

Approved February 14, 1991
Date

MINUTES OF THE Senate COMMITTEE ON Agriculture

The meeting was called to order by Senator Jim Allen at
Chairperson

10:10 a.m./~~pm~~ on February 5, 1991 in room 423-S of the Capitol.

All members were present ~~except~~

Committee staff present: Raney Gilliland, Legislative Research Department
Lynne Holt, Legislative Research Department
Jill Wolters, Revisor of Statutes Department

Conferees appearing before the committee: Dean Walter R. Woods, Dean of Agriculture, KSU
Dr. William M. Eberle, Assistant Director,
Extension Community Development, KSU
Dr. Gerry L. Kuhl, Extension Specialist,
Department of Animal Sciences and Industry, KSU
Dr. James P. Shroyer, Extension Specialist,
Department of Agronomy, KSU
Dr. Marilyn B. Corbin, Acting Associate
Director of Extension, KSU

Senator Allen called the Committee to order and called attention to bill requests regarding a request for creating an Agricultural Experiment Stations capital improvements fund at Kansas State and for a bill to combine into one statute regulations concerning the Grain Inspection Department.

Senator Doyen made a motion that the Committee request introduction of a bill that would transfer from the General Fund \$600,000 for six years to the Agricultural Experiment Stations capital improvements fund to be used to update and replace equipment. Motion was seconded by Senator McClure. Motion carried.

Senator Montgomery made a motion the Committee request the introduction of a bill to combine two statutes into one that refers to regulations for the Grain Inspection Department. Motion was seconded by Senator Frahm. Motion carried.

The Chairman called on Dean Woods to report on Cooperative Extension Service.

Dean Woods stated that the task of the Cooperative Extension Service is to work on issues that affect the youth and also the families of Kansas and to deliver research information to those citizens of Kansas. Dr. Woods gave the Committee copies of the information to be presented (attachment 1). Dr. Woods stated that the presentors would explain how the transfer of technology is accomplished and how people are helped so that they reach their full potential in various leadership rolls. Dr. Woods called on the following:

Dr. Eberle explained that the issues and concerns worked on are suggested through the extension offices in each of the counties. Dr. Eberle noted that some of the concerns worked on presently or in the past include or have included rural revitalization, water quality, conservation, youth at risk, drug programs and waste management.

Dr. Kuhl explained that work has been done on beef profitability and reproduction and that that information is distributed through the county extension offices. Dr. Kuhl stated that the use of computers has provided much information for dairy herd operators by a program that analyzes the operation and then shows the operator the weaknesses of his operation.

CONTINUATION SHEET

MINUTES OF THE Senate COMMITTEE ON Agriculture

room 423-S, Statehouse, at 10:10 a.m./~~p.m.~~ on February 5, 1991

Dr. Shroyer explained that information is provided to farmers by demonstration classes and through action research plots where, for instance, different kinds of wheat are grown to show the different amounts of production. Dr. Shroyer stated that the purpose of all issues is to show the farmer how to have profits.

Dr. Corbin explained that leadership development skills are presented to help volunteers become better leaders working to their full potential.

Dr. Woods stated that Cooperative Extension Service continues and will continue to work on programs to enhance the capabilities of volunteers to deliver the information available from Cooperative Extension.

In answer to Committee comments, Dr. Woods answered that new wheat varieties are not produced for just one section of the state that they are produced with the entire state in mind. It was answered that when Karl Wheat is marketed that it should be kept separate with its own identity but that at some elevators it is mixed with other varieties.

The Chairman called for Committee action on Committee minutes.

Senator Daniels made a motion the minutes of January 31 be approved; motion was seconded by Senator McClure; motion carried.

Senator Allen adjourned the Committee at 9:50 a.m.

EDUCATIONAL PROGRAMS IN

CROP AND LIVESTOCK
BREEDING
AND
REPRODUCTION



HUMAN RESOURCES
AND
LEADERSHIP

A REPORT
TO THE
KANSAS LEGISLATURE

BY THE
COOPERATIVE EXTENSION SERVICE
KANSAS STATE UNIVERSITY

*Senate agriculture Committee
2-5-91
attachment 1*

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TABLE OF CONTENTS

▼ ▼ ▼

EXECUTIVE SUMMARY 1

OVERVIEW 3

Extension Issues 4
Livestock Reproductivity 6
Crop Reproductivity 8
Developing Human Resources 9

**CROP AND LIVESTOCK
BREEDING PROGRAMS** 11

Crops 11
Livestock 14

**HUMAN RESOURCES AND
LEADERSHIP PROGRAMS** 16

Human Resources 16
Building Human Capital 18
Youth at Risk 20
Leadership in Agriculture 22



Cooperative Extension Service

Office of the Director
Umberger Hall
Manhattan, Kansas 66506
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February 5, 1991

To Members of the Kansas Legislature

Dear Friends:

This report focuses on two important but contrasting issues -- Crop and Livestock Breeding Programs and Human Resources and Leadership.

