acres of rangeland and pastures, not counting the crop residues across the state that are used for livestock. Long-term sustainability requires that animal systems be economically viable, ecologically sound, and socially responsible. Cooperative Extension's Integrated Animal Systems Management (IASM) Action Team's education programs encourage producers to manage their operations as holistic units rather than as a set of independent enterprises.

The drought of 2002 and the forecast of drought in 2003 refocused some of our educational efforts in the state to address these concerns. An number of workshops, web pages, satellite programming, and media releases addressed drought issues from the perspective of the producer while recognizing the economic viability of the rural communities is dependent on agriculture. Workshops in the Panhandle region showed that eighty percent of the growers attending the workshops thought they had to change their production systems during the 2003 season in order to cope with the drought. We continue to provide educational programs to help producers make critical decisions required as a result of the drought.

The 2002 Farm Bill has given producers the opportunity to reevaluate base acres and yields as they sign up for the commodity program. Extension educators and specialists provided numbers educational opportunities in cooperation with Farm Service Agency to help producers make wise decisions for their specific farm situation. Many producers were assisted with using the available decision aids to evaluate which base and yield options were best. As an example of potential impact, in Saline County the worst to best option difference for producers resulted in a difference of \$8.02 per acre.

Variety selection is the one biggest factor producers can make that will impact yield. Yields in variety trials can range as much as 50 to 75 percent from the top variety to the bottom. The ICM team has been concerned with how producers make decisions on variety selection. Many companies no longer put varieties in University trials and producers are dependent on company trials or grower strip trials. The Nebraska Corn Expo workshop used an active audience participation activity to help illustrate the importance of variety selection. A pre-test and post-test on the subject matter was used to help determine understanding. Producers were asked to select two hybrids from a list that would give the best chance of optimizing genetic diversity and economic return. On the pre-test, 75% got the correct answer and on the post-test 93% were correct. The participants were asked the difference in seed cost of planting high yield vs. low yield hybrids. Only 31% got the correct answer on the pre-test, while 87% got the correct answer

on the post-test. With respect to the use of least significant difference (LSD), 26% got the answer right on the pre-test and 75% were correct on the post-test. The corn and soybean variety testing publications were used in an active demonstration of how to evaluate and use the yield results.

Educational efforts continue to be targeted to private agribusiness professions. The 2001-2002 Integrated Crop Management Winter Program attracted 135 people from 37 of the 93 Nebraska counties. The people participating influence crop management on 1.8 million acres representing 17% of Nebraska's row crop acres. Participants valued the information at an average of \$5.67 per acre. A dry bean workshop in the Panhandle reached participants from 5 states and Canada. Ninety-two percent of the participants rated the workshop as successful or very successful, and improved their knowledge base by 76% based on the pre- and post-test results. Crop Protection clinics are offered at 12 locations in the state and had a total attendance of 1,729, most of which are agribusiness professionals who impact nearly 6.4 million acres of Nebraska farmland.

The Ranch Practicum program, an indepth program lasting seven days over a nine month period, has just completed its fourth year. Since 1999, 88 ranchers, veterinarians, consultants and other participants, who in total manage about 3.5 million acres of land and more than 1 million head of cattle, have estimated the value of knowledge gained at \$27 per head. A survey of 2001 participants indicated a benefit of \$23,589 per rancher for the 18 participants. The Beef Home Study Courses continue to be a popular way for livestock producers to participate in education programs based on their own personal schedule. Beef Home Study course surveys have indicated an estimated total economic impact since the beginning of the home study effort of over \$8 million.

The Integrated Crop Management, Integrated Animal Systems Management, and Natural Resources and Environmental Management teams continue to deliver a variety of educational programs to support Nebraska's agricultural producers and agribusinesses. This report illustrates just a few of those programs and example impacts. With the current drought and financial situation facing agriculture in Nebraska these programs are important to individual producers as well as the state as a whole. The teams continue to strive to deliver programs that meet the needs of Nebraska agriculture and in that allows effective learning. The programs supporting this goal must be ongoing to support the continuing changes in agriculture.

e) Total Expenditures and Full-time Equivalent(FTE):

FFY2002	Federal*	State	Local	Other	Total
Funding:	\$ 1,062,625	\$ 4,892,354	\$ 1,467,553	\$ 2,262,556	\$ 9,685,088
FTE**:					79

* FY2001-2002 Federal Formula Funds (includes Smith-Lever regular E3bc, special needs, CSRS retirement)

** Includes both professional and para-professional funded from all sources

Key Theme - Agricultural Profitability

(refers to Plan of Work Goal 1, Output Indicator 1, and Outcome Indicator's 1 & 2)

- a) Cattle production is big business in Nebraska. Wise ranch management is critical to improving the profitability and sustainability of the Beef State's cow-calf producers. University of Nebraska Cooperative Extension's Ranch Practicum offers ranchers hands-on experience in integrated cattle, forage and economic management. Ranchers, veterinarians, nutritionists, conservationists and educators from Nebraska and other states participate in the practicum taught by extension educators

and specialists from June to January. They spend two days in a classroom at North Platte and six days performing field laboratory activities at NU's Gudmundsen Sandhills Laboratory near Whitman. At home, they practice solving practical problems such as calculating stocking rates for pastures.

- b) Since 1999, 88 ranchers, veterinarians, consultants and others who in total manage about 3.5 million acres of land and more than 1 million head of cattle, estimate the practicum's average value of knowledge gained at \$27 per head. A survey of 2001 participants indicated a benefit of \$23,589 per rancher for the 18 participants. Ninety percent of those surveyed expect increases in their profitability and more than 75 percent expect increases in their operation's sustainability. A young couple said they learned something at every session, adding that "Everybody who ranches should take it."
- c) Scope of Impact - State Specific
- d) Funding:
 - NU Cooperative Extension
 - Federal Formula Funds
 - Financial institutions
 - User fees

Key Theme - Agricultural Profitability

(refers to Plan of Work Goal 1, Output Indicator 1, and Outcome Indicator's 1 & 2)

- a) In the state of Nebraska, 2002 was one of the driest years in recorded history. Available forage and pasture for cattle were less than 50% of average in some areas. Crops, especially dryland, were stressed to the point that salvage as a forage crop was the only option. In Northeast Nebraska, cooperative extension staff used meetings, news releases, radio tapes, and informational packets to address producer concerns. In the summer of 2002, approximately 10 formal and informal drought meetings were held district-wide with an average attendance of 75 per meeting. Meetings included information on federal drought assistance efforts, feed and salvage value of drought crops, feed and management alternatives for livestock, and feed toxicity concerns, including nitrates and mycotoxins. Presentations were also made at in-service meetings sponsored by groups representing crop and livestock allied industries. Over 4,000 individuals contacted extension staff directly through phone calls and office visits. Contacts were made from all sectors of agricultural production, including grain and livestock producers, feed and pharmaceutical merchandisers, commercial livestock enterprises, and consultants. Agencies invited to participate in program efforts included USDA Farm Service Agency and Natural Resource Conservation Service.
- b) In November of 2002, surveys were sent to 46 individuals who had attended drought meetings. Twenty-two of the surveys were returned. Results of returned surveys were: 1) 85% indicated timeliness and benefits of information presented was superior or excellent versus good, fair, or poor; 2) 48% indicated new information was obtained; 3) 56% indicated that they made immediate changes, 29% made no changes, and 15% perhaps made changes; 4) 63% said they probably or definitely saved money; and 5) reported savings ranged between \$4,000 and \$11,000/producer. Significant changes made by producers as a result of our educational efforts included early weaning of calves, assessing value and utilizing alternative feed resources, and testing drought feeds for nitrates. Commercial agriculture entities shared information with their clients to aid them in salvaging crops and livestock. Individual comments included "It saved me from having dead animals", "t (early weaning) was the best choice I made, the calves weaned well and my calf

weights were up compared to other years,” and “It (the meeting) was a wake up call to start preparing for harvesting our feed and forage needs for fall and winter.

c) Scope of Impact - State Specific

d) Funding:
NU Cooperative Extension
Federal Formula Funds

Key Theme - Agricultural Profitability

(refers to Plan of Work Goal 1, Output Indicator 1, and Outcome Indicator's 1 & 2)

a) The Nebraska Soybean and Feed Grains Profitability Project (NSFGPP) is a unique partnership among Nebraska farmers, agribusiness (crop consultants, seed dealers, etc.) and University of Nebraska Cooperative Extension faculty (Extension Educators and Specialists). Together partners analyze farmers' production and marketing systems, then identify potential agronomic practices or marketing strategies that can lead to a more profitable farming operation. Thirty-seven percent of NSFGPP producers and eighty-three percent of NSFGPP consultants use GIS/GPS technologies to conduct their on-farm research.

b) A recent survey of NSFGPP farmers and agribusiness representatives demonstrated the impact of this dynamic relationship among Nebraska farmers, agribusiness and the University of Nebraska-Lincoln. Presently, 62 NSFGPP private industry cooperators and farmers, with average project tenure of 5.75 years, represent more than 150,000 acres of cropland. Forty-six farmers, representing forty farm operations estimated that the NSFGPP project improved their profitability by an average of \$7,768/operation annually for a cumulative impact of \$310,720 annually. Private industry cooperators estimated the annual value of the project to their business to be \$5,253 annually, or cumulatively \$84,048 annually.

Ninety-seven percent of NSFGPP members indicated that considering all of the agricultural educational opportunities that are available to them they would rank the NSFGPP "above average" or the "best" agricultural education program available to them. Forty-one percent of this group rated the NSFGPP as the "best" agricultural education opportunity available to them.

c) Scope of Impact - State Specific

d) Funding:
NU Cooperative Extension
Federal Formula Funds
Participant fees

Key Theme - Agricultural Profitability

(refers to Plan of Work Goal 1, Output Indicator 1, and Outcome Indicator's 1 & 2)

a) The 2002 Crop Management Diagnostics Clinics ("CMDC") were provided for public and private agribusiness organizations and were held at the Agricultural Research and Development Center near Mead, Nebraska. The sessions included Field Scout Training on May 13, a Mid-Summer Clinic on July 18, a Late Season Clinic on August 18, a Precision Farming Clinic on September 4, and two Private Industry Clinics. Some of the clinic topics included: How to Make Important Crop Production Management Decisions, Soybean Pests, Sprayer Management, Fertilizer Application

Equipment Management, Herbicide Mode of Action, Accessing UNL Recommendations, Field Crop Diseases, Late Season Insects, Fall Nutrient Management, and Fall Tillage Implications.

- b) The 2002 clinics had 331 participants from five states and 60 Nebraska counties with 67% representing private business and 9% being farm operators. The individuals at the clinics influence crop management on 4,767,531 acres of cropland; conservatively, this represents 29% of Nebraska's row crop acres. The average estimated value of the knowledge gained and/or anticipated practice changes reported by clinic participants on a per acre basis was \$3.89 per acre bringing the estimated potential total value of the program to over \$18.5 million. Sixty-two percent of the respondents were "very satisfied" with the program and 78% said they probably would make changes to their business/operation based on what they learned at the CMDC clinics. Ninety-six percent of the respondents rated the CMDC program as "one of the best" or "above average" compared to other educational opportunities.
- c) Scope of Impact - Nebraska, Iowa, Kansas, Missouri, Wyoming
- d) Funding:
 - NU Cooperative Extension
 - Federal Formula Funds
 - Agribusiness
 - Participant fees

Key Theme - Animal Health

(refers to Plan of Work Goal 1, Output Indicator 1, and Outcome Indicator's 1 & 2)

- a) Diarrhea, or scours, is a leading cause of illness and death in beef calves. In some herds, nearly all young calves get scours and 5 percent to 10 percent die of scours-related illness. Treatment and performance and death losses can cost individual ranchers thousand of dollars annually. University of Nebraska veterinary scientists designed a calving system to reduce calf scours on ranches in the Nebraska Sandhills. Their design reduces calf exposure to the germs that cause scours by keeping older and younger calves in separate pastures and by moving pregnant cows to new calving areas where their calves are born in pastures free of scours-causing germs. This system significantly reduced calf illness and treatment costs and eliminated calf deaths from scours in tests on two Sandhills ranches under different calving schemes. For example, one 900-head ranch that lost 7 to 14 percent of its calves to scours before adopting the NU system had no scours deaths since. On the same ranch, four calves were treated for scours in 2000 and none were treated in 2001 and 2002. Because few calves developed scours, ranchers also greatly reduced use of antibiotics needed to treat sick calves. The team now is teaching veterinarians and ranchers how to adopt this scours prevention strategy.
- b) Ranchers who have adopted this system report significantly reducing calf sickness, death and antibiotic use. The system also aids labor efficiency, a major issue during busy calving season, because cattle movement can be scheduled when labor is available. The owner of the 900-head ranch estimates savings of \$40,000 to \$50,000 annually since implementing the calving system because he has more calves to sell, improved calf performance and greatly reduced treatment costs.
- c) Scope of impact - State Specific
- d) Funding:
 - NU Agricultural Research Division

NU Cooperative Extension Division
Federal Formula Funds
Pfizer Animal Health
Sandhills Veterinary Hospital

Key Theme - Animal Production Efficiency

(refers to Plan of Work Goal 1, Output Indicator 1, and Outcome Indicator's 1 & 2)

- a) The livestock industry plays a significant role in Nebraska's economy. Meeting the cow's nutrient requirements for protein, energy, vitamins and minerals at a level which has the greatest return on investment is critical to clientele's economic survival and environmental sustainability. Beef cow nutritional educational material was presented to producers in a series of meetings entitled "Beef Cow Ration Balancing and Mineral Nutrition." These workshops were designed to discuss the nutrient requirements of beef cows, discuss and introduce producers to new grain by-products, and discuss formulating mineral supplements based on forage analysis and the mineral requirements.
- b) One hundred producers participated in 17 workshops in Western and Central Nebraska with 76 completing post-meeting surveys. All of the responding producers indicated that the information presented would save them money. Sixty-seven people reported owning or managing 30,815 cows (460 head/operation) with 29 reporting a feed cost saving of \$6.62 per head on 13,25 head for a total annual impact of \$88,211. If this savings were extrapolated for the total number of cows represented the total potential impact could be as high as \$204,000.

Fifty nine people reported owning or managing 30,525 calves (517 head/operator) with 25 of those reported feed saving of \$5.46 on 11,170 head for a total annual impact of \$60,988. Project the savings for all calves reported the total impact could potential be as high as \$166,000. Twenty-three people, representing 10,810 cows, reported an impact of \$5.99 per cow on mineral cost. Their total reported annual impact of the mineral savings was \$64,700. The total estimated potential savings on all cows would be \$184,582. The total reported impact for the 17 meetings is \$213,900 (35,305 head) with an average savings of \$6.06 per head on feed and mineral cost. Extrapolated data would indicate the total saving for the 17 meetings could be or as great as \$555,244 (61,340 head) with an average savings of \$9.05 per head in feed and mineral cost. One producer in a follow-up consultation indicated that as a result of the meeting they saved \$8.00 on mineral cost on 200 head of replacement heifers for a total saving of \$1,600.

- c) Scope of Impact - State Specific
- d) Funding:
NU Cooperative Extension
Federal Formula Funds

Key Theme - Diversified/Alternative Agriculture

(refers to Plan of Work Goal 1, Output Indicator 1, and Outcome Indicator's 1 & 2)

- a) Turf grass seed production is a budding alternative crop for Nebraska's Panhandle. The region's climate is well-suited to growing turf grass seed, which offers a new cropping option to help the

region's farmers diversify their operations. University of Nebraska research and extension efforts are providing interested producers the information they need to produce grass seed under Panhandle growing conditions. NU Institute of Agriculture and Natural Resources studies have answered questions about the potential for growing grass seed in western Nebraska including seed planting dates, the best varieties, fertility and water requirements and production practices. This research honed management procedures for producing excellent yields of high-quality turf grass seed under irrigation. NU Cooperative Extension specialists and educators organized grass seed production field days and other educational meetings for those interested in producing grass seed. They also work with the region's new grass seed association.

- b)** Turf grass seed production provides a high-value cropping option in western Nebraska. This grass seed now is produced on about 2,000 Panhandle acres, up from 300 acres in the late 1990s. Net returns of \$800 to \$1,000 per acre generate total income of as much as \$2 million for grass seed producers. Production could grow to as many as 10,000 acres within the next 10 years.
- c)** Scope of Impact - State Specific
- d)** Funding:
 - Hatch Act
 - Smith-Lever 3(b) & (c)
 - NU Agricultural Research Division
 - NU Cooperative Extension

Goal 2: A safe, secure food and fiber system.

Overview:

Nebraskans are concerned about food safety. Food borne illness outbreaks in Nebraska have brought this to the forefront for consumers, food processors, retailers and farmers/ranchers. Nebraska during the past several years has seen illness and hospitalization of individuals, the closing of a meat packing plant, restaurants sued as a result of breakdowns in the food safety chain.

- a) More than 6500 food managers/food handlers, in the past five years, have been taught ServSafe by more than 30 Extension staff trained in food safety. A recent survey of Nebraska food service managers indicated that ServSafe participants were twice as likely to know the correct answers about common food safety questions and practices. An in-service was held on food irradiation with thirty seven food and nutrition educators from Nebraska, South Dakota, Iowa, Minnesota, and Kansas attending. Over 5600 Nebraskans have participated in educational activities that targets consumers.
- b) A three-day training on HACCP has been delivered to more than 1000 meat and food processors in the past 5 years. Processors have an increased comfort level in working with HACCP and 72% of the processors requested further assistance on HACCP and food safety from Cooperative Extension. In plant assistance was provided to over 100 small and very small meat and food processing facilities. Assistance provided operators with a better understanding of Food Safety practices and also allowed them to comply with regulations. Workshops for five different meat and food processing topics have been developed and are used in a four state area.
- c) Cooperative Extension conducted a series of 21 Pork Quality Assurance (PQA) Level III educational seminars attended by over 750 pork producers. Participants in Beef Quality Assurance workshops indicated they gained information about increasing the quality of beef and 90% would increase the use of the neck as an injection site. Since 1991, the injection site damage to the top sirloin butt has decreased from 22% to 2.5% through the use of Beef Quality Assurance workshops. Beef and Pork Quality Assurance has been adapted to youth audiences and has been delivered to over 9000 Nebraska Youth.
- d) The faculty of Nebraska Cooperative Extension are committed to a food safety program that meets the needs of residents of the state. Their commitment, and rewards of their commitments, are evident in the decreased incidences of food borne illness and the compliments they receive from partnering entities. One Department of Agriculture food inspector credits the ServSafe program with improved ratings of food establishments checked. USDA inspectors suggest the University Extension Faculty as sources of help for HACCP in Meat and Poultry operations. September was declared "Food Safety Month" by the Nebraska Governor through Farm to Table Food Safety work
- e) **Total Expenditures and Full-time Equivalent(FTE):**

FFY2002	Federal*	State	Local	Other	Total
Funding:	\$ 132,828	\$ 611,544	\$ 183,444	\$ 282,819	\$ 1,210,636
FTE**:					12

* FY2001-2002 Federal Formula Funds (includes Smith-Lever regular E3bc, special needs, CSRS retirement)

** Includes both professional and para-professional funded from all sources

Key Theme - Food Quality

(refers to Plan of Work Goal 1, Output Indicators 1 & 3 , Outcome Indicators 1,2 & 4)

- a) This past year Cooperative Extension trained 500 food service managers in ServSafe, a food safety certification course through the National Restaurant Association. A 98.5% pass rate has been obtained for the certification test. Participants prepare between 79 to 500 meals per day. Participants also report that they supervise on the average of 5 to 15 persons which they take knowledge from this course back to their establishments. The Nebraska Restaurant Association provides support for this program in Nebraska. The Nebraska Department of Agriculture food inspectors cooperate with Extension Educators in the delivery of this program throughout the state. Since 1994, Nebraska Cooperative Extension has offered ServSafe training to an estimated 6,500 food service managers. In coordination with ServSafe, training has been offered to staff at restaurants, nursing homes, schools and other facilities. This shortened class has basics for all staff.
- b) As a result of the ServSafe class, participants state that they will upgrade present practices including: training staff on safe preparation/holding/serving of food, request deliveries during off peak hours, clean and sanitize more often and improve hand washing techniques and use of gloves.
- c) Scope of Impact - State Specific
- d) Funding:
NU Cooperative Extension
Federal Formula Funds

Key Theme - Food Quality

(refers to Plan of Work Goal 1, Output Indicators 1 & 3 , Outcome Indicators 1,2 & 4)

- a) Through a USDA Funded project, two Native American para professionals were hired to deliver food safety education on Omaha and Santee Sioux Reservations. Topics included hand washing, proper cooking temperatures, use of thermometers, and food preservation, especially drying of corn. FightBAC! materials were used.
- b) Over 800 adults and youth were reached with food safety education programs. All youth on both reservations between the ages of 3 to 12 were taught and practiced proper hand washing. One program on the Santee Sioux Reservation, 15 elders of the tribe learned about food safety. These elders were all given a new thermometer and taught proper use. Each one calibrated their own thermometer, then all measured the temperature of their hamburger on the grill.
- c) Scope of Impact - State Specific
- d) Funding:
NU Cooperative Extension
Federal Formula Funds

Key Theme - Food Quality

(refers to Plan of Work Goal 2, Output Indicator 3, Outcome Indicators 1, 2, 3 & 4)

- a) University of Nebraska Cooperative Extension works with the meat and poultry industries on training to assure the quality and safety of Nebraska's meat products. The University of Nebraska and Kansas State University extension specialists have teamed to offer Good Manufacturing Process, Sanitation workshops, Implementing your Companies HACCP Plan Workshops and Advanced HACCP Workshops in Nebraska, Kansas, South Dakota, and Missouri to teach food processing company managers food safety concepts. The University of Nebraska and Kansas State University have also focused on providing one on one and in plant assistance to small and very small meat and food processors in Nebraska, Kansas, South Dakota, and Missouri. Presentations and workshop notebooks have been developed and are shared within the four states to deliver the various workshops.