Crop and livestock production fuels the Kansas farm economy yet Kansas people are our greatest resource. Each Extension program is issue driven with a program planning and delivery capability that stretches into every county, extension area, and statewide.

Extension programs summarized in this report center in agriculture, human resources, and leadership. However, each program cited is part of a larger Extension programming which addresses the following issues.

- Agricultural Profitability
- Developing Human Resources
- Youth at Risk
- Human Health and Well Being
- Economic Revitalization

Extension programs, which focus on management, leadership, and priority needs, help insure the future of Kansas and its people, both rural and urban.

We invite your comments and suggestions on these or any other Extension program.

Sincerely,

Walter R. Woods
Director



EXECUTIVE SUMMARY





Crop and Livestock Breeding and Reproduction

Cooperative Extension organizes educational programs to help farmers and ranchers capture the full potential of research developments in genetics, breeding, and reproductive efficiency.

Variety Performance: Crop performance tests provide comprehensive yield data on 600 crops annually. These data, along with tours, demonstration plots and public meetings, are utilized to ensure rapid adoption of superior varieties and hybrids. The majority of Kansas farmers use KSU data in making crop selections.

Pest Management: The 1990 program emphasized important pest problems including Russian aphid, greenbug, and Hessian fly for wheat; greenbugs and chinch bugs in sorghum; endophyte fungus in tall-grass fescue; and stored grain management, plant disease diagnosis, and plant disease control.

Sire Selection: Genetic improvement through sire selection is enhanced by use of data from the Central Kansas Bull Tests, steer futurities, and by on-farm data analysis. Those programs are supplemented by sire selection and culling procedures and by computer programs that assist producers in determining the effect of management systems on genetic and reproductive performance.

Disease Prevention: Educational programs inform producers about insecticide resistance and practical, cost-effective alternatives. Extension specialists also coordinate programs providing protection against pullorum-typhoid and other important poultry diseases.

Reproductive Efficiency: Educational programs assist producers with the latest techniques in artificial insemination, heat synchronization, and breeding protocols.

Human Resources

Extension programs in human resources focus on leadership skills, family relationships, and community development.

Balanced Farming and Family Living: This state and federally supported program involves 203 farmers in 18 counties. It helps farm families set goals, develop individual plans, and address their production, family living, and financial needs.

Kansas PRIDE Program: The PRIDE program is a self-help community development project. In 1990, 100 Kansas communities enrolled in PRIDE and 72,548 volunteers completed 2,188 community projects.

Local Government: Educational programs for local government address public finance, health care and risk management.

Building Human Capital

Extension programs that enhance the leadership capability of youth, adults, and volunteers are important educational objectives.

Leadership Programs for Adults: In Family Community Leadership (FCL) programs, 3- to 5-member county teams are trained in leadership

2



skills and then extend this training to others. Fifty-two counties utilize FCL teams in their leadership programs.

Leadership Programs for Youth: More than 200 youth leaders graduated from Teen Leader College (TLC) workshops and now serve in youth leadership roles. Youth also receive training as club officers and leaders and as ambassadors for county 4-H programs.

Youth at Risk

Cooperative Extension has organized several outstanding programs that address the problems of youth at risk.

4-H CARES: Designated the 174th Point of Light by President Bush, this Kansas-developed program addresses substance abuse by youth. It has been purchased for use by organizations in 48 states and Canada.

Capable-Kids-Can (CKC): CKC programs are directed at reducing the stress children and parents undergo when children are home alone.

Hispanic Program: In some Kansas schools, minority enrollment averages 36 percent and the dropout rate exceeds 39 percent. This weekly program, conducted at school, helps participants with linguistic and self-esteem skills and increases the likelihood that students will complete high school.

Agriculture

Following are examples of educational programs in agriculture that enhance leadership skills.

Public Policy: Public policy programs are conducted annually to help agricultural and organizational leaders make informed decisions. The 1990 series was directed at the commodity, conservation and environmental provisions of the 1990 farm bill.

Environmental Education: Extension environmental education emphasizes interagency coordination, best management practices, and water quality. More than 100 teachers were trained in the use of a water education curriculum developed by Extension. Project Learning Tree is a program that teaches children how to think, rather than what to think, about the environment.