Due to the technical and scientific nature of HACCP, very few small meat and food processing facilities have personnel with the background necessary to complete a HACCP plan without training or assistance from outside sources. The UNL HACCP assistance team was formed to assist meat processors in writing and implementing HACCP plans and to provide training to meet the regulatory requirements and produce a safer product.

One-on-one assistance to meat processors is another responsibility of the HACCP team. The team has assisted over 200 companies in writing and or verifying HACCP plans. After HACCP assistance, microbial testing is done in some of the facilities to determine if HACCP is actually reducing hazards. Microbial testing was also done to determine when and/or where critical control points were needed or not.

In addition the application of HACCP to a facility requires research validation studies to be conducted in the meat or food processing facility. University of Nebraska and Kansas State University faculty have worked with small and very small processors to validated that the unique processing operations in small and very small businesses are effective at controlling food borne hazards. After HACCP assistance, microbial testing is done in some of the facilities to determine if HACCP is actually reducing hazards. Microbial testing was also done to determine when and/or where critical control points were needed or not. In other facilities temperature, pH and time information were collected and prediction models were used to help ensure safety of the food product.

The "Implementing you Company's HACCP Plan Workshop" has been presented to over 100 meat and food processors in the last five years. The workshops are partly funded by a USDA CSREES grant and were conducted by the Extension Food Specialist from Nebraska, Kansas, Missouri and South Dakota. Participants were taught the principles of HACCP and had hands-on experiences in writing HACCP plans. These activities are required by regulations for HACCP. Course evaluations indicated that the participants increased their knowledge about the HACCP principles. There was an increase in knowledge in 6 of the 7 principles while the knowledge level in the 7th principle was already high when the workshop began. More importantly, the participants indicated that they felt more comfortable in utilizing the HACCP principles in their programs and indicated that they would be using them regularly. The overall comfort levels of the participants increased up to 50%. The participants indicated that they would use HACCP principles in their programs up to 40% more often than they did previously. Utilizing HACCP in their operations can result in a safer food supply. The participants also had many positive comments to say about the HACCP workshop. They indicated that the workshop was "very worthwhile", "well done" and that we gave good examples of how the various segments of the food industry could work together. They also indicated that they felt more comfortable in contacting extension specialists about HACCP questions.

A one-day Advanced HACCP workshop was developed by Extension Specialist at the University

of Nebraska and Kansas State University. The overall goal of this workshop was to increase the knowledge of small meat processing establishments to enable them to more effectively manage HACCP system in their facilities. Topics discussed in the workshop included; HACCP verification HACCP validation and experimental design, sampling plans, USDA in-depth verification reviews (IDV), reassessment, auditing, HACCP-based inspection model programs (HIMP) and the relationship of HACCP to total quality management (TQM) programs and statistical process control (SPC). The workshop was delivered as a pilot test program to processors to ensure that the content addressed current needs of the industry. The format for topic delivery was 30 min presentations by Extension Specialists. Additionally, participants completed working group activities that allowed them to design studies to validate or change CCPs in a plan, to apply pathogen modeling programs to specific processes and to subject data collected during HACCP monitoring to SPC in order to identify trends. The participants completed an evaluation after each activity and a focus group analysis was conducted at the end of the workshop. While most participants were familiar with the topics covered, 100% of them indicated that presentations contained information that would be useful in their business. The working group exercises were also helpful to most participants with 60% and 87% of the participants indicating that the HACCP validation case studies and SPC activities would be useful, respectively. Focus group results also indicated that all topics were important to meat processors in the day-to-day management of their plans. The indicated that on-going HACCP training was important to them and that the advanced topics covered in this workshop should continue to be included in future advanced workshops. They indicated that one-day workshops were a good form of training because they resulted in a relatively small amount of time away from their business and kept them up-to-date on current issues. Based on these results, the advanced HACCP course will continue to be offered in a similar format delivered to the pilot group

- b) A survey of fifty "small" and "very small" meat and food processors in Nebraska, South Dakota, Kansas and Missouri was conducted in 2002 to assess the effectiveness of one-on-one HACCP assistance provided by HACCP specialists from the University of Nebraska-Lincoln and Kansas State University. Processors were asked questions about their current operations, HACCP training and what affects the assistance had on their operations. Thirty-four processors were not operating under HACCP prior to assistance from the universities. Following assistance, forty-four processors continue to operate under a HACCP program. Thirty-six of the processors surveyed had personally attended an accredited HACCP course. Fourteen processors had not personally attended an accredited HACCP course and only five of the fourteen processors had sent at least one of their staff to an accredited HACCP course. The surveyed processors noted that the assistance increased the amount of records kept, created changes in production and sanitation practices to increase food safety and augmented their HACCP plans to better fit their operations. Forty-seven processors stated that the HACCP assistance increased their knowledge of HACCP and its role in producing a safe product, with twenty-five processors experiencing a large increase in HACCP knowledge, twenty processors experiencing a moderate increase in HACCP knowledge and 3 processors experiencing a small increase in HACCP knowledge. Awareness of food safety issues was increased in the areas of general awareness, product handling/processing, microbiology, sanitation, HACCP, temperatures and regulations. Ninety-six percent of the surveyed processors found the assistance to be valuable for obtaining scientific and general information, assistance with HACCP plan design, technical support, and interpretation of regulations. Seventy-six percent of the processors stated that they "definitely" would use the assistance in the future for food safety issues or concerns, and 24% stated that they "probably" would use the assistance in the future for food safety issues or concerns. All processors receiving one-on-one assistance also reported that HACCP has changed practices in their facility. The biggest changes were diligent monitoring of critical control points (temperature), employee hygiene, record keeping, and handling of rework. They all learned special skills from the HACCP assistance including how to calibrate a

thermometer, understanding how pathogens grow, how to meet USDA expectations, and a general understanding of the “tools” of HACCP. They all reported that the team’s assistance made the transition into HACCP implementation very smooth.

Microbial verification of HACCP plans was conducted in some of the plants receiving one-on-one assistance. Reduction in total microbial loads and indicator organisms (generic E. coli) indicate that the HACCP plans are controlling microbial growth and contamination better than the facilities were controlling them before implementation of the HACCP plans. Microbial baselines in three of the processing facilities were established for total aerobic plate counts, coliform counts and generic E. coli counts. One week after HACCP implementation, there were approximately 1 log cycle reductions in the beef slaughter and beef fabrication facilities in generic E. coli counts. Total plate counts in all facilities decreased 1 to 1.5 log cycles after HACCP implementation. Total coliform counts either stayed the same or had small decreases after HACCP implementation. In addition in plant validation studies have indicated that microbial interventions result in approximately 1 log reduction in total aerobic plate counts. Another study with a meat chilling process indicated that no growth of aerobic bacteria when hot meat was chilled in a cold salt brine solution. These results indicate that HACCP is reducing microbial loads in the product and should result in a safer meat supply.

- c) Scope of Impact- Nebraska, Kansas, Missouri, South Dakota.
- d) Funding:
NU Cooperative Extension
Federal Formula Funds

Key Theme - Food Quality

(refers to Plan of Work Goal 3, Output Indicators 2 & 4 , Outcome Indicators 1 & 2)

- a) Nebraska is a leader in beef cattle production. Therefore bolstering consumer confidence in beef remains critical to Nebraska's economy. Equally crucial in an era of low cattle prices is improving cattle profitability all along the food chain.

The Beef Quality Assurance (BQA) program developed in Nebraska became the foundation for enrolling cattle in the Nebraska Corn Fed Beef Program (NCFB). The University of Nebraska Cooperative Extension staff played a vital roll in developing and delivering the BQA certification training sessions required participation in the NCFB program. The BQA program helps participants focus on management skills and science-based production techniques to avoid defects, improve beef quality and safety, encourage high standards throughout the industry and boost consumer confidence in beef.

- b) Approximately 4,000 Nebraska producers participated in a BQA training program, signed a personal contract to follow the BQA guidelines and are now BQA-certified. The program was delivered by practicing Nebraska veterinarians and Extension Educators that had completed the training program for trainers. These producers oversee the production management of over 95% of the fed cattle in Nebraska. Demand for BQA-certified cattle has tripled from 1998 through 2002. In 1998, 16,000 BQA-certified cattle in Nebraska were processed and sent to grocery stores and restaurants. In 2002, 52,000 over head of BQA certified cattle were marketed in to the NCFB program. The demand for cattle of this type and quality continues to be so high that approximately half of the of the cattle meeting the specifications demanded in the program are sold in premium programs other than the NCFB program. NCFB is a featured product at Whiskey Creek and

Skeeter Barnes restaurant chains.

BQA training is now available on Compact Disc format. This format reduced cost and improved the ease of program use. Over 6,000 CDs have been distributed. All the materials can found on the national BQA Internet site ([HTTP://WWW.BQA.ORG](http://www.bqa.org)) at the Nebraska link. The national BQA web site is hosted by the University of Nebraska - Lincoln.

The BQA materials from Nebraska program have been adopted as a whole or in part by 21 states and the program materials have been distributed, by request, to 40 states.

In 2002 the Nebraska BQA team begin revising all training materials. The revisions included addition of a farm and ranch biosecurity and security information and training section. These materials have been added to the current BQA training CD and will be available for distribution with the revised training manuals. The newly revised manuals, certification examinations and certification contracts will be available for distribution February 1, 2003. These materials have been reviewed by the National Cattlemen's Beef Association (NCBA) and are being considered for adoption as the training and certification materials for the National BQA Program.

In 2002, the Nebraska team received a \$15,000 grant from the NCBA for development and production of a BQA Injection Site video. The project was completed in October and the video reproduction and distribution is presently be done by the NCBA.

Financial Impact of the Nebraska Beef Quality Assurance Program.

In 2000, 32,000 NCFB cattle returned \$13.18 per carcass above market. Most of this return came from increase carcass yield. This represents \$416,000 to NCFB participants. In 2002, the financial return for the 52,000 cattle marketed was estimated to be over \$720,000 producers who met the NCFB specifications. The goal for 2003 is 70,000 cattle that meet NCFB specifications.

- c) Scope of Impact - State Specific
- d) Funding:
 - NU Cooperative Extension
 - Federal Formula Funds

Key Theme - Food Quality

(refers to Plan of Work Goal 3, Output Indicator 2, Outcome Indicator 1)

- a) The "Assuring Quality" program was implemented to achieve the following primary goals: 1) help youth understand the responsibilities involved in raising livestock for food, 2) help youth learn the technical knowledge of quality assurance, and 3) to change management practices of the youth and/or family members to be consistent with quality assurance practices. Secondary goals included: 1) volunteer development, and 2) enhancement of 4-H club programming, and 3) reaching parents that otherwise would not participate in quality assurance training for adults. The subject matter covered in "Assuring Quality" includes the basic principles that are part of the Beef Quality Assurance, Pork Quality Assurance, and Dairy Quality Assurance programs. Materials have been modified to be more appropriate for youth audiences. Related activities have been included to make the learning more interactive and experiential. Subject matter to be covered has been divided into a three year rotational program. Principles covered in the 2002 training included Livestock Daily Care and Management, and Prevention of Problems. The most often used activities were "Identification" (93% of all programs), "Reading Feed Labels" (83%), "Water

Requirements” (79%) and worksheets on “Prevention” and “Caring for My Animals” (76% each).

Resources provided to county extension staff and volunteer leaders included a Leaders Guide which contained a scripted PowerPoint presentation and accompanying experiential learning activities, a video and a youth booklet. County extension staff and volunteer leaders were trained either in-person or via satellite on the subject matter, as well as on the philosophy and logistics of presenting the programs.

- b)** Reactions of youth to the programs indicate that over 80% of the youth that attended training learned something about quality assurance practices. Approximately 90% of parents thought the programs were educational and that their children learned something important about quality assurance. The three primary goals were achieved as evidenced by these examples of practices that youth learned and/or their behavior changes:
- “Two of the older youth were able to help ear notch at our county swine weigh-in and were also instructing one of the parents on how to read ear notches” (Chase and Dundy Counties)
 - “One girl was concerned about the loading of hogs she saw at the State Fair because truckers were using hotshots, since we had talked about stress in pigs, PSE and the effects of using hot shots.” (Washington County)
 - A Holt County youth stated “This program made we want to learn more about my livestock projects. I didn’t realize giving my animals water everyday was so important.”
 - A Furnas County youth stated “I learned the importance of proper identification of my animals.”
 - “How a fat pig drinks a lot – I better fix the automatic waterers!” is how a Box Butte County youth responded to the training.
 - A parent from Cuming County reported “My children learned many things ... they now realize how much time and knowledge it takes to care for animals.”

The secondary goal of reaching parents was also achieved, as indicated by these comments:

- “I am glad I stayed. I really understand how this whole food safety issue works now.” (Gage County)
- “I even learned a few new things about quality assurance.” (Boone and Nance Counties)
- “More worthwhile program than I expected” (Lincoln -McPherson Counties)
- “This was MUCH better than what we expected. All of us learned a lot of good stuff ... very educational, even for us parents!” (Holt County)

The goals of volunteer development and enhancement of club programming are addressed by these comments:

- “I really enjoyed the training and I’m excited about doing this with my club.” (Cherry County)
- “Good programming, information that all 4-Hers showing livestock should know, makes great material for winter club meetings.” (Fillmore, Thayer and Nuckolls Counties)
- “I enjoyed the opportunity to teach this information in my club.” (Saunders County)
- “It is great that 4-H is educating youth again - this is what 4-H is all about.” (Adams County)
- “The lessons were fun to teach and the activities kept the kids interest. This is what 4-H is supposed to be all about.” (Buffalo County)

Activities for “Assuring Quality” greatly enhanced the acceptability of the program, as reactions from youth indicate that on a statewide basis, nearly 50% thought the program was fun and they learned something and 58% of parents thought the program was fun and that their children learned something. Several units reported 80% or more of the youth and parents thought the program was both fun and educational.

With approximately 60% of the extension units in the state reporting, a total of 5821 youth in the

reporting units were trained in the first year of “Assuring Quality”. Of these, 92% or over 5300 youth, attended a training session. The other 8% were older (12 - 18) youth that “tested out” of the program by taking a test that covered all the principles of quality assurance.

In approximately half the units, volunteer leaders conducted some or all of the programs.

In 20% of counties, junior leaders assisted either extension staff or volunteers in conducting the programs.

- c) Scope of Impact - State Specific
- d) Funding:
NU Cooperative Extension
Federal Formula Funds

Key Theme - Food Quality

(refers to Plan of Work Goal 4, Output Indicator 1, Outcome Indicators 1, 2, & 4)

- a) The State Specialist is part of a multi-state grant that focuses on food safety and food irradiation. An in-service was held as part of the activities of this grant. Thirty seven food and nutrition educators from Nebraska, South Dakota, Iowa, Minnesota, and Kansas attended. This topic can be controversial, so the workshop included session on risk communication, and communicating irradiation to consumers and the media. A tour of the irradiation facility was included. A video and brochure were developed by the multi-state educational team for educators to use for consumer programs.
- b) As a result of the program, 100 percent of the participants stated that in the future they plan to purchase irradiated foods. Also, participants increased their comfort level with buying and using irradiated foods (3.5 to 4.6 on a 5 point likert scale) even though they knew that irradiation is an effective method for destroying harmful microorganisms in food. Participants changed their attitude about choosing an irradiated product over a comparable non-irradiated product (3.1 to 4.1) Participants felt that current educational material are based on opinions. Materials (video, brochure, resource information and follow-up package program) provided to the educators, as part of the USDA-IFAFS grant, are science-based and content neutral.
- c) Scope of Impact - Nebraska, South Dakota, Iowa, Minnesota, and Kansas
- d) Funding:
NU Cooperative Extension
Federal Formula Funds

Key Theme - Food Quality

(refers to Plan of Work Goal 4, Output Indicator 1, Outcome Indicators 1, 2, & 4)

- a) Food Biotechnology workshop for Food and Nutrition professionals. Two workshops were conducted including teachers, extension educators and dietitians teaching benefits and potential risks of biotechnology, changes in the nutrient composition of foods produced using biotechnology, and assessment of the potential allergenicity of bioengineered proteins in foods.
- b) Attendees increased awareness of how biotechnology would affect their food, health and environment by 80% (from 13% before to 93% after the workshop). The largest change was in the

ability to identify fundamental differences between genetically engineered crops and traditional crops (3.71 before, 2.07 after - on a score of 1-high ability to 4-low ability). Attendees also improved in their ability to respond to consumer concerns about the potential allergenicity of bioengineered proteins in food after the workshop (3.71 before, 2.13 after).

c) Scope of Impact - State Specific

d) Funding:
NU Cooperative Extension
Federal Formula Funds

Goal 3: A Healthy Well-Nourished Population

Overview: (includes sections a, b, c & d)

- a) Helping Nebraskans make informed healthy lifestyle choices leading to an improved quality of life is a role for Cooperative Extension programming. Opportunities for individuals and communities to determine how they might maintain access to care and stabilize health costs is important to the viability of rural Nebraska. What follows illustrates Cooperative Extension's work to help Nebraskans build healthy lifestyles. Some of Nebraska's most needy participate in Nutrition Education Programs led by Cooperative Extension. Temporary Assistance to Needy Families (TANF) and Employment First Programs (welfare to work) programs look to the Nutrition Program (NEP) to help insure that their clients know how to eat a healthy, well nourished diet, even if limited dollars are available for food. The belief is that individuals are less likely to be ill if they are eating a healthy diet. A recent research study which included Nebraska families, shows that \$8 health care dollars are saved for each dollar put into the Nutrition Education Program. This past year 3,476 families (14,005 individuals) and 1,842 youth participated in the EFNEP program. In FSNEP 2,647 families (9,324 individuals) and 6,457 youth participated in educational programs.

Cooperative Extension developed partnerships with a variety of community agencies such as local health departments, local clinics and hospitals, and home health agencies to conduct a "Steps to Health" the walking program. These agencies assisted with organizational details, speaker support, and conducting blood pressure checks. Local businesses in some communities gave incentive prizes for persons completing the program. In the northeast area of the state, North Central Community Care Partnership offered small grants to walking programs to assist with the purchase of pedometers. In one community with an existing community health promotion program, the Steps for Health materials were incorporated into the existing program and offered community wide to persons who formed teams of walkers and earned points for their walking effort. The format for introducing and conducting the programs was individualized to each site. Length of walking program varied from six to 17 weeks.

Several counties who completed a first round of walking programs geared up for other walking programs for the fall of 2002. On the University of Nebraska-Lincoln campus, a faculty member in the Department of Nutritional Science and Dietetics planned to use the Steps for Health materials with students in an introductory nutrition class.

Awarded \$24,500 by the Department of Health and Human Services for TATU: Teens Against Tobacco Use (TATU), this youth empowerment project provided funding for county tobacco-free programming and training for 4-H'ers related to tobacco use. As a result of these projects, Nebraska teens led the following tobacco-free efforts in their communities: put up signs in local stores, work with local city council members to see if they could set up a "sting" operation to target stores that sell to underage youth, put up signs and host tobacco-free booths at their county fairs, write letters to the editor of their local newspaper to state their views on teenaged tobacco use.

In addition to the programs at camps, trained TATU Youth Advisory Council members have been using the information they have gained to build more effective tobacco-free programming in their own communities. For example, 2 of the TATU members have provided training to local elementary schools on the ills of tobacco use. In another community, a TATU member borrowed Smoker Suzy dolls and set up a display in the commons area of their high school. Another Advisory Council member worked with the local FCCLA chapter to provide tobacco-free programs to the local day care center. Another had special sessions at each of their 4-H club meetings throughout the year to inform their peers about the ills of tobacco use.

Submitted *Doing What Counts*, a curriculum for 11- 13- year-olds, focusing on tying the pillars of character to decisions related to tobacco, for jury to the National Cooperative Curriculum System.

This curriculum is being used throughout Nebraska and is now being used in two other states.

e) Total Expenditures and Full-time Equivalents(FTE):

FFY2002	Federal*	State	Local	Other	Total
Funding:	\$ 531,312	\$ 2,446,177	\$ 733,776	\$ 1,131,278	\$ 4,842,544
FTE**:					37

* FY2001-2002 Federal Formula Funds (includes Smith-Lever regular E3bc, special needs, CSRS retirement)

** Includes both professional and para-professional funded from all sources

Key Theme - Human Health

(refers to Plan of Work Goal 3, Output Indicator 4, Outcome Indicator 4)

- a) Participation in safety camps has been impressive.
 - 4,136 campers participated in 31 Progressive Farmer Day Camps. \$24,000 in sponsorships.
 - 354 youth were reached in 4 non-PF Camps/Activities. \$6,900 in grants and local funds.
 - 375 youth (ages 14-16) were certified in the tractor safety courses. \$3,750 spent on courses.
- b) Increase number of youth working or living on farms who use recommended farm safety practices.
 - Over the past two years, we have provided helmets and other safety equipment for almost 150 youth in Saunders County and put flags on almost 75 ATVs.”
 - A youth who attended the camp witnessed a tractor-train collision. The youth afterwards said, “ If the tractor driver had been to farm safety day camp he would have known not to pullout in front of a train.”
- c) Scope of Impact - State Specific
- d) Funding:
 - NU Cooperative Extension
 - Federal Formula Funds

Key Theme - Human Nutrition

(refers to Plan of Work Goal 3, Output Indicator 1, Outcome Indicator 1)

- a) Number of individuals practicing good dietary habits
 - A health and wellness support group has been initiated for African American women in one of our larger Nebraska cities. Twenty-five women have joined the support group. This group has also teamed with Health and Human Performance and each participant has support system to encourage physical activity.
 - “Food Reflections” e-mail newsletter addresses a variety of nutrition and food safety topics such as feeling fuller on fewer calories, healthy holiday eating, and sources of information. The website contains PowerPoint presentations on various subject matters such as osteoporosis and spices and herbs. The newsletter reaches 10,000 plus subscribers.
 - The web-based “On-line Dinner” curriculum received 3,000 hits.
 - Nebraska launched a three year effort focused on dietary guidelines in a program titled “ABCs of Good Health.” The program has three focuses: 1) Aim for Fitness; 2) Build a Healthy Base; and 3) Choose Sensibly. Over four thousand individuals have participated in the Build a

Healthy Base and Choose Sensibly curriculum. Participants were encouraged to establish reasonable goals. In one county 71% of the participants moderately followed the food guide pyramid for adequate nutritional intake; while 19 % fully used the food guide pyramid. Also, 50% moderately monitored their caloric intake while 19 % carefully monitored their caloric intake. Sessions have been offered to general adult audiences, parents of Head Start children, older adults at Senior Meal sites, prisoners at State correctional institutions, and youth in school settings.

- Health fairs are offered throughout the state in a variety of settings for information dissemination and to provide health screening opportunities. One health fair site reached approximately 4,3000 adults and youth. Some of the health fairs have specifically targeted minority audiences such as Native Americans and Hispanics.
- The Internet course, *Internet Independent Study Course for Early Childhood Professionals*, residing on the IANR Website is nationally recognized as an approved educational training source for early childhood professionals. The University of California at Davis has offered scholarships to early care professionals in three counties. Also, the University of Michigan has given scholarships to their participants.
- Two women's health conferences were organized by Nebraska Cooperative Extension and community partners in 2002 which reached 395 women. Topics ranged from nutrition topics to physical activity and other health topics. Most of the participants agreed/strongly agreed that the conference met their personal or professional needs. Participants indicated that new information about women's health was gained. Seventy percent of the women at one site and 50% at the other site also received continuing education credits for professional requirements.
- A health conference was held to discuss Native American health and cancer research related issues. The conference also covered topics such as heart disease, migraines, breast cancer, type 2 diabetes, smoking cessation, and financial health issues. From the 191 participants, 104 returned evaluations. Ninety-eight percent indicated that they gained new information about women's health issues and expect to use this information to enhance their personal health. Eighty percent said they would use this information to enhance their work with clients/patients. Ninety-seven percent indicated they would attend a similar conference next year.

b) Increase the number of individuals experiencing good cardiovascular health through adoption of at least one of the dietary guidelines.

- By midsummer 2002, University of Nebraska Cooperative Extension had conducted or was in the midst of conducting Aim for Fitness: Steps for Health walking programs in 26 counties. This program is part of a three-year effort to provide Nebraska communities with Extension Education programs geared toward behavior change related to the US Dietary Guidelines for Americans. Successful eating and physical activity behavior change could result in reducing risk for chronic diseases such as heart disease, cancer and diabetes.
- Approximately 2000 participants enrolled in the walking programs with completion rates of 26-53% in those counties who had completed their initial programs. Although all counties had not yet tallied their results, early reports indicated those completing the walking programs increased average daily steps by 2800-4400 steps. In one eight week program, the persons who completed the program reached 11,500 average daily steps. Participants reported a variety of health benefits including satisfaction in meeting their walking goals, toning up and losing some weight, having more energy, and breathing better. One program reported that 15 of 21 walkers who completed their final blood pressure check had lowered their blood pressure.
- "Control Your Diabetes for Life" is a new programming venture to provide education for individuals with diabetes on techniques to manage diabetes. The greatest changes in behaviors were: being able to modify family recipes, counting carbohydrates in holiday meals, scheduling holiday/celebration meals, were motivated to get a flu shot and testing blood sugars regularly.

c) Scope of Impact - State Specific

d) Funding:
NU Cooperative Extension
Federal Formula Funds

Key Theme: Human Nutrition

(refers to Plan of Work Goal 3, Output Indicator 1, Outcome Indicator 1)

a) Research indicates that people with limited incomes are predisposed to high-risk behaviors such as poor diet quality. One program that has addressed the nutritional needs of limited resource families is the Expanded Food and Nutrition Program (EFNEP).

To continue to refine and expand the effectiveness of nutrition programs, such as EFNEP, better evaluation procedures are needed to help determine the relative costs and benefits of education versus other intervention programs. A study was conducted to: 1) assess food related behaviors change in EFNEP; 2) quantify the costs and benefits to the program, to help determine its net economic impact.

b) In order to meet these objectives a six state cost benefit analysis was done which included the states of: Nebraska, Kansas, South Dakota, North Dakota, Montana and Wyoming. During the study period from October 1, 1999 to September 30, 2000, 2,071 EFNEP graduates completed both the entry and exit questionnaires, which assessed intake of food groups from the Food Guide Pyramid and several key nutrients. From this data, it is possible to determine a percentage of the entire graduating group who have improved their nutritional intake and have thus decreased their chance of disease. The food behavior checklist and 24-hour recalls revealed that a majority of EFNEP graduates made a positive dietary behavior change. The data also showed a positive trend toward an increase in the consumption of nutrients, which in turn correlated to a reduced disease risk. The study found that within the six states the EFNEP program returns a benefit-cost ratio of \$8.82 for every dollar spent on the program. This means that for every dollar that is spent on the EFNEP program that there is a projected health care cost savings of \$8.82.

c) Scope of Impact - State Specific

d) Funding:
NU Cooperative Extension
Federal Formula Funds

Key Theme - Increase the Adoption of Healthy Lifestyle Practices

(refers to Plan of Work Goal 2, Output Indicator 1, Outcome Indicator 3)

a) Using the behavior checklist and conducting entry/exit 24-hour recalls on our graduates, the Food Stamp Nutrition Education Program (FSNEP) continues to help our families improve their

nutrition, food safety and food resource management practices. The 533 graduates from our program in 2001-2002 completed the six required lessons on the food guide pyramid, food preparation, food shopping, food safety, meal planning and eating healthy for you and your family.

- b) In the area of food management practices, 38% of the graduates more often planned meals in advance, 27% compared prices when shopping, 32% less often ran out of food before the end of the month, 33% more often used a list for grocery shopping upon exiting the program. In nutrition practice area; 32% more often thought about healthy food choices when deciding what to feed their family, 28% more often prepared food without adding salt, 43% use the Nutrition Facts on food labels to make food choices and 21% reported that their children ate breakfast more often. In food safety practice area 16% more often followed recommended practices of not allowing meat and dairy foods to sit out for more than two hours and 41% followed the recommended practice of not thawing foods at room temperature. Seventy percent of the participants improved in at least one food resource management area, 73% in one or more nutrition practices and 48% in one or more food safety practice. We are seeing that our participants are entering the program with improved food safety practices so the change in improvement is not as great as might be expected.

When examining the entry and exit food recalls, there was marked improvement. Eighty-nine percent of the graduates showed improvement in their exit recall at least in one food group when compared to their entry recall. There was also an improvement in the number of servings per day from the food pyramid groups (18% at entry versus 29% at exit). An area that is still a concern for our clients was their fruit consumption. Most of the NEP clients consumed no fruits per day and even though some made positive changes, we still need to work on this area. Participants made a slight improvement in their calcium intake but over 55% still do not meet the minimum requirements per day. The participants did make positive changes from entry to exit in their iron, calcium, Vitamin A and Vitamin B-6 intake. Overall 55% had a mean adequacy nutrition ratio greater than 70 at entry and 60% had a score greater than 70 at exit. This is a good indication in the improvement of diet quality by the graduates.

Youth programming has also demonstrated an impact. A total of 6,457 youth have participated in NEP youth programs. Most of our youth programming is done in groups. Out of the 1,701 youth, who participated in programs in eating a variety of foods and the importance of good nutrition, over 68% of the youth demonstrated an increase in knowledge on why nutrition is important to good health and are eating a variety of foods. In the 1,920 youth that participated in food safety/food resource management programs, 77% improved practices in food preparation and safety and increased their ability to select low-cost, nutritious foods.

Within the adult program clients are taught at other agency sites, in small groups at community centers or individually in their homes. Clients are taught normal nutrition which includes basic nutrition, food guide pyramid and dietary guidelines, food preparation, food safety, food shopping, feeding young children, menu planning, healthy snacks, eating healthy for life, plus eating during pregnancy and feeding your infant. Lessons are taught in a variety of ways to meet the needs of the client and situation.

- c) Scope of Impact - State Specific
- d) Funding:
NU Cooperative Extension
Federal Formula Funds

Key Theme -Health Care

(refers to Plan of Work Goal 3, Output Indicators 6 & 7, Outcome Indicators 5, 6 & 7)

- a)**
 - Nineteen persons received health insurance education during 2002 as part of the second NE Rural Health Institute.
 - A hospital invited the specialist to provide a session to their local Women's Health night. Over 55 women and 2 men attended this latter session. A second session is being planned for a date in 2003.
 - Approximately 20 communities were reached in the 2002 offering of the Nebraska Rural Health Institute.

- b)** As an outgrowth to the 2001 Nebraska Rural Health Institute held in southeast Nebraska:
 - two Extension educators are participating in at least 5 health coalitions in their area
 - one person has received EMS training in an area where recruitment of volunteers is extremely difficult
 - one Critical Access Hospital is drawing new board members from the trained group to replace retiring current board members
 - some members are participating as a formation group for the multi-county health department being set up in that section of the state
 - insurance session was requested by health care industry personnel and provided at the 2002 Nebraska Rural Health Association meeting.
 - one participant joined the Health Care Policies and Education Action Team. This person added provision of health insurance information to their county fair booth. The effort brought visibility to Cooperative Extension availability.

- c)** Scope of Impact - State Specific

- d)** Funding:
 - NU Cooperative Extension
 - Federal Formula Funds

Goal 4: To achieve greater harmony (balance) between agriculture and the environment.

Overview: (includes sections a, b, c & d)

Nebraska's natural resources are critical to sustaining the state's population and economy. Abundant natural resources provide for agricultural production that is directly responsible for a majority of the state's economic activity. Approximately 50 percent of the state's land is pasture or rangeland, and nearly 40% is crop land. Agriculture's economic strength is due in part to irrigation, which accounts for over 50 percent of crop production. Responsible management of surface water and ground water resources is required to sustain the irrigated crop production base. The land and water resources of Nebraska also support a myriad of biological resources. Wildlife habitat provides for hunting, fishing, and other forms of outdoor recreation. Stewardship of Nebraska's natural resources is vital for a sustainable future and high quality of life. Nebraskans continue to expect improved management of our natural resources.

One part of Nebraska Cooperative Extension's educational effort targets youth. Each year we participate in approximately 20 water/environment festivals, many of which target 4th and 5th grade students. In 2002, ten of the festivals reported educating nearly 8,000 youth. Festivals using pre-, post-test evaluations report that test scores increase 40 to 50 percent after participation. The wildlife habitat evaluation program has helped youth learn about wildlife management and develop life skills such as decision making, teamwork, and written and oral communication.

With over 8 million acres of irrigation in Nebraska irrigation management education is important to conserve limited water supplies and protect water quality. The drought conditions of 2002 put extreme pressures on water supplies and increased production costs because of the increased costs of pumping irrigation water. Five surge irrigation demonstration sites were established in 2002. Cooperators indicated surge irrigation helped them use limited water supplies more efficiently and as a result improved their yield potential during the 2002 drought. University of Nebraska Cooperative Extension cooperates with Kansas State University and Colorado State University to deliver the annual Central Plains Irrigation Short Course. A video tape on irrigation flow measurement was prepared cooperatively with the Bureau of Reclamation and Natural Resources Conservation Service. Training materials developed by Cooperative Extension are used by Natural Resources Districts to train producers in ground water management areas across the state. Cooperative Extension is involved with many communities in their well head protection plans and provides education for agricultural producers in well head protection areas particularly targeting irrigation and nitrogen management.

Conservation buffers installed in riparian zones to protect surface water quality. Cooperative Extension is cooperating with Natural Resource Districts and Natural Resources Conservation Service to encourage the installation of buffer strips. An extension and research effort is demonstrating the use of woody ornamentals in the buffer strips. The ornamentals can help protect water quality along with producing income.

Efforts continue to develop market-based integrated farming (agroforestry) systems using woody plants that produced commercial products while at the same time protecting and enhancing the environment. Five newly established demonstrations are examining the performance of woody plants that produce commercial products (nuts, small fruit, woody florals, medicinals and handicrafts) in several integrated systems. Cooperative Extension cooperated with the National Arbor Day Foundation to deliver a SARE funded professional program on specialty woody crops. At least 20 Nebraska producers installed plantings of specialty woody crops in 2002. Other forestry related education efforts include tree care workshops, arborist seminar, and forestry shortcourse

Livestock manure management is a critical environmental issues. Several program efforts are helping producers effectively use the nutrients in their crop production enterprises. A comprehensive nutrient management plan curriculum was developed and is being using to train agriculture professionals and

producers. Recommendations for manure nutrient availability were developed cooperatively with seven manure testing laboratories. Four of the five labs doing the most manure samples for Nebraska have now implemented the recommended interpretations. It has been estimated that the used of the recommended nitrogen availability factors results in annual impact of \$3,000,000 and \$450,000 in fertilizer savings to Nebraska livestock producers.

Natural resources and environment programming will continue be a high priority for Nebraska Cooperative Extension. The programming will be provided by the Natural Resources and Environment, Integrated Crop Management, Integrated Animal Systems Management, and Community and Residential Environment Action teams. One of the challenges the teams have is the documentation of impact. The teams are able to demonstrate outputs, but have more difficulty identifying outcomes and impacts. The impacts for these programs often require long-term documentation. The following program descriptions are a small sample of program efforts having an impact in Nebraska.

e) Total Expenditures and Full-time Equivalent(FTE):

FFY2002	Federal*	State	Local	Other	Total
Funding:	\$ 752,693	\$ 3,465,418	\$ 1,039,517	\$ 1,602,644	\$ 6,860,271
FTE**:					55

* FY2001-2002 Federal Formula Funds (includes Smith-Lever regular E3bc, special needs, CSRS retirement)
 ** Includes both professional and para-professional funded from all sources

Key Theme - Agricultural Waste Management

(refers to Plan of Work Goal 4, Output Indicator 1, and Output Indicator 1)

- a) University of Nebraska Cooperative Extension in Cuming County and the Cuming County Feeders Association teamed up to form an Environmental Task Force to address the needs of beef feedlot operations related to environmental regulations. It is important for producers to understand the regulations so they can come into regulatory compliance, if needed, through the permitting process and then stay in compliance. The task force decided to conduct a general information program to explain the educational approach to the management of feedlot environmental issues and then to conduct meetings at three different levels based upon the compliance status of the feedlot. This was done by design because there are numerous issues that need to be dealt with at each level. Some producers need a general overview while others need in-depth assistance.

Level 101 was for feedlots that have not been inspected by the Nebraska Department of Environmental Quality (NDEQ). This three hour meeting was attended by fifty-three producers and focused on the initial inspection process, what to expect, the permitting process and what is involved. Level 202 was designed for feedlots that have undergone an inspection by NDEQ and are required to get a permit and comply with Nebraska's Title 130 regulations. The more we advanced the more detail we wanted to cover so with Level 202 we held two sessions in two communities. A total of fifty-two producers attended these 4.5 hour sessions that included classroom discussions well as feedlot site visits to show the things discussed in the classroom session. These programs focused on the permitting process, developing a plan, construction issues, comprehensive nutrient management planning and operation and maintenance plan.

Level 303 was designed for feedlots that have received or are about to receive State Operating Permit or have a Federal NPDES permit and need to comply with Nebraska's Title 130 regulations. This five hour session was held on-site at a larger feedlot and also included classroom discussion and a tour of the feedlot to showcase the success of this unit and reinforce what was discussed.

Thirty-one producers attended. At this program the focus was on stay in compliance with your permit and centered on record keeping. The state and federal permits as well as county zoning issues were reviewed and then time was spent on the Comprehensive Nutrient Management Plan, operation and maintenance plan and the other details related to the permit.

- b) Immediate response by the producers was very positive about our educational approach to this issue. They indicated that they learned a lot about what is expected of them with regards to environmental regulations. Several applauded the efforts of the Environmental Task Force for being proactive relative to the issues.

The 90 producers who attended at least one of the sessions were surveyed five months following the programs to evaluate the series on knowledge gained and changes made. When asked how much was learned as a result of our programs over 90% of them indicated they learned some to a great deal on: how to determine the total nitrogen and phosphorus their operation will produce, how NDEQ will figure acres needed to distribute manure; about components needed for a complete livestock operation permit. Over 80% said they learned some to a great deal on: how to determine nitrogen availability of manure and how often to sample manure and soils for planning and record keeping purposes.

When asked to estimate the value of the program to their operation, 69.6% said it was worth \$1-10 per head, 17.4% said it was worth less than \$1 per head, 8.7% said it was worth \$11-25 per head and 4.3% said it was worth \$26-50 per head. The size of feedlots at the programs were: 100-499 head = 7.4%; 500-999 = 18.5%, 1000-4999 = 44.5%; 5000-10000 = 11.1%, 10000+ = 11.1%; industry consultants = 7.4%.

Producers listed several changes they had made as a result of the program. The most listed changes were improved record keeping of manure land application and rainfall; improved yards cleaning and management. When asked to give examples of how their operations were helped they listed knowing what to expect and how to react to an inspection, more aware and organized of the permitting process, broadened perspective on what needs to be done, increased record keeping and manure management skills.

- c) Scope of Impact - State Specific
- d) Funding:
 - NU Cooperative Extension
 - Federal Formula Funds

Key Theme - Agricultural Waste Management

(refers to Plan of Work Goal 4, Output Indicator 1, and Output Indicator 1)

- a) Neighbors, the public and regulators increasingly are scrutinizing livestock and poultry operations' manure management. Producers need solid, science-based information to help them address environmental issues. Faculty from the University of Nebraska and North Carolina State co-lead a team that included experts from 15 land-grant universities that developed a comprehensive national Livestock and Poultry Environmental Stewardship Curriculum. The curriculum features 26 lessons covering environmental issues related to livestock production, from manure management and odor control to waste storage design and dietary strategies. It's available in print or on CD. Nearly 500 extension educators, agency staff, industry representatives, producers and others from 46 states, two Canadian provinces and Guam have been trained to teach this curriculum. These people lead state education programs targeting livestock producers and their advisors on environmental issues. Individual producers also can reference this information for the latest scientific recommendations

on manure management issues.

- b) This curriculum provides sound, science-based information that is helping producers nationwide improve their manure management and implement better environmental practices. A survey of participating states six months after the leader training showed that 39 states were already incorporating LPES resources into educational activities. For example, in Kentucky a task force used the information to prepare basic training materials for 60,000 farmers whose farms must meet new state water quality regulations.

An EPA official praised the quality of the information and its impact: "The team's work has had a significant impact in advancing the science of livestock management, in serving individual farmers and ranchers, and in informing state and federal regulators."

- c) Scope of Impact - Multiple states
- d) Funding:
 - NU Cooperative Extension
 - Federal Formula Funds
 - U.S. Environmental Protection Agency

Key Theme - Hazardous Materials

(refers to Plan of Work Goal 4, Output Indicator 3, and Output Indicator's 1 & 2)

- a) Industrial waste and pollution are costly to industry. Yet many manufacturers, especially small businesses, may lack the expertise to reduce, reuse and recycle in their operations. A University of Nebraska engineering internship program provides businesses with pollution prevention expertise and gives students valuable, real-world engineering experience. Through NU's 11-week Partners in Pollution Prevention summer internship program, engineering students work with manufacturers and small businesses to identify ways to reduce waste and pollution. Since 1997, 81 interns have worked with 260 Nebraska businesses, including printers, dry cleaners, car repair shops, farm cooperatives and metal finishing businesses. Each business received a confidential written report outlining recommendations, cost/benefit estimates and other information about how to reduce waste. The program gives students from Nebraska and other states practical experience, a paycheck and college credit. Manufacturers benefit from having "new eyes" scrutinize operations to reduce waste and pollution. The internship is headed by faculty in UNL's Department of Biological Systems Engineering in cooperation with NU Cooperative Extension and other agencies.
- b) Based on responses from 43 business participants, following intern recommendations each year has the potential to: divert 3.7 million pounds of solid waste from landfills; reduce hazardous waste by 24,500 gallons; and potentially save \$561,000 annually. Interns, as future biological, civil and chemical engineers, benefit by working with professionals and getting a sense of how the business world operates. They improve their technical, research and presentation skills while earning a stipend and three credit hours.
- c) Scope of Impact - State Specific
- d) Funding
 - NU Cooperative Extension

NU College of Engineering and Technology
UNL Department of Biological Systems Engineering
UNL Department of Civil Engineering
UNL Water Center
U.S. Environmental Protection Agency Region 7
Nebraska Department of Environmental Quality
NU Center for Infrastructure Research
Federal Formula Funds

Key Theme - Natural Resources Management

(refers to Plan of Work Goal 4, Output Indicator 3, and Output Indicator 1)

- a) Irrigation water is at a premium in Nebraska's Republican River Basin. The region's surface water is limited by water use agreements with adjoining states and continued drought that has shrunk reservoirs and lowered groundwater levels. Farmers need to know how to make the most of the limited water available for crops. University of Nebraska Cooperative Extension launched the Republican River Basin Irrigation Management Project to demonstrate crop yields under different irrigation timing and amounts. The goal is to increase water use efficiency for corn and soybeans by 5 percent over the next five years. In 2002, extension educators demonstrated corn's response to three water strategies – full, water miser and deficit irrigation. Full irrigation provided enough water to keep moisture stress from limiting yields. The water miser strategy focused on saving water during less sensitive vegetative growth stages and watering fully during critical reproductive growth. Under deficit irrigation, application of limited water is timed to maximize yields from water used. Plots also demonstrated ways to improve irrigation efficiency, reduce tillage and grow crops requiring less water.
- b) Reducing water use is especially important in the Republican River Valley but will continue to be significant across the Great Plains as demand for water increases. This project lets growers see first-hand how to sustain yields with less water. For example, the water miser strategy used 31 percent less water while reducing yields only 3 percent. The savings in pumping costs virtually offset yield loss.
- c) Scope of Impact - State Specific
- d) Funding:
 - U.S. Bureau of Reclamation
 - NU Cooperative Extension
 - Federal Formula Funds

Key Theme - Nutrient Management

(refers to Plan of Work Goal 4, Output Indicator 3, and Output Indicator 2)

- a) Carefully managing nitrogen fertilizer use in crop production helps cut farmers' costs and reduces chances of water pollution. For more than 20 years, University of Nebraska soils scientists have studied crop nitrogen needs and field-tested application rates in different Nebraska soils to help farmers use less fertilizer, maintain yields and protect water quality. NU fertilizer recommendations based on these findings and other research results have been taught through Cooperative Extension and Natural Resources District education programs. Efficient nitrogen use can increase farmers' profits and decrease chances of excess nitrogen leaching into groundwater. NU research indicates that producers often can reduce the amount of nitrogen applied to corn without significantly reducing yields or profits or achieve higher yields and profits with the same amount of nitrogen

applied, provided they follow established best management guidelines. This research also helped demonstrate the importance of regular soil testing and the use of accurate soil testing methods. Research also showed how best to account for all available nitrogen including what's in irrigation water, soil, legumes and manure; and provided information on improving application timing and irrigation efficiency.

- b) Thanks partly to NU research and educational efforts, Nebraska farmers are using nitrogen fertilizer more efficiently. In 1965, the state's farmers used an average of more than 1.5 pounds of fertilizer nitrogen, sometimes as much as 2 pounds, per bushel of corn. By 2000, that dropped to close to 1 pound per bushel. The Nebraska Agricultural Statistics Service estimates annual savings of \$2.7 million because of increased nitrogen fertilizer efficiency. Lower application rates also mean that more of the applied nitrogen is taken up by the crop, leaving less to leach into groundwater.
- c) Scope of Impact - State Specific
- d) Funding
NU Cooperative Extension
NU Agricultural Research Division
Federal Formula Funds

Key Theme - Pesticide Application

(refers to Plan of Work Goal 4, Output Indicator 2, and Output Indicator 4)

- a) Deciding how, when or whether to treat weeds in crops is challenging. Farmers must consider economic, environmental and regulatory factors along with the crop and weed situation in that particular field. To help growers, crop consultants and Cooperative Extension educators make better weed management decisions, University of Nebraska agronomists developed WeedSOFT software. This weed management decision-making tool incorporates NU Institute of Agriculture and Natural Resources and other states' research. Software is improved and expanded annually. The latest versions provide comprehensive ecological and economic information on weed management. WeedSOFT was introduced in Nebraska in 1992. Today it is used by at least 560 people in six states. As part of an Integrated Pest Management project to improve weed management and reduce herbicide use, researchers in several states are promoting wider use of this tool in the north central region. State-specific versions of WeedSOFT now are available for Indiana, Illinois, Kansas, Missouri, Wisconsin and Nebraska.
- b) WeedSOFT is helping producers reduce crop herbicide use and associated costs, improve weed management and reduce weed-related yield losses. A survey of WeedSOFT users in six states indicated this software is responsible for about \$13 million annually in cost savings and increased earnings for crop producers.
- c) Scope of Impact - Nebraska, Indiana, Illinois, Kansas, Missouri, Wisconsin
- d) Funding:
USDA-CSREES
North Central Regional IPM Project
NU Agricultural Research Division

Key Theme - Water Quality

(refers to Plan of Work Goal 4, Output Indicator 3, and Output Indicator's 1, 4 & 5)

- a) Groundwater and surface water along the Lower Platte River Valley of eastern Nebraska are especially vulnerable to contamination from everyday human activities because of the region's shallow water tables, sandy soil and development along the river and nearby lakes. University of Nebraska Cooperative Extension and the Lower Platte River Corridor Alliance launched the Water Wellness program to help the region's non-farm residents learn how to identify water quality risks and protect water quality. The program emphasized the importance of properly managing septic systems, hazardous waste, storm water runoff and drinking water wells. More than a dozen educational meetings provided information for residents along the 100-mile flood plain in 2001 and 2002. About 360 people took voluntary, confidential water quality risk assessments that helped them identify potential wastewater or drinking water problems.
- b) Several homeowners identified ways to keep their water supplies safer, thanks to this program. A follow-up survey showed that 42 percent of respondents took action to protect their health and the environment. They installed drinking water treatment systems and new septic systems and had their septic tanks pumped more frequently. The survey also showed participants' knowledge of safe water issues doubled as a result of the program and they were much more willing to change their practices to reduce chances of contaminating water.
- c) Scope of Impact - State Specific
- d) Funding:
NU Cooperative Extension
Lower Platte River Corridor Alliance
Federal Formula Funds

Key Theme - Water Quality

(refers to Plan of Work Goal 4, Output Indicator 2 & 3, and Output Indicator's 1 & 2)

- a) Onsite wastewater treatment systems in Nebraska serve individual homes, businesses, schools, and other public and private entities. As a result of poorly designed, installed, operated or maintained systems; or the result of aging systems; it is estimated that considerable amounts of wastewater are not being properly treated, leading to potential degradation of both surface water and groundwater quality. Public health risks include human contact with untreated wastewater and contaminated drinking water. Onsite wastewater treatment systems are a potential source of bacteria, pathogenic viruses, protozoans, nutrients, and chemical contamination of groundwater, surface water, and the land. Onsite installers are not required to complete any training, show a minimum knowledge level, or be licensed. As a result, there is a wide range of capabilities and knowledge among installers. There is a need to improve the overall capability and knowledge of installers to ensure that proper and effective wastewater treatment is achieved. To help address this need, the Nebraska On-site Waste Water Association (NOWWA) was formed. The second annual Nebraska On-site Waste Water Association (NOWWA) was held in February 2002.
- b) Participants were given the opportunity to complete a separate evaluation for each session they attended. Results showed that useful knowledge was gained and knowledge would be applied. Evaluation response to statements "My knowledge increased as a result of attending this session" and "The information in this session was useful" was 30% strongly agree, 65% agree, 5% uncertain, 0% disagree, and 0% strongly disagree. Response to the statement "I will apply the

knowledge I gained as a result of attending this session” was 17% strongly agree, 67% agree, 14% uncertain, 2% disagree, and 0% strongly disagree. Responses to questions asking what knowledge was gained and what changes would be made indicate participants gained knowledge and will make changes that will reduce environmental risks and risks to human health.

- c) Scope of Impact - State Specific
- d) Funding:
 - NU Cooperative Extension
 - Federal Formula Funds
 - Nebraska Department of Environmental Quality
 - Environmental Protection Agency, Region 7

Key Theme - Wildlife Management

(refers to Plan of Work Goal 4, Output Indicator 1, and Output Indicator's 1 & 3)

- a) Endangered least terns (*Sterna antillarum athalassos*) and threatened piping plovers (*Charadrius melodus*) nest in Nebraska on river sand bars and on gravel mine spoil piles where they are vulnerable to predation and potential conflicts with mining operations. The Tern and Plover Conservation Partnership was established in 1999 to protect these and other river birds in a way that reduced conflicts with private industry and that educated and involved local communities. The Partnership's "Adopt-a-Colony" program helps with project activities and engages local community members in endangered species management and protection issues. Volunteers help set up and take down electric fences, establish colony research plots, and monitor populations and reproductive success.
- b) During summers of 2000 and 2001, 125 volunteers adopted 14 colonies each year along the lower Platte River contributing 677 site visits and 1095 volunteer hours. Surveys returned by 55 (44%) of the volunteers showed that 97% of volunteers increased their knowledge about terns, plovers, and their habitat and 100% reported increased appreciation for the birds and river ecosystem. Most volunteers (76%) felt they could make more of a personal difference in the recovery of terns and plovers, and 61% expressed greater interest in being involved in the decision-making process regarding river issues. Also, a majority (71%) felt they had increased their knowledge of the gravel mining process and 74% agreed that gravel mining companies demonstrated concern for the environment. Volunteers discussed their experiences with an average of 19.8 people (range 4-50), indicating that they reached over 1,000 others about terns, plovers, and Partnership activities.
- c) Scope of Impact - State Specific
- d) Funding
 - NU Cooperative Extension
 - Federal Formula Funds
 - Nebraska Environmental Trust
 - Wildlife Conservation and Restoration Program
 - U.S. Fish and Wildlife Service
 - Private business

Goal 5: To enhance economic opportunities and the quality of life among families and communities.

Overview: (includes sections a, b, c & d)

There are many interrelated issues impacting youth, families and communities in Nebraska. Economically some communities in Nebraska struggle as individuals and families are impacted by a breakdown in family structure, not enough positive role models for youth and limited leadership for community decision making responsibilities and failing local economies due to drought or loss of jobs. As families, youth and communities are impacted by fast-paced technology some communities are not able to keep up and consequently are left out of becoming economically viable places in which people want to live.

Some of the research that undergirds the objectives that faculty wish to accomplish in this goal is:

- Successful community projects involve four segments of the community; business, faith, public institutions and individuals being served. Working together communities can accomplish goals that may be too difficult for any one group alone.
- Parents teach skills and model attitudes that help children become confident, responsible and caring adults.
- Couples who have strong relationships with each other are more likely to create a positive environment for children and are more likely to stay in their job.
- Families with stable financial situation are more likely to provide for current and future family needs. They are less likely to need assistance and more likely to be able to contribute to their community.

Cooperative Extension took leadership for a new statewide Fatherhood Initiative Steering Committee which is responsible for planning and implementing the annual Fatherhood conference in Nebraska. As a result of this conference: Eighty representatives from agencies that work with youth, families and communities gain information related to Fatherhood issues nationally and in Nebraska. A strategic plan for Nebraska’s Fatherhood Initiative is being developed. Nebraska is positioning itself for further work in research, technical support and statewide programming related to Fatherhood.

Thousands of individuals and families as well as multiple communities have been impacted as evident by the following impact reports.

e) Total Expenditures and Full-time Equivalents(FTE):

FFY2002	Federal*	State	Local	Other	Total
Funding:	\$ 1,948,146	\$ 8,969,316	\$ 2,690,513	\$ 4,148,019	\$ 17,755,995
FTE**:					146

* FY2001-2002 Federal Formula Funds (includes Smith-Lever regular E3bc, special needs, CSRS retirement)

** Includes both professional and para-professional funded from all sources

Key Theme - Character/Ethics Education

(refers to Plan of Work Goal 5, Output Indicator 1 and Outcome Indicators 1 & 2)

- a) Character education continues to be a high priority for Nebraskans. In fact, Nebraska Cooperative Extension is currently reaching 1/3 of all Nebraskans with CHARACTER COUNTS! programming.

In cooperation with the Department of Education, Cooperative Extension is in the third year of its

five year, comprehensive character education program. Funding secured for year 3 is \$232,896. As a result of these efforts:

Governor Johanns proclaimed Character Education week in Nebraska, citing the importance of the partnership between Extension and the Department of Education in building character statewide.

The State Character Education website continues to expand. This website provides information related to character education and available resources, including the statewide character education clearinghouse. Through this clearinghouse, entities can check out curricula, books, videos and other character education materials.

Over 25,000 youth have been involved in character education programs with at least 15 hours of contact. In addition, 122,000 youth have been reached through other character education programs including day camps, one-on-one contact with Kiwanis members, Family Community Education clubs, religious school classes, employees participating in workforce training programs, etc.

Staff development and team training has been provided to 54 communities, involving over 400 teachers, volunteers and community members for a total of 2,400 contact hours. As a result, twenty-one trained teams have submitted plans of work and have been awarded stipends to carry out local-level character education efforts.

More than 600 youth and teachers attended the Character Education Training sponsored by the Northeast District.

More than 200 teachers, administrators and community officials and agency representatives who have attended past Southeast District Character Education Conferences reached over 7,145 youth through character education program efforts.

An AmeriCorps*VISTA Character Education Program reached over 3000 youth with character education and leadership education experiences through the support of over 500 volunteers. Over \$105,00 in matching funds and in kind donations were raised.

- b) According to a Statewide Teacher Survey,
 - 50% of the teachers using CHARACTER COUNTS! program reported an increase in their students being truthful.
 - 61% of the teachers using CHARACTER COUNTS! program reported an increase in their students helping each other.
- c) Scope of Impact - State Specific
- d) Funding
 - NU Cooperative Extension
 - Federal Formula Funds

Key Theme - Character/Ethics Education

(refers to Plan of Work Goal 5, Output Indicator 3, Outcome Indicators 3 & 4)

- a) Families and youth have been taken advantage of countless community service and service learning opportunities. Statewide initiatives include 4-H CAN Fight Hunger Campaign, State Fair 4-H Citizenship Project, 4-H Camp Counseling and 4-H Centennial Celebrations. Youth and adults have serviced their communities through projects including: conducting beautification projects, helping the needy, making educational presentations, working with the elderly, supporting

community and holiday celebrations, collecting food and participating in various benefits.

During 2002, over 50 Nebraska 4-H clubs met Charter Club requirements. This is a 75% increase from 2001. Each Charter Club is required to complete at least one community service project.

In 2002, over 32,000 4-H'ers were enrolled in 4-H citizenship and civic education projects, a 452% increase over 1998.

As part of the 4-H Centennial, 38 Nebraskans pledge 1595 hours of service to their community. This involved work toward improving their community, helping younger people, helping an older person, fighting hunger and protecting the environment. During 2001-2002, 8079 youth and adults performed 85,011 hours of community service.

As part of the 4-H Can Fight Hunger Campaign, over 450 Nebraska 4-H youth and adult volunteers donated almost 725 hours collecting over 5500 pounds of food benefitting 10 multi-county and county agencies and 18 community agencies reaching well over the targeted 28 communities.

- b) According to a Statewide Teacher Survey, 55% of the teachers using the CHARACTER COUNTS! program reported a decrease in children blaming others for their problems.

Character Education participants in Dawson, Hall, Holt and Lincoln counties reported a decrease in problem behaviors such as blaming others. School officials shared that a dramatic decrease in students' failure to follow instructions or school rules, disruptive behavior, inappropriate language or obscenity, assaults and fighting.

Ninety-five percent of AmeriCorps*VISTA Character Education Program participants understood the impact their decisions had on others.

- c) Scope of Impact - State Specific

- d) Funding
NU Cooperative Extension
Federal Formula Funds

Key Theme - Character/Ethics Education

(refers to Plan of Work Goal 5, Output Indicator 3, Outcome Indicators 3 & 4)

- a) Through a collaborative effort, a 4 day Unicameral Youth Conference reached 55 youth with a hands-on legislative simulation that take several bills to committee introduction to final reading. As a result of the Unicameral Youth Conference, young people noted the following increases in civic responsibility:

The role of the citizen in public policy, 2.46 prior to and 3.85 following the training. The influence citizens have on public policy, 2.71 prior to and 4.05 following. Awareness of the role that I can play, 2.15 prior to and 3.83 following the training. Desire to become more active, 2.00 prior to and 4.05 following the training. Behavior change includes: I'll watch the news or reach the paper." "I'll think about the new laws being passed." "I am more likely to go to my senator with concerns."

Of the over 200 participating in Citizenship Washington Focus,

- 93% of participants had a better understanding of how our government functions.
- 84% of the participants had a better understanding of their civic responsibility.
- 64% of the participants had an increase knowledge of government process.

- 41% of the participants would take a more active role in the government in the future.

A desired impact of this program is to slow the rate of population decline in rural Nebraska by creating communities where there are enhanced relationships among people, increased economic opportunities, and ultimately an improved quality of life.

- b) Bench mark data is being collected for 1999. Bureau of vital statistics will be accessed as appropriate. Periodic surveys will be used to verify changes in practice and/or new practice adoption. These surveys will be supplemented by pre-post tests, end of meeting assessments and periodic follow-up to inquire about potential management changes resulting because of the educational program.

Faculty at the University of Nebraska with appointments in Cooperative Extension and Agricultural Research Division's are required to prepare annual reports which contain impact and outcomes. In Cooperative Extension these impacts are reported on the Extension Accomplishments Reporting System (EARS). EARS is an electronic program used to collect and retrieve program impacts focusing on University of Nebraska Cooperative Extension's work. The EARS system is used as a communications tool for faculty, staff, stakeholders and clientele to see progress toward achieving the outcomes that support the priority areas. Please check out the EARS website at: <http://deal.unl.edu/extension/ears/>

Secondary reports will be written for target audiences. Funding partners (county commissioners, state legislators, federal congressional delegations and agencies) will receive special emphasis for reports. This data will also be submitted for the National Impact project.

- c) Scope of Impact - State Specific
- d) Funding
 NU Cooperative Extension
 Federal Formula Funds

Key Theme - Character/Ethics Education and Communication Skills

(refers to Plan of Work Goal 5, Output Indicators 1 & 11 and Outcome Indicators 10, 11 & 12)

- a) Three Cooperative Extension Action Plan Teams partnered to plan and implement *NU for Families*. The NU for Families team received Cooperative Extension's Team Program Award and the Herb Lingren Strengthening Families Award. In 2002, bi-monthly resource information focusing on the family strengths was distributed to Extension staff and Family & Consumer Science teachers across the state. As a result of these efforts:
- Nearly 2,500 people participated in at least 3 hours of educational programs focused on the six family strengths.
 - *NU For Families* website is expanding and is beginning to be recognized nationally.
 - Cooperative efforts among the teams have expanded, strengthening the seamless approach to youth and family programming.
 - In 2002, 5108 teen volunteers served their community in a leadership role.
- b) 4-H clubs contributed 85,011 hours of community service. The economic value of this service compared was \$1,402,681.50 compared to \$108,153 in the prior year (Independent Sector).

As part of the 4-H Can Fight Hunger Campaign, Nebraska 4-H collected over 5500 pounds of food.

The hours of community service had an economic benefit of \$11,962.50 according to Independent Sector. Using the USDA serving formula of .663 cents per ounce, the food donated was worth \$3,646.50.

Through the State Fair 4-H Citizenship Program, over 100 4-H'ers participated in donating care baskets and service items, valued at over \$7,000 to local charities in 30 counties.

Youth who participated in two Nebraska Learn and Serve Conference reported over \$5,723 in money raised and grants secured to support community service and service learning projects.

c) Scope of Impact - State Specific

d) Funding

NU Cooperative Extension

Federal Formula Funds

Key Theme - Communication Skills

(refers to Plan of Work Goal 5, Output Indicator 11, Outcome Indicators 10, 11, 12)

a) Communication is the key to success for healthy relationships with family, friends, and colleagues. Every day, individuals face the challenge of being understood and accurately understanding others. Messages are most likely misunderstood by others because of two things: how the message is sent and how the message is interpreted by others. Workshops have been taught throughout the state to leadership classes, juvenile diversion classes, students, volunteer organizations, at worksites, civic groups, camps, church groups, child care provider conferences.

b) During the past year, 1033 students and 2375 adults, (total of 3408) have participated in Real Color Matrixx workshops. Through a variety of self-tests and activities, participants discover their dominant communication style and that of others, giving them a better understanding of how each personality would best communicate.

End of workshop evaluations indicate:

- 89 % agreed and strongly agreed that they have a better understanding of people and personality temperaments.
- 88% agreed and strongly agreed that they appreciate the differences in personality temperaments.
- 90% agreed and strongly agreed that they were planning to use the principles shared during the workshop in everyday life.
- 87% agreed and strongly agreed that they increased their understanding of how to more effectively communicate with others.
- 90% agreed and strongly agreed that they increased their knowledge about working with people.

Behaviors they planned to change include:

- "I plan to utilize my employees in their color."
- "I will try in incorporate all the colors for committee work and board members"

- "I will try hard to work with my children according to their color than against them as I've been doing lately."
- "I'll be more sensitive to others' personalities. I plan to be more patient with others, people that are different colors than me."

Impact statements include: (Reported by youth workforce readiness group)

- “I don’t call people names.”
- “I accept most people.
- I don’t tell them off as much.”

(Reported by youth.)

- “I can use my ‘people-loving’ in my career that I pursue.”
- “I’m very active and neat.”

(Others)

- “I have always wanted to be by myself; I know now that I am normal and that it’s ok.”
- “I will think more positively of myself.”
- “I like understanding those I work with better.”
- “I better understand the differences of my family members.”
- “I understand why my husband (green) and I (gold) always have a conflict about time.”
- “It was reaffirming that people are different, but need to be to work different tasks, and work as a team.”

c) Scope of Impact - State Specific

d) Funding
 NU Cooperative Extension
 Federal Formula Funds

Key Theme - Communication Skills

(refers to Plan of Work Goal 5, Output Indicator 11, Outcome Indicators 10 & 11)

a) “Farm Alarm” programs, “Couple Talk” internet classes, workshops for couples, multi- state inservice for professionals working with families and NebFacts were all used to help couples deal with added stress on their relationships brought on by adverse economic times. Over 500 people attended the “Farm Alarm” programs held at three different sites across central and eastern Nebraska. Approximately 70 participated in the internet course; 250 watched the multi-state inservice; 200 have accessed web-based information; 150 attended “Weathering Tough Times” workshop.

b) Key ideas learned include:

- Plan ways to communicate & work out problems
- Keep a sense of humor
- Be ready for change
- Understand/identify stress indicators
- Don’t worry about what you can’t change
- Resources available to assist those in need

Changes planned as a result of these programs:

- Talk more with spouse/family
- Value one another more
- Reassess priorities
- Be more understanding
- Take time away from the farm
- Look for humor in the everyday
- Evaluate other possibilities

c) Scope of Impact - State Specific

d) Funding

Key Theme - Community Development

(refers to Plan of Work, Goal 6, Output Indicators 6,7, 8 and Outcome Indicators 6 & 7)

- a) Entrepreneurial skills in Nebraska communities will be strengthened and new businesses will be created. The Nebraska EDGE, Nebraska Cooperative Development Center Program, North Central Initiative for Small Farm Profitability and Consumer Preference Study programs have been working with communities to develop innovative strategies to increase farm profitability, work with business plans or look at methods to expand/retain their businesses. Numbers: Total number of individuals participating in training/workshops — 916.

Business Retention - 115 businesses (112 individual business owners) in 5 communities have taken part in the Consumer Preference Study involving over 1,500 consumers during the past 12 months.

Nebraska Cooperative Development Center - thirty-six groups have received organizational development training via non structured one-on-one mentoring.

Nebraska EDGE - One hundred thirty-nine (139 individuals) (99 businesses) participated in the following small business training courses, (over 36 hours of instruction): Broken Bow, Imperial, Lincoln, Mullen, North Platte, Ogallala, Oshkosh, Tecumseh and Valentine. 76% of the businesses completed with business plans; 15% completed without plan. An additional 21 individuals started their training prior to the end of the grant and will complete in February, 2003.

North Central Small Farm Initiative - This project is in its first year and at this time we do not have any documentation as to the impact; however, we can assume that there will be impact as individuals learn better marketing strategies and expand their farming operations or create a new business. More than 30 producer clusters have been formed in Iowa, Missouri, Nebraska and Wisconsin, focusing on a wide-range of products and markets. The cluster vary in size, location and market maturity, but all share a desire to try or apply innovative strategies to increase farm profitability. There are eleven clusters in Nebraska. One example of this is the West Nebraska Grape Growers Cluster in Scottsbluff.

- b) Business Retention - Approximately 60% or 40 of the 68 businesses have made changes in the way they do business in order to increase profits.

Nebraska Cooperative Development Center - To date there are 26 new multi-owner start ups created through direct technical assistance provided by the NCDC. These start ups range in development from just being formally organized to those businesses who are up and going and are in operation. There are 13 cooperatives, 5 LLC's and 8 associations formally organized with 17 actively marketing. These multi-owner businesses directly affect an estimated 666 individuals or families in rural Nebraska. Through the creation of the businesses, two things are happening. One being the retention of farm and ranch producers on their current operation. The second is providing income opportunities for those same producers. Typically the beginning of business operations for many of the groups includes "sweat equity" for the owners of the business, in that they are the ones providing labor to get sales opportunities will allow the businesses to hire managers to run the operations. This will allow job creation in many of the businesses.

Nebraska EDGE - Ninety-nine businesses participated in the training course. On average, approximately 20% of the businesses (20 businesses) will start as a result of the training course. For example, a coffee/gift shop opened in North Platte, immediately following participation in the

EDGE training course. They attributed the course to their receiving commercial lending and expanding to a more complete product line.

North Central Initiative for Small Farm Profitability - Several of the Nebraska clusters continue to explore or have entered niche markets. One of the groups, Platte Valley Alternative Enterprises at Sutherland, is now licensed to process peppers into value-added seasonings and has received a USDA speciality crops grant. Another group, Small Farms Cooperative, based in northeast Nebraska, received a \$250,000 USDA value-added grant to explore niche markets for hormone-free beef.

NCDC at this point, doesn't have any measurements of increase in household income. Safe to say that any of the 17 in operation, with sales starting all of its new income stream.

Nebraska EDGE - Ninety-nine businesses participated in the training course. On average, approximately 15% of the businesses (15 businesses) will expand and another 42% (42%) of the businesses will revise their businesses to capture new markets or business opportunities. Individuals participate in the EDGE training course for numerous reasons: expand existing income source (38%); develop secondary income (36%), develop primary income (32%). Of the individuals who listed income as a goal, more than 50% indicated that the goal was met. *"Before completing the class, my business and financial standings were showing negative growth. As a result of the class, we have regained the negative and begun to show the growth."*

Nebraska EDGE - Using past latest employment indicators generated through participant surveys (1999-2001) participants), each new business will create/retain 1.4 full-time employees. Estimates show 15 new businesses were created, resulting in 21 full-time jobs created/retained as a result of the EDGE training courses.

"We now visit our P & L monthly and have staff meetings along with setting goals to meet on a monthly basis, which is helping us to meet our long-term goals. Our accounts receivable has doubled in the last 12 months. We did a major restructuring. Restructuring all of the financial aspects of the business, which should make around \$35,000 difference in my bottom line."

- c) Scope of Impact - State Specific
- d) Funding
NU Cooperative Extension
Federal Formula Funds

Key Theme - Community Development

(refers to Plan of Work Goal 7, Output Indicator 9, Outcome Indicator 8)

- a) The Master Navigator program has directly impacted approximately 1400 people since 1999. Through their hands-on participation in the five-week course, participants indicated that they learned how to navigate Windows 95/98 much more efficiently, utilize the web for searching for information, became more skillful at using the many features of e-mail, learned how to use some of the more advanced features of the web like discussion groups listservs, chat rooms and more.
 - Master Navigator held twenty classes with 227 participants in 2002.
 - Electronic Main Street held seven classes with forty participants in 2002. The Electronic Main Street course has had approximately 400 participants since it began in 1999. This program grew in size till 2001 with about 200 businesses participating in that year alone. In 2002 there were 40 businesses that participated in Electronic Main Street.

- b) Following are a few examples of how Master Navigator training has increased community viability:
- Teaching and assisting in new Master Navigator classes, participants
 - 4-H & Youth training in the development of 4-H Club web pages resulted in youth and adults coming together to learn how they might be able to communicate with other club members about their club meetings.
 - Volunteering to be members of the local Technology Committee
 - Two city employees that completed the Master Navigator classes scheduled two half day training sessions to teach all city employees that took these classes
 - A county government web site inspired by a county commissioner who took the Master Navigator class continues to expand with time

There have been approximately 370 businesses who participated in the Nebraska Electronic Main Street Program in the last four years. Three new businesses have started as a result of the classes. The courses give participants an understanding of e-commerce and introduce them to the many business uses of the Internet.

E-commerce:

- One-half of the businesses currently have a web presence; a high percent of these will begin or increase business on-line
- More than one-half of the businesses not having a web site plan to create their own or hire a professional developer to create one for them
- Business owners doing business online report less operational costs
- Three new businesses are starting as a result of the classes
- *"I feel like a whole new world has opened for me,"* one participant said. *"I thought I knew what was on the Internet but after taking the class, I realized I knew very little,"* said another.

Nebraska Electronic Mainstreet was recognized by the Governor during the 2000 Community Development Week.

- c) Scope of Impact - State Specific
- d) Funding
NU Cooperative Extension
Federal Formula Funds

Key Theme - Community Development

(refers to Plan of Work Goal 7, Output 7, Outcome 8)

The Master Navigator program is a community Internet training program designed to build upon local capacity in Nebraska's rural communities. It has been doing just that. Beginning in 1997, the Master Navigator program has provided Information Technology training to people in rural communities. The Master Navigator Program has trained 654 people since 1999, to become more knowledgeable and in many cases more skilled in the use of technology at home and at work. Through the six week course, participants rated the course as very useful to them.

The training consists of an optional pre-course on the use of the Windows Operating System, plus four three-hour hands-on computer classes held in the community. The Master Navigator program is a collaborative effort of Cooperative Extension Educators and staff of Communications and Information Technology, and the Center for Applied Rural Innovation. Funding is provided by the USDA Extension Service. Since 1999 the Master Navigator program has been managed by a six-member team called conNEcting Nebraska Technology. Team members are: Dewey Teel, Connie Hancock, Dorothy Davis,

- a) Over the past year, the conNEcting Nebraska Team has accomplished the following:
- Revised the Master Navigator Handbook. The handbook and CD that is provided to each participant is updated annually.
 - Applied for and received a \$110,000 grant to develop a second level of training beyond the Electronic Main Street Program. This grant from NITC provided funds to do a statewide business survey. Nebraska's Electronic Main Street: A Survey of Business Technology Use This study (funded by the Nebraska Information Technology Commission) was conducted to determine the current use of information technology by businesses in rural Nebraska as well as their future training needs.
 - Developed an on-line version of the Master Navigator Program.
 - Provided instructor training to over 60 volunteer trainers in the Master Navigator Program.
 - Developed a new web page with our own domain name. The address is <http://connecting.unl.edu>
 - Extended the Minnesota Electronic Main Street program materials to 15 Nebraska communities in the past two years. The Electronic Main Street is an on-line course that has been taught by the conNEcting Nebraska Training Team since 2000.
- b) The Master Navigator program has directly impacted over 654 people since 1999. Through their hands-on participation in the six week course participants indicated that they learned how to navigate Windows 95/98 more efficiently, utilize the web for searching for information, became more skillful at using e-mail, learned how to use some of the more advanced features of the web like discussion groups, listserves, chat rooms, and more.

Many navigators were interested in learning what went into designing a web page, so an introductory session that showed some of the very basics of developing a web page was provided in those situations. The ending Master Navigator class sessions were wrapped up with a process to develop ideas and encourage participants to make commitments on how they can provide technology leadership within their community. Some class groups have taken that responsibility to heart.

Following are a few examples of how graduates of the Master Navigator program have contributed to the advancement of technology in their community.

- Teaching and assisting in teaching new Master Navigator classes. Participants that are comfortable in a teaching situation have been able to help extension educators out by taking on the major task of teaching the class.
- 4-H & Youth Training in the development of 4-H Club web pages resulting in youth and adults coming together to learn how they might be able to communicate with other club members about their club meetings, materials to review and bring to club meetings. A 4-H Club leader/Master Navigator and local Extension Educator conducted a two series workshop. This county's web pages will be finished this following year.
- Two city employees that completed the Master Navigator Classes scheduled two half day training sessions to teach all city employees how to utilize the internet and e-mail. A total of 19 city employees took these classes in preparation for more city wide use of the internet as a communication tool among various offices and locations. The two trained Master Navigators are examining the potential of an intranet system for the city. One Master Navigator has redesigned the city web site to provide more user information.
- A county government web site inspired by a county commissioner who took the Master Navigator class continues to expand with time. This county web site has been developing into a communication tool among county employees and also clientele across the county. The average hits per day has grown from 3 hits per day to an average of 18.
- One participant in an Electronic Main Street class had the desire to learn how to build and redesign web pages and is now web coordinator for a county-wide server for a county

- technology board that provides free server space for web pages.
- Volunteer Master Navigators have also helped relieve some of the time commitment of Extension Staff in teaching Senior Citizens how to use E-mail, Internet and send photos. This audience continues to grow. According to one County Aging Services Director, "Your expertise and your Master Navigators expertise in computers provided 61 people in our county with some computer knowledge. Hopefully those with computers that are collecting dust, went home and put their new learned skills to work." Many have put their skills to work and are communicating regularly with family members.
- Participants were able to increase their usage of their personal computers for personal and business activity. One participant actually bought a computer and is e-mailing family members. Another participant indicated she refers to the Master Navigator notebook regularly and needs more education to fully utilize her computer. Two people volunteered to be members of the local Technology Committee.

Key Theme - Community Development

(refers to Plan of Work Goal 6, Outcome Indicators 6 & 7, Outcome Indicator 7)

- a) The Consumer Preference Study is a program that explores factors that affect local consumers' shopping decisions. Local consumers describe their preferences, offer opinions about business strengths, and make suggestions for improvement. These consumers also provide impressions of the general shopping environment that have an impact on economic leakage. During 2001, studies were completed in Grant, Gothenburg, and Beatrice involving 71 businesses, and 800 consumers. The cost of these studies was covered through grant funding from the Nebraska Lied Mainstreet Program and local fees. Since 1997, studies have completed in twelve rural communities across Nebraska, which has included over 250 businesses, and over 2,500 consumers.
- b) Nearly two-thirds of the businesses that participated in the study have, or plan to implement changes in their business in order to satisfy local customers, and reduce economic leakage. Many of the local merchants reported that because of the changes made, profits for were increased. Business impacts shown from post project surveys indicate that most businesses would recommend the project to others. Several merchants have used results in training sales staff, realigning their marketing to improve their image, change displays or the presentation of merchandise, and draw attention to weaknesses in plans of parent firms. Nearly all businesses involved have stated that the study was very beneficial to their business, and most have reported an increase in business income as a result of the study. Some businesses have expanded or started additional enterprises. Collaborating with the Lied Mainstreet program, further studies will be conducted in four additional communities during the next six months, bringing the total to sixteen communities.

Consumer education is also a part of the study, and each of the local consumers involved learned about locally available products and services that they were unaware of prior to the study. A general survey mailed to each of the participating consumers provides communities with information concerning where local dollars are being spent, and products and services to add in order to retain those dollars locally. Over seventy percent of the surveys mailed out have been completed and returned.

- c) Scope of Impact – State Specific
- d) Funding:
 NU Cooperative Extension
 Federal Formula Funds
 Nebraska Lied Mainstreet Program

Key Theme - Community Development

(refers to Plan of Work Goal 7, Output Indicator 7, Outcome Indicator 8)

- a) Schuyler and Colfax County has a large Spanish speaking population due to the Excel packing plant, which is the major employer in the area. Excel recognized the need to address educational issues for their employees. In October 2000 the Family Learning Center was officially opened at the packing plant in Schuyler. The purpose of the center is to provide educational opportunities to employees and all citizens of the community.

The coordinator of the learning center, and Larry Zoerb, Extension Educator in Colfax County, agreed in September 2001 to collaborate on providing some much needed bi-lingual basic computer training. The learning center provides computers and facilities for Larry Zoerb to conduct classes. An interpreter was hired. The first classes began September 11, 2001. Each class session is scheduled for one and one-half hours and a total of four sessions completes the course. Six groups of ten students each have participated thus far, with more classes planned for the future.

Students learned the basics of computer hardware and software, how to manage files, how to do word processing, basic spreadsheet, and how to use the internet. Each student was set up with an e-mail account and taught how to use it. One student, whose family lives in Guatemala, began sending e-mail letters and pictures back home. He stated that it takes from six to eight weeks for a letter to reach his family in Guatemala, but they can receive e-mail messages instantly at the bank near their home.

- b) The first group of students completed classes on September 20, 2001. Their evaluation of the class is as follows:
- 81% used the interpreter to follow the class.
 - 93% felt that the language barrier was dealt with sufficiently.
 - 93% indicated that their confidence in using a computer has much or greatly increased.
 - 56% indicate that their overall computer knowledge has much or greatly increased an
 - 44% indicate that their knowledge has somewhat increased.
 - 88% will use their computer knowledge to perform their job better.
 - 100 % feel that their computer knowledge will improve their personal life.
 - 100% will take more classes if offered and would recommend the class to others.

- c) Scope of Impact - State Specific

- d) Funding
NU Cooperative Extension
Federal Formula Funds

Key Theme - Community Development

(refers to Plan of Work Goal 6, Output Indicator 7, Outcome Indicator 7)

- a) Construction is underway for a \$30 million ethanol plant which will employ 35 - 40 people and utilize seven million bushels of corn. Husker Ag Processing, LLC. originated from a meeting of 80 people in the basement of the Antelope County Courthouse over two years ago. The participants of the meeting included farmers, business owners, county supervisors, economic development enthusiasts, and others representing six counties. The group came together to discuss value-added agriculture opportunities in the area. Due to overwhelming support to pursue the project, a nine-

member steering committee was formed to study the feasibility of ethanol production in the area. After two years of weekly meetings and hundreds of hours of planning, ground breaking for the plant was held in November of 2001.

Cooperative extension provided numerous resources to the project. Included in the resources were facts, figures and demographic data which was assembled to provide statistical information about the seven county area. This information was presented as requested at several of their planning meetings. NebGuides and other UNL resources related to the project were made available. Brochures and other handout materials to inform the general public and to promote the project were generated by cooperative extension. Such materials were also used to secure grant funds for the project. Throughout the beginning stages of the project, Extension Educator Teel, invited various resource people to the weekly meetings. As a result, the project soon became a joint effort of many groups and organizations from several counties.

\$15,000.00 was raised from local donations to conduct a feasibility study. Later, \$450,000.00 was raised through local fund-raising drives to be used for operating funds necessary to move forward with the project. They were awarded a \$75,000.00 value-added grant from the Nebraska Department of Agriculture. To make it finally happen, \$11 million was raised to be used as seed funding to begin construction of the plant.

Negotiating with communities for the most ideal site, collaborating with professionals in the industry, hiring an attorney and opening their own office were milestones along the way.

- b) By working together, the group has learned and gained many skills as a result of this process. Through their lobbying efforts and forming coalitions with other ethanol projects in Nebraska, incentives for new plants were implemented by the 2001 Nebraska Legislature. The project is a result of individuals from four counties working together on one project which will benefit many counties in northeast Nebraska. Over \$30 million will be spent in the area for construction costs. Many local citizens will be employed during the construction phase. Once completed 35 full-time jobs will be created. 7 million bushels of corn will be utilized from the area.

Partners in the project include, UNL Cooperative Extension, NPPD, DED, Nebraska Department of Agriculture, Nebraska Ethanol Authority, and many other professionals in the industry.

- c) Scope of Impact – State Specific

- d) Funding:
 - UN Cooperative Extension
 - Federal Formula Funds
 - Nebraska Public Power District (NPPD)
 - Nebraska Department of Economic Development
 - Nebraska Department of Agriculture
 - Nebraska Ethanol Authority

Key Theme - Community Development

(refers to Plan of Work Goal 5, Output Indicators 4 & 5, Outcome Indicators 5 & 6)

- a) City and county governments do not always agree on issues. But in the Panhandle, the cities of Scottsbluff and Gering and the county of Scotts Bluff all see employee training as a priority. In 2000 and again in 2001 the three public entities pooled training dollars to offer their employees four

leadership workshops each winter. The topics have included: supervisory skill development, coaching for performance, time management, basic human resource legal issues, customer service and conflict management. In 2000 approximately 160 employees participated in the program and 220 the following year.

- b) In a random phone survey of 25 participants one month following a workshop, over 68% of the respondents said they had used the workshop information in one or more situations during the past 30 days. The local delivery and unique collaborative funding allowed the cities and county to save approximately \$3,000 per session or \$12,000 for a one year, four workshop series. (savings estimation included a seminar cost of \$100 per person, mileage to Cheyenne Wyoming, and meals).
- c) Scope of Impact – State Specific
- d) Funding:
NU Cooperative Extension
Federal Formula Funds

Key Theme - Community Development

(refers to Plan of Work Goal 4 & 6, Output Indicators 4 & 7)

- a) Begun in 1996, the Nebraska Rural Poll gathers the aggregated voice of rural Nebraskans and relays its findings to state lawmakers, ensuring the rural voice is heard. Its goal is to give local and state leaders a better understanding of the issues, challenges and concerns of Nebraska's rural citizens. The Rural Poll is an annual effort that focuses on such issues as community, government policy, well-being, and work. Core questions are included every year; over time these core questions will provide insight about trends and changes occurring in rural Nebraska. In addition, each year rural citizens and government officials form an advisory committee that identifies key issues or topics to include in the survey. Poll findings are distributed to members of the Nebraska Legislature, staff members of the state's congressional delegation and other state and local leaders to facilitate their decision-making.
- b) The Rural Poll allows the voice of rural Nebraskans to be heard on various policy issues. Results from the Rural Poll have been included in testimony before several legislative committees. It also provides local and state leaders information about rural Nebraskans' opinions on various issues. Nebraska Governor Mike Johanns stated, "As Governor, I believe it is vital to stay in touch with the issues important to citizens in all parts of the state. The information compiled in the Nebraska Rural Poll will be a very useful tool as we make decisions which will affect rural Nebraska." And, Nebraska State Senator Bob Wickersham, District 49, shared, "...it tracks the shifting of opinions over time and asks about long-term concerns rather than the issue of the day. The Poll is prepared without an agenda other than the discovery of opinions about issues concerning rural Nebraskans." Rural Poll results have been cited in the Wall Street Journal, New York Times and in USA Today. Another outcome of the Rural Poll was the Nebraska Rural Development Commission's use of the data on rural Nebraskans' preferences for the future to develop its rural development strategies for the 21st century. In addition, in-depth analyses of Poll data provide a better understanding of the trends and issues in rural Nebraska. For example, data was used to write a recent article in the journal Rural Sociology that examined the factors that influence rural residents' satisfaction with their community.
- c) Scope of Impact – State Specific
- d) Funding:
NU Cooperative Extension

Key Theme Community Development

(refers to Plan of Work Goal 7, Output Indicator 7, Outcome Indicator 8)

- a) In an effort to help businesses explore the possibilities information technology holds for them, the University of Nebraska-Lincoln Center for Applied Rural Innovation (CARI) has developed the Nebraska Electronic Main Street Program which utilizes a curriculum developed by the University of Minnesota Extension Service. This program is under the management of the conNEcting Nebraska Technology Management Team, consisting of six University of Nebraska Cooperative Extension Staff. The team is responsible for the management of the community based curriculum - marketing, pricing, teaching, training the trainer. In an effort to be more responsive to the needs of Nebraska business owners, a survey of rural Nebraska businesses was conducted to determine their current technology use as well as their future training needs.

This study was funded by the Nebraska Information Technology Commission and was conducted in partnership with the Applied Information Management Institute (AIM). Self-administered questionnaires were mailed to 900 businesses in rural Nebraska. A response rate of 45% was achieved (382 completed responses were received out of the 850 deliverable surveys). The results have been compiled, analyzed and recommendations have been developed. A report entitled Nebraska Business Use of Information Technology was written to detail the results and recommendations.

The results reveal that information technologies are widely used by Nebraska businesses for a variety of business operations. Seventy-nine percent reported using a computer in their business, just over one-half (58%) of the businesses used Internet access, and 31 percent had a Web site. Overall, there were relatively few businesses extensively using many current applications of Internet technology. However, results show that the businesses expect these applications to be important to the future of their businesses. In addition, 41 percent of the businesses expected to expand or restructure their businesses using information technologies in the future. Most businesses seem eager to learn how to use information technologies in their business. Fifty-six percent said they were interested in learning how to use a computer and other information technology in their business practices.

The businesses expressed a need for a better understanding of how the Internet can benefit their businesses. They also have a desire to learn how to use information technologies in their business practices. Thus, this survey has demonstrated that well designed programs (such as the Nebraska Electronic Main Street program) are greatly needed by rural businesses. It is crucial that business owners have the knowledge of how to use information technologies to remain competitive and expand their market opportunities. The unavailability of this knowledge to support business utilization of Internet technologies poses a serious barrier to the continued adoption and diffusion of information technology among rural businesses.

- b) The results of this survey were used by AIM to develop an advanced training curriculum for rural business owners. This curriculum addresses the needs expressed by business owners in the survey. The conNEcting Nebraska team has adopted this curriculum for their use in training business owners in rural Nebraska how to incorporate technology to run their business operations more efficiently and to expand their markets globally.
- c) Scope of Impact – State Specific

- d) Funding:
 - NU Cooperative Extension
 - Federal Formula Funds
 - Nebraska Information Technology Commission

Key Theme - Community Development

(refers to Plan of Work Goal 7, Output Indicator 7, Outcome Indicator 8)

- a) Responding to a need for technology training for teachers in the Norfolk Public School (NPS) system, the Lifelong Learning Center in Norfolk along with the Cooperative Extension ConNEcting Nebraska team has adapted and customized the popular Master Navigator program specifically for educators and school systems. With funding provided by the Office of Extended Education and Outreach, a doctoral student from UNL Teachers College worked with NPS officials and Cooperative Extension staff to revise the existing Master Navigator curriculum. Sections on MacIntosh operating systems and the NPS e-mail package were added, the curriculum re-ordered, and areas of emphasis shifted to meet the needs of the school system.

The project follows the Master Navigator model of "train-the-trainer." All certified personnel in the Norfolk Public School System were asked to complete an on-line self assessment in October, 2001, to determine skill levels and guide efforts to adapt the curriculum. Additional project funding provided by the Nebraska Educational Telecommunications Commission (NETC) allowed for the development of a customized skill assessment instrument registered with Profiler, a free service available to schools, which provides individual and composite data on technology skills and gaps. From the Profiler data, eight NPS teachers and one ESU #8 staff member with strong technology skills were selected to receive initial training on the Master Navigator for Educators curriculum conducted by Cooperative Extension staff in November, 2001. They will each train an additional 10-12 teachers in the NPS system with lower skill levels in the spring of 2002. It is anticipated that a total of 110 teachers will complete the Master Navigator for Educators training by April, 2002.

The Master Navigator for Educators project with the Norfolk Public School system provides basic skill training and is the foundation of a larger scale training effort designed to assist the NPS in meeting their goal of having 60% of their nearly 300 teachers proficient in integrating technology into their individual curricula and classroom within a five-year period. As part of the NETC grant, in the summer of 2002, 32 NPS teachers received training on a software package applicable to the individual teacher's curriculum, and an additional 15 will completed a 3-credit-hour graduate level course on integrating technology in the classroom.

- b) The initial trainees were asked to evaluate the Master Navigator for Educators program at the conclusion of the last training session. When asked how valuable the training program had been in helping the teachers improve their technology skills and in preparing them to teach the curriculum to their peers, the responses to both questions averaged 4.56 on a 5-point Likert scale with 5 being "very useful". When asked if they would recommend the Master Navigator for Educators program to other teachers and school systems, 100% of responses received were positive ranging from "sure" to "definitely!" and even recommending the program for media para-professionals. Evaluation comments included, "great training," "The review of these skills was very helpful!" and "Thank you!"

The Cooperative Extension ConNEcting Nebraska team will adopt the Master Navigator for Educators curriculum and make it available to other school systems across the state.

- c) Scope of Impact – State Specific

- d) Funding:
 - NU Cooperative Extension
 - Federal Formula Funds
 - Office of Extended Education and Outreach
 - Nebraska Educational Telecommunications Commission (NETC)

Key Theme - Family Resource Management

(refers to Plan of Work Goal 5, Output Indicator 10, Outcome Indicator 9)

- a) Preventing Credit Card Blues at 22. Situation: Extensive focus group interviews asked teachers, students, college students and parents what were their concerns and programming needs related to families and consumer sciences. Results of these interviews indicated that credit card use; over use and even abuse was one of the greatest concerns for clientele. Studies have indicated that college students average owning four credit cards. Twenty percent of college graduates have amassed \$20,000 in credit card debt in addition to their college loans.
- b) Close to 500 students participated in the programs. The evaluation indicated that the students experienced a statistically significant change in their knowledge at the ($p < .05$) level on all 22 traits tested related to credit card selection, credit card use and personal identity protection. The greatest changes in knowledge and behavior were knowing the procedure to use to report a missing credit card and /or identification card, importance of protecting personal information and account numbers, that introductory offers go away once a late charge is assessed, learning that they can pay as much as five times more than the purchase price when making only the minimum payments on a purchase made using credit, understanding the risk factors of having a credit card, and the risk factors of having more than one credit card. A booklet entitled College Spending 101 was developed and distributed to 1,350 youth and their families. One student shared a month after the presentation that was valuable, especially for some of my classmates. I do not think that they have a realistic understanding of using credit and that many of them are already ‘charge-aholics’.

This program is a pilot program so the program materials and experiences shared with other staff members so they can implement the programs in high school classes in Spring 2003. Versch, Welte and Schroeder will conduct in-service trainings on the program in the fall of 2002. Other financial management for youth was also presented. 291 youth participated in doing a how to of budgeting and had the experience of being in a real life setting and spending money by doing the Real World/Real Decisions program. Of the youth that participated, 60% had began to watch how they spent their money. Of the kids that went home and discussed the College Spending 101 with their parents 71.4% rated their discussion with parents somewhat to extremely helpful.

- c) Scope of Impact - State Specific
- d) Funding
 - NU Cooperative Extension
 - Federal Formula Funds

Key Theme - Family Resource Management

(refers to Plan of Work Goal 5, Output Indicator 10, Outcome Indicator 9)

- a) *“I plan to keep track of spending and don’t charge unless I can pay it off each month. That credit card just keeps building.”* 705 adults participated in programs on Financial Management and of these people, 122 had programs on debt with credit, budget, investments and planning for the

future.

- b) Some of the results of the group that learned about investments 67% learned the importance of using a stock study tool, 50% learned the value of diversification, 83% have begun investing on their own, 66% increased their regular contributions to savings and investments. Other programs on financial management 50% talk more with family members on budgeting than before, 86% plan to do wardrobe inventory as first step, 100% set financial goals, and 77% included goal for reducing debt. A large group of 583 adults were able to experience the Poverty Simulation where they actually experience living in poverty in a community. Comments were *“I have become more sensitive to the issues people with limited resources face when trying to access community resources”*. Another participant said *“I need to examine how we are working with clientele to identify ways in which they can be more helpful and understanding.”*
- c) Scope of Impact - State Specific
- d) Funding
NU Cooperative Extension
Federal Formula Funds

Key Theme - Family Resource Management

(refers to Plan of Work Goal 5, Output Indicator 10, Outcome Indicator 9)

- a) A total of 230 adults and 514 youth participated in workshops that dealt with homeownership, energy saving, financial saving, and techniques to save at home. Energy saving ideas were one of the main topics for most of these participants.
- b) Comments: *“Personally, I have put some of these energy saving tips into practice and reduced our home energy bill by \$300. If half of the program participants (100) did the same that would mean a combined energy bill savings of \$30,000. I never knew it took so much money just to pay the utility bill.”* *“I’m going to change my habits at home and save energy.”*
Home ownership and techniques to save at home all go under owning a home. This group spent time on care of the home as well as how to budget and make it all fit together. 100% said that they had learned and gained knowledge to use when they purchased their new home.
- c) Scope of Impact - State Specific
- d) Funding
NU Cooperative Extension
Federal Formula Funds

Key Theme - Leadership Training and Development

(refers to Plan of Work Goals 4 & 5)

- a) Rural and urban communities and organizations will be strengthened through an enlarged pool of effective leaders. The pool of leadership from diverse cultural backgrounds available in Nebraska will be strengthened.

Forty two leaders from the Ord community completed the MLQ. Thirty three leaders from Cedar County were part of the program for project HOPE (Hope and Opportunity for People and the Environment), an Environmental Protection Agency funded project.

- b) Before the workshop in Ord, participants indicated that they often (36%) used Transformational leadership and 40% said sometimes. Following the workshop, their intentions were to ‘almost

always use'(40%), and often 40% Transformational leadership.

The Cedar County group indicated that they would use the transformational styles and decrease the less effective transactional styles. Three months after the training, one participant was quoted to have said "I have been using transformational leadership styles to influence the members of my cooperative to make necessary changes". Prior to the workshop, 43% of attendees reported they used the 4 "I's of Transformational Leadership Often, while 0% reported they used them Almost Always. After the workshop, 91% of attendees reported that they intended to use the 4 I's of transformational leadership Often/Almost Always. These numbers demonstrate a strong intent to change behavior. 94% of participants reported that they felt better prepared to use and practice the 4 I's of transformational leadership. As a result of the training, the City Council, Chamber of Commerce, and the Economic Development Board met together for the first time, and they plan to have a retreat where a vision for the community can be developed. Another group of community leaders who are not formally elected to office have been meeting to organize an action plan for the community without seeking formal authority. One of their activities was to organize a first winter festival for the Hartington community.

A group of rural women in Cedar county, led by one of the workshop participants, organized and published the first county wide business directory. Over 20 volunteers helped with the effort. Another group organized the successful St. James Market Place where local artists, craftsmen, and farmers market their products.

- c) Scope of Impact - State Specific
- d) Funding
NU Cooperative Extension
Federal Formula Funds

Key Theme - Leadership Training and Development

(refers to Plan of Work Goal 3 & 4, Output Indicator 3, Outcome Indicator 4)

- a) Citizenship Extravaganza exposed youth from across the state to the Nebraska lawmaking process first hand.

During the first ever Unicameral Youth Conference, 20 youth from across Nebraska participated in a 24-hour legislative stimulation that took a bill from it's introduction in a committee hearing all the way through final reading and voting. Senators, legislative aides, policy experts and governmental agency representatives coached the youth as they progressed through this hands-on, experiential process.

- b) Evaluation tools are used to get assessments of retention and application. In these data set, 1.0 has no understanding/involvement and 5.0 has almost complete understanding/involvement. In looking at understanding how the role of the citizen participation in public policy making, youth scores increased from a mean of 2.59 prior to the training to 4.36 after the training. Following the training, 100% of the youth had either quite a bit of or complete understanding of the issue.

In looking at understanding that conflict and controversy was a normal part of public policy, youth score increased from a mean of 3.90 prior to the training to 4.50 following the training. After the training, 82% of the youth had either quite a bit of or complete understanding of this concept.

When looking at the process of how a bill becomes law, youth scored a 2.77 prior to the conference compared to 4.38 after the conference. Before the conference, the youth rated their desire to become involved at 2.19 while following conference the score increased to 4.11. As a result of the conference, 84% of the participants increased their interest in politics as a career. Daily life was certainly affected in this comment - "It lets me know how to make a law and will let me know about what it takes to make a law", and, "I will pay more attention during political news on TV." What was their perception of what was learned? "I learned about the whole approach to making and passing a law", and, "I can say I learned about the budget and how a Unicameral works."

- c) Scope of Impact - State Specific
- d) Funding
NU Cooperative Extension
Federal Formula Funds

Key Theme - Nurturing Children

(refers to Plan of Work Goal 5, Output Indicator 11, Outcome Indicators 10, 11, 12)

- a) Nebraska Cooperative Extension is involved in 10 juvenile diversion programs which educated 566 youth and/or adults. Extension staff involvement varies in the programs from teaching the entire program to working with a group of community agencies to provide the program. Various curriculums are used to teach the programs but all programs are tailored to the youth and/or parents and the goals of the program. A sampling of topics covered includes: understanding and positively expressing feelings; understanding the differences in temperament; communication skills; conflict management; problem solving skills; alcohol/drug use and abuse; responsible choices and consequences; and goal setting.
- b) Youth were asked what they had learned that will help them keep from getting in trouble again. One youth response was "The program has generated more conversations about our feelings and I enjoy being around my parents more." Another stated I learned how to respect and maintain a helpful relationship with my parents." In another program some of the youth comments included: "The things that can make me make better choices in the future are the self-discipline and things that have been taught to me since this incident happened"; "As cliché as this may sound, I do sincerely thank this Juvenile Diversion program for helping my cope, deal, solve and change my ways and decision making. This program in fact, has brought my Dad and I closer in our relationship and I can't be thankful enough." Success markers used in one program reported that after three months in the program the adults had reached an average of 85% for Expect to see, 51% for Like to see, and 29% for Love to see. After three months in the same program youth had reached an average of 65% for Expect to see, 43% for Like to see, and 17% for Love to see.
- c) Scope of Impact - State Specific
- d) Funding
NU Cooperative Extension
Federal Formula Funds

Key Theme - Nurturing Children

(refers to Output Indicator 11, Outcome Indicators 10, 11, 12)

- a) Eighteen conferences were held throughout the state in the past year. These conferences reached a total of 2822 participants. Conferences are open to child care professionals, foster parents and

parents. Extension staff take on many roles in the implementation of conferences for child care professionals. They provide leadership to planning committees, organizational skills, and serve as teaching professionals providing educational workshops. In addition to conferences, 310 child care professionals participated in the satellite training series “Better Kid Care” originating from Penn State University. In addition, 410 child care professionals participated in other educational programs offered by Cooperative Extension.

- b) Evaluation data on training for child care professionals indicated that as a result of this program: 89% of the participants will almost always or most of the time, “feel more confident that my interaction with the children in my care will be more appropriate to their needs and ages”; 93% of the participants almost always or most of the time, “can provide more stimulating environments and/or activities for the children that I care for”; 86% of the participants almost always or most of the time, “ can improve the relationships with parents of the children in my care”; 94% of the participants almost always or most of the time “feel more committed to the profession of child care”; and of the participants almost always or most of the time “use positive reinforcement to modify behavior”.

One conference asked those in attendance to indicate what kind of changes they have made in their practices as a result of attending previous conferences. Those with the highest number of responses were child guidance and discipline, interaction with parents, hands-on activities for children, daily learning activities for children, and safety guidelines and practices.

- c) Scope of Impact - State Specific
- d) Funding
NU Cooperative Extension
Federal Formula Funds

Key Theme - Nurturing Children

(refers to Output Indicator 11, Outcome Indicators 10, 11, 12)

- a) Other results indicate there were 13 Children Festivals/Family Nights which reached 3126 youth and adults. Family Night is an opportunity for parents and their children to relax at the end of the day and enjoy a free meal. A presentation for parents follows while their children play under the supervision of qualified students and child care providers.
- b) This community-based parenting program for families with younger children did show 93% would try to implement skills learned with their family as a result of attending the training. “By going to family nights, I feel good about learning parenting skills. I also don’t feel guilty leaving my family, since my family is with me,” quoted a local mom.

Seven Extension Staff are involved in Family Coalitions in their communities which reach out to 5317 members of their collective communities. In one county alone \$150,000 in grant money was received in the past 4 years because of the community working together in a coalition. A comment from one of the principals after meeting on the mentoring program sponsored by the coalition was “*At last all the schools are working together, so now we can use each others resources to get more for our money and time.*”

- c) Scope of Impact - State Specific
- d) Funding
NU Cooperative Extension

Federal Formula Funds

Key Theme - Parenting

(refers to Plan of Work Goal 5, Output Indicator 11, Outcome Indicators 10, 11, 12)

- a) Teaching parenting skills is done through a variety of parenting programs: Active Parenting, Common Sense Parenting, Strengthening Families, Positive Discipline, Building Strong Families, Mother to Mother.
- b) Over 2000 have participated in at least one of these parenting programs this past year. Given the high demands on parents for their time, the fact that some are making this commitment speaks well of their desire to be effective parents. Mentoring and support groups for young mothers help them deal with daily stresses and responsibilities of parenting.

Key ideas learned include:

- Defining the strengths of a strong family
- How to better communicate with family members
- Ways to deal with stress and what causes it
- Combating peer pressure
- How important making time for family and children really is
- I'm not alone with parenting issues

Changes planned as a result of these programs:

- Talk more to grandchildren; help adult children avoid divorce
- Try to use a democratic style of parenting, be more loving and better control their anger
- To have an open, trusting relationship with my children
- To become the parent I would like to have my children become - "break the cycle"
- Have family meetings
- Will consider my children's roles equally in the family - teamwork

- c) Scope of Impact - State Specific
- d) Funding
NU Cooperative Extension
Federal Formula Funds

Key Theme - Parenting

(refers to Plan of Work Goal 5, Output Indicator 11, Outcome Indicators 10, 11, 12)

- a) As a result of mandates by judges, parents going through divorce who have minor children are required to attend *Parents Forever*, a parent education program to help parents focus on the needs of their children during the divorce process and develop a parallel-parenting plan to help arrange for time, events and unforeseen situations that occur when rearing children in two different homes. In addition, Kids Talk About Divorce is offered in some locations for the children involved. They learn about the grief cycle, positive communication, identifying feelings, and ways to stay out of the middle of conflict. A community lesson was recently developed - "Supporting Children and Their Families Through Divorce." This material is being taught in clubs and groups throughout the state. During 2002, 394 adults and 140 children completed Parents Forever and Kids Talk About Divorce.
- b) A judge stated, "Recently in Stanton, a couple had reconciled after taking the class and gave credit to the class for this. They had taken the easy way out and found that with a little communication they could actually succeed as a couple. The biggest winner is their 5-year old daughter. In a second case, the father at the final hearing who along took the class felt that he learned much from

class and that it would help him as a father and ex-spouse. Good job!"

2% remarriage has occurred

2% divorces have been dropped

100% adults have recognized the effect of divorce on their children

100% adults are exposed to parenting skills they may never have learned

The use of the parallel parenting plan has shortened the length of time fighting custody and financial issues. Judges have seen a reduction in the number of families in court after the divorce with "Custodial issues." A minimum of \$1000 savings per family would be saved if the suggestions of the class are followed and the parallel parenting plan is used. With numbers of families already educated by this program, at least one half million dollars or more may have been saved for priority family needs. Courts will also be able to report a savings in reducing the number of cases on the docket for "modifications."

Judges also note a reduction in the number of parents who drag the cases out in court making it easier for the family to move forward with the needs of their children instead of trapping them in the middle of bitter custody battles. A financial impact for the family and the court system is noted saving thousands of dollars in legal fees and for the families and clearing the court docket for other cases.

c) Scope of Impact - State Specific

d) Funding

NU Cooperative Extension

Federal Formula Funds

B. STAKEHOLDER INPUT PROCESS

A. Actions taken to seek stakeholder input

Cooperative Extension's eleven action teams (Building Strong Families; Community and Residential Environment; Community Resource Development; Food Safety; Health Care Policies and Education; Health and Wellness Education; Integrated Animal Systems Management; Integrated Crop Management; Leadership and Public Issues Education; Natural Resources and Environmental Management; 4-H Youth Development) are required to involve a minimum of five key stakeholders (determined to represent a significant population, organization or be a key political leader) for program input on an annual basis. During 2002 the action teams exceeded the minimum goal because over eighty key partners/organizations (in addition to the 2000+ involved in the 4-H planning process) participated in either a face-to-face meeting, telephone or written survey. The questions asked of stakeholders included:

1. Does the action plan address "real world issues"
2. Does the action plan represent work which is complementary, but not duplicative, of work of other educational entities
3. Are the goals clearly written, complete and appropriate
4. Are the outcomes to be achieved stated in measurable terms
5. Is there an element of risk included
6. Are there potential collaborators
7. Can the proposed action plan be accomplished with the constraints of resources
8. Are you aware of potential sources of grant/contract funding
9. Are there program elements that should be identified for reduction or elimination

Additionally, some action teams asked stakeholders to become members of their Cooperative Extension action team. At least three of the action teams, Leadership and Public Issues Education, 4-H Youth Development and Community Resource Development added external stakeholders as team members through this request.

B. Brief statement of the process used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them.

Several venues are used to identify individuals and groups who give input to the programming process.

- Each of the eleven action teams are required to have input to revise their plans on an annual basis to reflect the input of key stakeholders. It is the responsibility of the teams to identify at least five external stakeholders that are familiar with the subject matter and the related issues impacting citizens of the state. Generally these stakeholders are representatives of organizations/agencies that partner with Cooperative Extension. Stakeholders this year represented over eighty different agencies/organizations with whom Cooperative Extension works. As an example, the Community Resource Development (CRD) action team included the following stakeholders in their program decision making process:

Nebraska Department of Economic Development
President of Diode Communications (telecommunications company)
Past-Chair, Nebraska RC & D
Manager, KRVN Radio
NMPP (Nebraska Municipal Public Power)
USDA Rural Development
Five Rivers RC & D
Nebraska State Senator

The Community Resource Development team surveyed individuals involved in adding telecommunications capabilities to communities statewide. This is a critical issue being addressed by the CRD team.

Over 2000 youth and adults provided input to the 4-H Youth Development action plan. As part of the 4-H celebrations across the state, 60+ focus groups were held. From these discussions five themes emerged to guide the action plan for 4-H Youth Development.

- Cooperative Extension Action teams plans and department action plans are routinely compared to insure congruent. It is our expectation that action team leadership dialogue routinely with department heads/faculty to insure integration of program goals.
- It is estimated that approximately 10% of the 80+ individuals representing organization, agencies or businesses were minority.

C. How collected input was utilized

Minutes of meetings and reports submitted by the action teams indicates that while generally seen as on track, modifications were made to make the plans of work more inclusive of similar goals of other agencies. The general tone of comments of stakeholders was that action teams were focused on high priority issues. Cooperative Extension was requested to not duplicate programming of other entities. (Action teams are working to insure that they partner as appropriate to avoid duplication of effort). This confirmation by stakeholders of high priority issues being addressed, verifies that the “continuously listening” model of Nebraska Cooperative Extension is working.

Stakeholder suggestions included additional marketing of educational programs, involving stakeholder organizations as partners in the delivery of educational programs.

Additional themes heard from stakeholders that are being utilized in the delivery of action plans:

- Cooperative Extension needs to be able to respond rapidly. Extension needs to be able to provide educational opportunities as the needs change.
- Train public to use newest technology. Extension needs to use more of its technology to bring programs and information to small rural communities (many technology programs have been added)
- Deliver more programs through technology (more distance education being used through satellite, polycoms, internet)
- Increase the number of partnerships to deliver programs
- Increase the speed with which research data is distributed through Extension channels

D. Is the Stakeholder Input Process Useful

Nebraska deems the stakeholder process useful because:

- Over 80 Nebraska entities learned more about Cooperative Extension's plan of work ensuring that public awareness of programs continues to be built
- Input substantiates the future trajectory that programs are taking
- Co-sponsorship of programs with other entities becomes more likely as agencies/organizations learn about programs
- Collaborating organizations become program participants as they learn about programming and enroll their staff for education events
- Collaborating organizations serve as a source of matching funds to deliver programs

C. PROGRAM REVIEW PROCESS

The eleven action teams are required to update their plans on an annual basis using the input of stakeholders and the evaluation results from programs delivered.

D. EVALUATION OF THE SUCCESS OF MULTI AND JOINT ACTIVITIES

A. Did the planned programs address the critical issues of strategic importance, including those identified by the stakeholders

Input received from over 80 stakeholders (in addition to the 2000+ involved in the 4-H planning process) who were involved in a review of action team plans verify that the critical issues impacting Nebraskans are being addressed. Nebraska uses a “continuous listening” process for its planning effort. This system insures that the plan of work is reviewed and updated regularly. The accuracy of the action plans is verified by:

- Action teams meet face to face at least twice annually
- Several action teams use monthly phone bridge calls to insure that they are on track
- Action team leaders meet with subject matter department administrators annually to insure that the goals of the action teams are in congruence with research and extension goals of the University departments
- Action teams meet with their stakeholders

B. Did the planned programs address the needs of under-served and under-represented populations of the state

Below are examples of programs initiated through input of stakeholders to address needs of under-served and under-represented populations.

- The Preventive Health and Wellness Education action team exemplifies the work that is being done to impact under-served and under-represented populations. Through input from Department of Health and Human Services stakeholders who are case managers for welfare to work families a new program was implemented to educate welfare to work families, primarily single mothers. This welfare to work program called Building Nebraska Families (BNF) works one-on-one with the most difficult of the families moving off of the welfare roles. Eleven FTE of Extension Educators have been hired through a contract with the Nebraska Department of Health and Human Services to work with these families. BNF is one of three programs nationally being studied by Mathematica as the best addressing the needs of welfare to work families. Program graduates say that, thanks to the program, they feel better about themselves, improved their time management and problem solving skills and are able to earn more money at their jobs. For example, one graduate said the program gave her a chance to learn and get her life settled. "Without your program and my will to make it succeed, I would be nowhere," she said. "I don't know how I could ever repay you for the knowledge and courage you have helped me find in myself." Additionally the Preventive Health and Wellness Education action team met with stakeholders interested in issues related to aging of the state's population. The aged person, and the community infrastructure to support them will be the target for increased programming as a result of stakeholders indicating the need for a program emphasis in this area. A six month study is being completed by an Extension Specialist to determine how Nebraska Extension can best respond to the need of aging populations.
- University of Nebraska Cooperative Extension has built a strong partnership with Little Priest Tribal College and during 2002 an Extension Assistant was hired to work with Native American youth. This Extension Assistant is housed at Little Priest.
- An Extension Assistant in Dawson county continues to work with hispanic youth as a target effort to increase hispanic youth leadership skills.

C. Did the planned programs describe the expected outcomes and impacts

Goals identified in the five year plan of work submitted in 2000 which includes output and outcome indicators, as well as proposed impacts, are used as planning tools. At least three times during the year, the action teams were reminded that they were to collect impact data based upon the indicators identified. Some of the action teams are embarking on a process to collect this data through their web sites. It is generally felt that planned programs addressed the expected outcomes.

D. Did the planned programs result in improved program effectiveness and/or efficiency

Documentation of program impacts reinforce the effectiveness of Nebraska's Cooperative Extension program. Several impact reports (Connect and Connections) developed for stakeholders are included with this document to substantiate the difference that Extension programs are making.

Efficiency is seen in the increasing number of multi-action team, multi-department and multi-state educational programs that are being delivered. Efficiency is exhibited by the Educators and Specialists as they continually work to develop programs that can be delivered in multi sites, using multi mediums. The aggressive efforts of faculty to use electronic media to deliver educational programs is helping achieve efficiency but more importantly is allowing program clientele to participate in programming on their own time and in their own space. There is an effort in Nebraska to have Educators focus their program efforts in one or two subject matter areas.

E. MULTISTATE EXTENSION ACTIVITIES

**U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
Supplement to the Annual Report of Accomplishments and Results
Multistate Extension Activities and Integrated Activities
(Attach Brief Summaries)**

Institution: **University of Nebraska Cooperative Extension**
State: **Nebraska**

Check one: Multistate Extension Activities
 Integrated Activities (Hatch Act Funds)
 Integrated Activities (Smith-Lever Act Funds)

Estimated Costs

Title of Planned Program/Activity	FY 2000	FY 2001	FY 2002	FY 2003	FY2004
Goal 1:	<u>\$ 608,074</u>	<u>\$ 660,074</u>	<u>\$ 516,418</u>	<u>\$ 516,418</u>	<u>\$ 516,418</u>
Integrated Crop Management					
Integrated Livestock Systems Management					
Integrated Pest Management					
Sustainable Agricultural Production Systems					
Goal 2:	<u>\$ 123,641</u>	<u>\$ 128,587</u>	<u>\$ 154,977</u>	<u>\$ 154,977</u>	<u>\$ 154,977</u>
Pre and Post Harvest Plant and Animal					
Food Safety					
Food Processing and Food Service					
Management Food Safety					
Goal 3:	<u>\$ 10,131</u>	<u>\$ 10,536</u>	<u>\$ 13,499</u>	<u>\$ 13,499</u>	<u>\$ 13,499</u>
Human Nutrition, Health and Safety					
Health Care					
Goal 4:	<u>\$ 100,679</u>	<u>\$ 104,706</u>	<u>\$ 460,998</u>	<u>\$ 460,998</u>	<u>\$ 460,998</u>
Natural Resources Management and					
Protection					
Environmental Protection					
Environmental and Natural Resources Policy					
Goal 5:	<u>\$ 284,675</u>	<u>\$ 296,062</u>	<u>\$ 368,873</u>	<u>\$ 368,873</u>	<u>\$ 368,873</u>
Family Strengths					
Telecommunications for Rural Areas					
Community Strengths					
Total	<u>\$1,127,200</u>	<u>\$1,179,200</u>	<u>\$1,514,765</u>	<u>\$1,514,765</u>	<u>\$1,514,765</u>

Elbert C. Dickey
Dean and Director

March 31, 2003
Date

E. MULTISTATE EXTENSION ACTIVITIES

Goal 1

Most of the multistate activities outlined in the Plan of Work to support the Integrated Crop Management, Integrated Livestock Systems Management, Integrated Pest Management, and Sustainable Agricultural Production Systems are continuing. Some highlights include:

- Cropping systems program coordination among Extension faculty in Kansas, Nebraska, South Dakota, and North Dakota. A joint inservice training was conducted in 2002 and another is being planned for 2003.
- The four state commercial horticultural workshop continues to be held at St. Joseph, MO for producers in Nebraska, Kansas, Iowa, and Missouri.
- The 2002 Central Plains Irrigation Shortcourse was hosted by Nebraska, Kansas and Colorado State University.
- Nebraska continues to provide leadership for the Livestock and Poultry Environmental Stewardship curriculum project. Fifteen states are involved in this national education program. The program team provided training in 2001 for state teams.
- The 18th annual Four State Beef Conference was held in 2002. Nebraska, Missouri, Kansas, and Iowa cooperate to plan, conduct and host this event.
- Nebraska took a leadership role in the Five State Dairy conference during 2002 with support from Illinois, Iowa, Minnesota, North and South Dakota.
- Nebraska has been instrumental in the planning for Integrating Forage and Livestock workshops with Illinois, Iowa, Indiana, Kansas, Missouri, North and South Dakota, and Ohio.
- Nebraska continues to provide leadership for a Four State Sugarbeet-Bean Group consisting of teams from Colorado, Montana, Nebraska and Wyoming.
- Nebraska serves as the host institution for the North Central Sustainable Agriculture Research and Education (SARE) program. The interaction among the twelve North Central states' extension programs in carrying out the SARE Professional Development Program adds value to each of the individual state programs.

Goal 2

Most of the multi-state activities outlined in the Plan of Work to support the Pre and Post Harvest Plant and Animal Food Safety, Food Processing and Food Service Management are continuing. Some highlights include:

- Nebraska continues to provide leadership in HACCP and Food Safety programming by developing videos for use in meat processing facilities to train employees. English, Spanish, Korean, Vietnamese and Chinese versions were produced and distributed to all small meat processors in the United States.
- Cooperation since 1993 between Kansas and Nebraska Food Safety faculty members has delivered workshops to Kansas and Nebraska Processors. A special emphasis has been placed on providing low cost workshops for small and very small meat and poultry operations (less than 500 employees.) To meet this need, Cooperative Extension recently organized a team of faculty at Nebraska and Kansas State to obtain funding to expand HACCP training and to include Cooperative Extension in Missouri and South Dakota in these programming efforts.
- Nebraska has been instrumental in inservice education of consumer food safety and food irradiation along with Arkansas, California, Florida, Kansas, Minnesota, Pennsylvania and Texas.

Goal 3

Most of the multi-state activities outlined in the Plan of Work to support the Human Nutrition, Health and Safety and Health Care are continuing. Some highlights include:

- Extension specialists working in air quality have developed and maintained a multi state program between Kansas State and Nebraska.
- In service education for Nebraska, Kansas, South Dakota and North Dakota have focused on learning skills for evaluation of programs. Approximately twenty-five Extension faculty members participated in an annual inservice education program sharing skills and program resources.
- An Extension specialist serves as editor of the ten states mountain region for the development and distribution of an annual report for the Food Stamp Nutrition Education program.

Goal 4

Many environmental issues are not state specific and require that educational programs be multi state based. Nebraska continues to be active in multi state programming. Some key examples are:

- The atrazine education program in the Blue River Basin of Nebraska and Kansas is continuing. The upper Blue River Basin is in Nebraska and the drainage flows into Kansas. Atrazine levels in the lower basin are an issue because the water is used for drinking water supplies. Kansas State University and the University of Nebraska continue joint research and extension programs to address the issue. Inservice education has been provided for extension educators and workshops and tours targeting producers have been conducted.
- The University of Nebraska, University of Missouri, Kansas State University, and Iowa State University cooperated to prepare a regional water quality coordination proposal for to CSREES in 2002. Although the proposal was not successful, the four states continue to interact on water quality issues. A proposal will be prepared in response to the 2003 request for proposals when it is issued.
- Nebraska has taken the lead in drought mitigation education working with Colorado and Wyoming.
- The 8th annual North Platte River Basin Water Policy Conference was held in 2002. The conference was organized by the University of Nebraska and co-sponsored by the University of Wyoming and irrigation districts in Nebraska and Wyoming. The conference has continued to address issues associated with the Platte River Cooperative Agreement proposals. Key issues are water supply and critical habitat for endangered species.
- The “Prevention and Control of Wildlife” handbook was edited by faculty members from the University of Nebraska and University of California and a USDA-APHIS staff member. The handbook continues to be used as a major resource to address wildlife damage management throughout the United States, Canada, Mexico and other countries.
- With the issue of prairie dog infestations across the country the Interagency Prairie Dog Coordinating Committee has been conducting inservice training, presentations and producing publications and guides. Committee members represent Arizona, Colorado, Kansas, Montana, Nebraska, North and South Dakota, New Mexico, Oklahoma, Texas and Utah.
- Four states (Iowa, Nebraska, North and South Dakota) are involved with enhancing natural resources education for Tribal Colleges. You will see this effort increasing over the next few years.
- Nebraska hosted the 5th Annual Winery and Grape Growers Forum partnering with Colorado, Illinois, Iowa, Kansas, Missouri, South Dakota, Wisconsin and Wyoming.

Goal 5

Most of the multi-state activities outlined in the Plan of Work to support Family Strengths, Family Housing, Telecommunications for Rural Areas and Community Strengths are continuing. Some

highlights include:

- Nebraska led in the development and production of Weathering Tough Times inservice training satellite conferences for families and communities dealing with the stress of drought conditions in a coordinated effort with Iowa and Kansas.
- An Extension housing program including Nebraska, Kansas and Iowa is focused on helping clientele receive immediate responses to housing questions. A 800 number telephone response program is organized by Extension faculty in these states to save time answering questions.
- Efforts began in 2000 on the Initiative for Future Agriculture and Food Systems project titled “North Central Initiative for Small Farm Profitability.” This effort will be conducting research and education aimed at improving the profitability and competitiveness of small and mid-sized farms and ranches. Producer clusters will be formed in the participating states of Nebraska, Iowa, Missouri, and Wisconsin to put research results into action in the cluster communities.
- An Extension faculty member serves as a member of the leadership team for the North Central Extension Leadership Development program.
- An Extension faculty member and an Extension faculty member at the University of California Davis produce a monthly newsletter that is distributed electronically and in hard copy. The newsletter, “The Ups & Downs of Parenting Adolescents,” continues to gain national visibility.
- The NxLevel course, “Tilling the Soil of Opportunity,” was introduced in 2000 as a curriculum for agriculturally based entrepreneurs. The curriculum is specifically designed for the producer searching for innovative ideas and enhance marketing opportunities. Direction for the development of the curriculum was provided by the University of Nebraska’s Center for Applied Rural Innovation and the University of Colorado at Denver’s Colorado Center for Community Development. Inservice training for faculty in interested states started in 2000 and continued in 2002.
- Nebraska Cooperative Extension continues to partnered with the University of Nebraska State Museum to develop the Wonderwise 4-H project, a series of informal science education modules that focus on bringing engaging science activities to youth, especially those in rural communities. The project were piloted in eleven states (Nebraska, Kansas, Oklahoma, Wyoming, Montana, North Dakota, South Dakota, Michigan, Minnesota, Illinois, and Iowa) reaching an out-of-school audience of over 284,000 youth enrolled in 4-H camps, clubs, and special programs. The goals of the Wonderwise 4-H project are 1) To motivate 8- to 12-year old youth, particularly girls, to pursue an interest in and awareness of scientific activities and careers, 2) To create a positive image of women and minority scientists for youth participating in 4-H, 3) To improve the diversity and quality of 4-H’s out-of-school science materials by offering materials that are inquiry-based, multicultural, and tie science activities to the work of real scientists, 4) To help youth make connections between agricultural topics and their underlying scientific principles, and 5) To instill in youth a better appreciation of empirically-based knowledge and enhance children’s ability to use scientific reasoning. Each Wonderwise 4-H project module focuses on one woman scientist and one science topic, and includes an activity book package, a video, and a CD-ROM. The project started in May, 2000 and six new projects will be introduces starting in 2003.
- In a unique coordinating effort between Nebraska, New Mexico, North Carolina, and Minnesota youth from around the country can participate in a virtual 4-H camping experience through goCybercamp.org. This adventure allows youth from all 50 states to participate in various 4-H camp activities right from their own home or school, meet new friends, share a virtual cabin and project interests while learning about nature, natural resources, nutrition, safety, along with many other camping experiences.

F. INTEGRATED RESEARCH AND EXTENSION ACTIVITIES

**U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
Supplement to the Annual Report of Accomplishments and Results
Multistate Extension Activities and Integrated Activities
(Attach Brief Summaries)**

Institution: **University of Nebraska Cooperative Extension**
State: **Nebraska**

Check one: Multistate Extension Activities
 Integrated Activities (Hatch Act Funds)
 Integrated Activities (Smith-Lever Act Funds)

Estimated Costs

Title of Planned Program/Activity	FY 2000	FY 2001	FY 2002	FY 2003	FY2004
Goal 1:	<u>\$ 550,116</u>	<u>\$ 549,514</u>	<u>\$ 612,025</u>	<u>\$ 612,025</u>	<u>\$ 612,025</u>
Integrated Crop Management					
Integrated Livestock Systems Management					
Integrated Pest Management					
Sustainable Agricultural Production Systems					
Goal 2:	<u>\$ 66,244</u>	<u>\$ 64,264</u>	<u>\$ 51,236</u>	<u>\$ 51,236</u>	<u>\$ 51,236</u>
Pre and Post Harvest Plant and Animal Food Safety					
Food Processing and Food Service Management Food Safety					
Goal 3:	<u>\$ 22,139</u>	<u>\$ 21,450</u>	<u>\$ 23,123</u>	<u>\$ 23,123</u>	<u>\$ 23,123</u>
Human Nutrition, Health and Safety Health Care					
Goal 4:	<u>\$ 307,018</u>	<u>\$ 289,356</u>	<u>\$ 322,006</u>	<u>\$ 322,006</u>	<u>\$ 322,006</u>
Natural Resources Management and Protection					
Environmental Protection Environmental and Natural Resources Policy					
Goal 5:	<u>\$ 156,006</u>	<u>\$ 178,748</u>	<u>\$ 188,895</u>	<u>\$ 188,895</u>	<u>\$ 188,895</u>
Family Strengths Telecommunications for Rural Areas Community Strengths					
Total	<u>\$1,101,523</u>	<u>\$1,103,332</u>	<u>\$1,197,285</u>	<u>\$1,197,285</u>	<u>\$1,197,285</u>

Elbert C. Dickey
Dean and Director

March 31, 2003
Date

Below are a few examples of integrated Research and Extension activities.

Goal 1

Activity: Integrated Crop Management

A new industry based on chicory is emerging in Nebraska's Panhandle, which now boasts the nation's only chicory processing plant.

Chicory's development as a new Nebraska crop is based largely on research by agricultural scientists at NU's Panhandle Research and Extension Center at Scottsbluff. Since 1995, IANR researchers and extension specialists have studied chicory's potential.

Chicory is a root crop that is used as a pet food ingredient. It's widely grown in Europe but not in the United States.

IANR research determined how best to plant, tend and harvest chicory. It showed it could be profitably grown in the region and found that western Nebraska can produce chicory that meets or exceeds the best grown in Europe. The IANR team worked with area farmers and businesses to help establish a fledgling chicory industry.

In fall 2001, U.S. Chicory, a private company, opened a chicory processing plant, the first in the Americas. The plant processed 950 acres of chicory grown by four farmers and IANR researchers in 2001 and again in 2002.

The \$2 million plant employed 25-30 people when it opened. Employment is expected to grow 50 to 75 people when the plant reaches capacity within four years. Panhandle chicory production is expected to increase to 5,000 acres by 2003 with the potential for 10,000 acres by 2005. Yields average 19 tons of root per acre and bring about \$55 per ton. If 10,000 acres were planted, growers would gross about \$10 million.

Activity: Integrated Livestock Management

Contrary to popular belief, staying put is best for feeder pigs in a wean-to-finish operation. For producers, this saves time and might improve profits.

Variations in pig weight can increase the time needed to get pens of pigs to market weight and can hurt sale prices. To combat this problem, many producers overstock pens at weaning, remove the lightest pigs from a pen about three weeks later and remix them with other lightweight pigs in hopes of enhancing performance.

Research by an IANR animal scientist at the Northeast Research and Extension Center showed it's best to leave the pigs in the same pens.

He found that moving and remixing lightweight pigs doesn't improve performance or decrease variation in pig weight at slaughter.

Results show that even though a pig may be smaller than the rest of the pigs in the pen, pigs are better off

staying with their penmates. Removing and mixing also had no effect on daily gain, feed intake or carcass characteristics.

These research results are already incorporated into extension education programs and are being shared with producers in a variety of ways, including field days, news releases, and special program events.

Activity: Integrated Pest Management

Its purple flowers look innocent enough but purple loosestrife is silently killing thousands of Midwestern waterways and wetlands. This invasive weed offers no value to wildlife, interrupts fishing due to its thick plant growth above and below the water's surface and chokes out native vegetation.

An estimated 15,000 acres in Nebraska are already lost to this plant, mostly along the main rivers and waterways. Integrated management approaches to stop this noxious weed's spread, including mowing, disking, biocontrols and herbicides are being studied.

The research has shown that a combination of herbicides and introducing loosestrife's natural enemy, the galerucella beetle, appears to be the most effective approach. The research effort has included working with county weed superintendents to gather and assess information to find the best integrated approach for combating the weed.

The first extension education efforts had the objective of creating a public awareness of the purple loosestrife problem. These efforts included media releases and public seminars. The seminars targeted county noxious weed authorities, crop consultants, Nebraska Game and Parks Commission staff, USDA-NRCS employees, extension educators and key ranchers and farmers.

The research effort continues and control strategies are starting to be implemented. It is expected that purple loosestrife will not be completely eliminated, but the research and education efforts should enable its reduction to acceptable levels.

Activity: Sustainable Agriculture Production Systems

The North Central Initiative for Small Farm Profitability is a four-state, multi-institutional effort designed to improve the profitability and competitiveness of small and mid-size farms in the Midwest. Partners in the USDA funded project include Iowa State University, University of Wisconsin, University of Missouri, University of Nebraska-Lincoln, Center for Rural Affairs, Michael Fields Agricultural Institute, and Practical Farmers of Iowa. Key to the initiative are producer clusters working with researchers to put science-based, market-driven results into action.

More than 30 producer clusters have been formed, including 11 in Nebraska, to provide practicality and relevance to the initiative's objective of increasing farm profitability. Cluster members are working on everything from direct marketing of meats and vegetables to exploring the profitability of raising grapes, nuts, and fish.

Faculty in the four states, ranging from food scientists to ag economists to sociologists, are working as teams with these farmers. Market research is an integral part of the initiative. The team has completed 32 case studies.

Recent results highlighted the potential for supplying locally grown wheat and barley to craft breweries, producing specialty cheeses or selling locally grown food to groceries, restaurants and consumers. This

effort is providing small producers with market research and other information traditionally available only to bigger businesses at high cost. Producers are using this information in their value-added businesses to improve their chances of success. For example, technical assistance from the initiative helped a Sutherland producer group become licensed for pepper processing and led to creation of a Web site advertising the product.

Goal 2

Activity: Pre and Post Harvest Plant and Animal Food Safety

Beneficial bacteria might help reduce dreaded *E. coli* 0157:H7 in feedlot cattle.

IANR research shows that selected strains of *Lactobacillus acidophilus*, a bacteria commonly used in yogurt, are promising as feed additives to reduce 0157:H7's prevalence. This research is part of ongoing IANR efforts to identify specific strategies producers can use to limit *E. coli* in feedlot cattle before they enter packing plants.

The idea is that *Lactobacillus* gets ingested with rations and travels to the cattle's intestines where it kills *E. coli*. If further studies prove it's effective, producers might add *Lactobacillus* to feed to reduce *E. coli* in feeder cattle.

In a large 2001 IANR feedlot study, *Lactobacillus* reduced *E. coli* in manure 61 percent, compared with cattle that didn't receive the additive. *Lactobacillus* proved somewhat less effective in summer 2002 feedlot trials although IANR scientists say it still has potential as an *E. coli* reduction tool.

In the 2002 trials, the team tested the effectiveness of an experimental vaccine developed by Canadian scientists as well as the *Lactobacillus*. Early results indicate a combination of the vaccine and a *Lactobacillus* feed additive was most effective. The combination's effect was cumulative.

Because 0157:H7 is common in feedlots, eliminating it isn't likely. Reducing its prevalence at key times, such as before slaughter, is more realistic.

This team effort includes several faculty with joint research and extension appointments. As the study findings are made public, they are rapidly included in extension programming in the food safety area.

Activity: Food Processing and Food Service Management Food Safety

The food allergy research and resource program confidential analytical service was implemented to assist the food industry, regulatory agencies, physicians, and consumers in analyzing food samples for undeclared, potentially hazardous residues of allergenic foods and evaluating cleaning strategies and procedures for cleaning food-processing equipment to remove allergenic food residues.

The objective is protection of the food-allergic consumer (primarily small children) from potentially life-threatening reactions to food products. Food companies and regulatory agencies used the data obtained from the program to make decisions about the safety of food products for food-allergic consumers and the efficiency of food industry equipment cleaning practices. Regulatory agencies used the information to make regulatory decisions on foods that were out of compliance and posed a threat to the health of food-allergic consumers. Physicians and food-allergic consumers used the information gained through this program to find out if the food they suspected of causing a reaction did, allowing them to go forward to

regulatory agencies with a complaint after a severe reaction.

In September of 2002, this program had 44 food companies, 2 physicians, 3 consumers, and 2 regulatory agencies participate. Of the food companies, approximately 22 of the 44 contacted the program for further information and follow-up on allergen control strategies. Educational delivery was by written report and phone consultation. The subject of the written reports and phone consultation was results of analysis for residues of allergenic foods in food products and on equipment surfaces.

The food companies who participated in this ongoing research and extension program changed the way they cleaned equipment and also how they made food; also, receiving information from this program saved an estimated \$440,000 in potential recall costs and unknown amounts of potential lawsuit payouts from consumer reactions.

Goal 3

Activities: Human Nutrition and Value-added Agriculture

Society continues to become more health conscious and a segment of the population seeks food alternatives to be sure that they are consuming the most nutritious and healthy diet possible. In addition, livestock producers are seeking niche markets that can be value-added in terms of improving profitability. One of those possible niche markets is grass-fed beef and bison; this potential market is based on possible health benefits from consuming meat from grass-fed animals. The general public knows little about the nutritional content of bison meat. Research was conducted collaboratively by the University of Nebraska and North Dakota State University to determine the nutrient content of bison.

This work has shown that bison is high in protein, low in fat, and relatively low in calories. Comparison of grass-fed and grain-fed bison meat has shown that only minimal differences exist in nutrient content with the primary exception of the fatty acid profile. Limited nutrient content testing of ground beef samples from grass-fed and grain-fed steers in a non-controlled study indicated that differences in nutrient content may exist between grass-fed and grain-fed beef steers, indicating that a valid scientific study, with a testable hypothesis, should now be tested.

A consumer sensory evaluation and value study was conducted to further evaluate the market potential of grass-fed beef. The data from this study indicated that most consumers feel that grass-fed beef is less desirable than grain-fed beef. However, it is recognized that a small niche market for grass-fed beef does exist. The information generated by these efforts was a part of an extension workshop for livestock producers to consider "The Future For Grass-Finished Foods." and other extension educational activity. The bison nutrient information has been published in extension publications and also presented at extension workshops.

Goal 4

Activity: Natural Resources Management and Protection

Shrubs that produce woody decorative florals could pose a win-win situation for landowners or agricultural producers who grow them. As live plants along streambanks, they reduce soil erosion and keep waters cleaner. When harvested, they have commercial value beautifying the home or office.

Approximately 45 woody plant species are being evaluated as a component of riparian buffer strips along with grasses and other vegetation planted in narrow bands along waterways. The buffer strips trap sediment pesticides and other possible contaminants preventing them from entering surface water supplies.

Initial research indicates that the stream-side buffers may possibly reduce sedimentation 50 to 90 percent. The research effort is also serving as an extension demonstration effort to show that the woody florals have value in the floral and craft markets. The woody shrubs grow quickly and could potentially add \$5,000 to \$15,000 to a family's annual income if they are willing to do a month's work of hand harvesting in late fall and early winter and then market the fresh product to wholesale or retail florists.

Activity: Environmental Protection

Careful nitrogen management and the right technology can help farmers protect groundwater from excessive nitrate contamination, which is a concern for private and municipal drinking water wells.

Center pivot irrigation systems are a key part of that water management equation, a six-year NU study found.

An IANR research and extension team compared nitrate-nitrogen levels in shallow groundwater under test fields irrigated with surge, conventional furrow irrigation or center pivots.

This research found that nitrate levels were consistently lower under center pivot-irrigated fields. These findings are especially significant in Nebraska, which has more than 7 million irrigated acres, two-thirds of which are irrigated with center pivots.

Compared with the furrow-irrigated field, the surge-irrigated field received 60 percent less water and 31 percent less nitrogen, while the center pivot field used 66 percent less water and 37 percent less nitrogen. Although the surge-irrigated field received almost as much water as the pivot field, surge didn't limit nitrate contamination nearly as well.

Researchers found that the best way to limit nitrate leaching into groundwater is by controlling water use and spoon-feeding nitrogen fertilizer to crops through a center pivot.

This research showed that center pivots combined with careful management can help keep groundwater nitrate levels at or near 10 parts per million, the federal maximum for drinking water, without significantly compromising crop yields.

Activity: Environmental and Natural Resources Policy

Faculty members with both extension and research appointments are working as a team to adapt and provide a science-based "Nebraska Odor Footprint Tool" to communities, producers, and regulators with which to address the issue of odors from livestock facilities.

Selection of strategic locations for livestock operations and quantifying the effectiveness of odor control technologies using this tool will enable livestock production systems to co-exist in rural communities and thus provide a steady market for corn and corn by-products.

The goals of this project are to develop an odor footprint tool that: (a) identifies the extent of areas impacted by odors from existing and expanding livestock operations, and (b) evaluates the impact of odor control technologies on odor dispersion in rural communities.

The project involves three tasks: (a) incorporation of Nebraska meteorology and odor source specifications into the footprint tool; (b) calibration of the tool using rural community odor panels and; (c) delivery of an educational program on use of the tool for determining separation distances according to various levels of community tolerance to odors from different sizes and types of livestock facilities.

Maintaining and enhancing sustainable livestock operations in rural communities is vital to ensuring a continued domestic livestock feed market for corn. A reversal of the decline in swine numbers back to 1992 levels would return 37 million bushels to Nebraska's corn grind. Increasing beef cattle numbers by just 10 percent would add another 28 million bushels to that amount. The odor planning tool developed in this project not only addresses the sustainability of the livestock industry in rural communities, but contributes to sustaining and increasing the market for corn on a local basis. While developed for Nebraska conditions, the procedures and protocols will be applicable to all the states in the Corn Belt.

Goal 5

Activity: Family Strengths

Rural Nebraska Welfare to Work families are faced with multiple personal and family challenges that makes it difficult for them to successfully secure and continue employment while maintaining their family. These challenges include lack of adequate transportation, child care and support systems plus issues related to mental and physical health of those they are responsible for as well as themselves. In rural Nebraska fewer resources for family management/life skills education are available to Employment First participants during the transition and early stages of self-sufficiency. This was all confirmed in a recently completed evaluation of Nebraska's Employment First Welfare Reform Program conducted by Mathematica Policy Research, Inc.

Building Nebraska Families (BNF) is an intensive, education-based developmental program focused on helping the hard to employ, rural clients of the Nebraska Health and Human Services System (HHSS) Employment First (EF) Program.

Employing a family strengths model based on the research of Drs. John DeFrain and Nick Stinnett, each individual participant, with input from HHSS case managers and the Extension Educators, selects educational topics from a flexible list. Using research-based materials, the Extension Educators teach from the following areas: anger/conflict management, child development, coping skills, communication skills, decision making, goal setting, healthy relationships, household management, money management, nutrition/food skills, parenting, personal life skills development (character and family strengths development), problem solving, self-esteem, setting healthy boundaries, stress management, and time management. Participants are encouraged to complete assignments based on lesson topics and then apply what they have learned. Using a community network model, BNF encourages participants to volunteer in order to engage the entire community (residents, businesses, education, spiritual, cultural, etc.) in their educational process which promotes a give and take relationship.

Extension Educators work with participants until they become employed and continue to provide supportive services for up to six months or until the participant is no longer receiving a TANF grant.

Activity: Telecommunications for Rural Areas

In an effort to help businesses explore the possibilities information technology holds for them in rural Nebraska, the University of Nebraska-Lincoln Center for Applied Rural Innovation (CARI) has developed the Nebraska Electronic Main Street Program which utilizes a curriculum developed by the University of Minnesota. This program is under the management of the conNEcting Nebraska Technology Management Team, consisting of six University of Nebraska Cooperative Extension Staff under the direction of John Allen, University of Nebraska Rural Sociologist and Researcher. The team is responsible for the management of the community based curriculum - marketing, pricing, teaching, training the trainer. In an effort to be more responsive to the needs of Nebraska business owners, survey research of rural Nebraska businesses was conducted to determine their current technology use as well as their future training needs.

This study was funded by the Nebraska Information Technology Commission and was conducted in partnership with the Applied Information Management Institute (AIM). Self-administered questionnaires were mailed to 900 businesses in rural Nebraska. A response rate of 45% was achieved (382 completed responses were received out of the 850 deliverable surveys). The results have been compiled, analyzed and recommendations have been developed. A report entitled Nebraska Business Use of Information Technology was written to detail the results and recommendations.

The results reveal that information technologies are widely used by Nebraska businesses for a variety of business operations. Seventy-nine percent reported using a computer in their business, just over one-half (58%) of the businesses used Internet access, and 31 percent had a Web site. Overall, there were relatively few businesses extensively using many current applications of Internet technology. However, results show that the businesses expect these applications to be important to the future of their businesses. In addition, 41 percent of the businesses expected to expand or restructure their businesses using information technologies in the future. Most businesses seem eager to learn how to use information technologies in their business. Fifty-six percent said they were interested in learning how to use a computer and other information technology in their business practices.

The businesses expressed a need for a better understanding of how the Internet can benefit their businesses. They also have a desire to learn how to use information technologies in their business practices. Thus, this survey has demonstrated that well designed programs (such as the Nebraska Electronic Main Street program) are greatly needed by rural businesses. It is crucial that business owners have the knowledge of how to use information technologies to remain competitive and expand their market opportunities. The unavailability of this knowledge to support business utilization of Internet technologies poses a serious barrier to the continued adoption and diffusion of information technology among rural businesses.

The results of this survey were used by AIM to develop an advanced training curriculum for rural business owners. This curriculum addresses the needs expressed by business owners in the survey. The conNEcting Nebraska team has adopted this curriculum for their use in training business owners in rural Nebraska how to incorporate technology to run their business operations more efficiently and to expand their markets globally.

Activity: Community Strengths

The Internet someday might provide 21st century rural Americans the shopping choices and convenience that mail order catalogs offered their ancestors a generation earlier. So far, however, University of Nebraska research show rural residents buy mostly at retail stores and are happiest with bricks-and-mortar shopping.

Fewer than 20 percent of the 2,218 rural respondents from 11 states, including Nebraska, use the Internet or television shopping channels to buy food or clothing, according to a survey derived from a College of Human Resources and Family Sciences researcher and extension faculty member who is studying rural residents' shopping habits.

Findings may help decision makers develop policies regarding electronic commerce and help rural businesses and communities adjust to potential changes in consumers' buying habits.

Survey respondents said they were more satisfied with traditional retail shopping than other forms. They were somewhat satisfied with catalog shopping but were lukewarm toward both Internet and television shopping.

What's behind this reluctance to use other shopping methods? Credit card security and Internet access are key. More than half of those surveyed had Internet access, although more than 52 percent said they didn't have a personal computer at home. More than 60 percent reported using the Internet once within the last year, but nearly half said they don't use the Internet.

Respondents in larger rural communities tended to feel more comfortable buying over the Internet. They cited availability of brand-name products, quick delivery and feeling safer using the Internet than shopping at malls. More than half the participants surveyed lived in communities of under 10,000 population with 60 percent being women.

Researchers hope to better understand how consumers adapt to electronic shopping. Future research will compare e-commerce shopping trends in metropolitan and non-metropolitan areas.