Horticulture: Master gardeners receive special training and then donate an equivalent amount of time to community service. In the Ark Valley area, farm market development is an important objective.



OVERVIEW

Walter R. Woods
Director, Cooperative Extension Service

3



The Cooperative Extension Service is an issue-driven program with delivery capability in every county, five Extension areas, and throughout the state. The educational programs summarized in this report — Crop and Livestock Breeding and Human Resources and Leadership — are important but contrasting programs. However, each program is built on an interdisciplinary base and utilizes expertise from Agriculture, Home Economics, 4-H and Youth, and Community Development. We believe an interdisciplinary approach is important in planning and delivering Extension programs statewide.

Crop and Livestock Breeding Programs: Crop and livestock breeding programs are an essential element in agriculture and in the Kansas economy. For example, Karl wheat, a 1989 KSU release, is expected to occupy about 8 percent of the Kansas acreage in 1990, and boost income by \$4 million to \$6 million. K-State scientists also have developed techniques that can increase pregnancy rates in beef and dairy herds by 10 percent or more. Similar genetic advances could also be cited in soybeans, sorghum and other crops and in the dairy, sheep, and swine industries. Through biotechnology, beneficial genes can now be transferred from wild to domestic wheats. Extension programs are designed to help farmers capture the full potential of those developments.

Human Resource and Leadership Programs: Because the talent, character, and productivity of Kansans are our greatest resource, the Extension Service has developed exciting programs which address the issues of youth at risk, human resources, and human capital. Many of those programs prepare youth, adults, and volunteers for leadership in family and community affairs. In essence, leadership development is the cornerstone of our community and economic development programs. Rural communities are undergoing significant economic and social stress, but many are cataloging resources, developing strategic plans, and laying the foundation for change. Likewise many Kansas youth are at risk — 256,000 Kansas children live in homes where both parents work and 7,000 children were treated for substance abuse in 1988.

Extension Highlights

A few examples of outstanding Extension programs are cited below:

1. **Crop Selection:** Crop performance data are collected for more than 600 varieties and hybrids throughout the state so farmers can make informed decisions. Surveys show that over 90 percent of all Kansas farmers use KSU data in selecting the crops they grow.

2. **Milk Production:** Using on-farm computing and dairy producer records, specialists helped 676 producers increase milk production by 622 pounds per cow per year.

3. **Family Community Leadership:** Fifty-two counties have Family Community Leadership programs. In Finney County, the leadership team

4



of three volunteers and three agents provided training to over 450 adults in the county.

4. PRIDE: In 1990, 100 cities and towns enrolled in the PRIDE community development program. Some 72,500 volunteers completed 2,200 community projects through the PRIDE program.

5. Teen Leader College: More than 500 teenagers are graduates of this youth leadership program.

Other Reports

Today's presentations will also highlight:

- Extension Issues
- Livestock Reproductivity
- Crop Reproductivity
- Human Resource and Leadership

EXTENSION ISSUES

William M. Eberle

Assistant Director, Extension Community Development

The future of Kansas depends on how well its people deal with change and meet critical issues, now and in the future. Cooperative Extension has a long history of bringing improvements to Kansas farms, homes, and communities. Many traditional Extension educational programs remain important to the welfare of Kansans. However, Extension agents and specialists devoted more than one-third of their time last year to interdisciplinary work in priority educational issues which include:

1. Agricultural profitability and competitiveness
2. Rural revitalization
3. Water quality
4. Conservation of natural resources
5. Human health and well-being
6. Youth at risk
7. Developing human resources
8. Waste management

Agricultural Profitability and Competitiveness

Ten interdisciplinary teams were organized to develop programs to help Kansas agriculture maintain a competitive edge. Programs are aimed at integrating production, financial management and marketing decisions; exploring alternative agricultural opportunities; finding new ways of using agricultural products; and addressing environmental issues.

Rural Revitalization

Educational programs are designed to help rural communities deal with declines in population, economic base, and infrastructure. County Extension agents have expanded their efforts in economic development, working with local leaders to assess resources, analyze trends, and develop effective strategies and find new approaches for strengthening the local economy and enhancing the quality of life. The Kansas DIRECT Program helps individuals and communities with quick access to information and assistance in business and rural development needs. Educational programs also address the need to provide facilities and services with limited resources.

Water Quality

Three multi-disciplinary teams have developed a new array of educational programs in non-point source pollution, domestic water quality, and safe use of chemicals. Liaison representatives have been designated for state, federal and local agencies, and private groups. Last year, educational programs reached 25,000 people; over 121,000 publications were distributed.

Conservation of Natural Resources

This initiative addresses major issues relating to forestry, range and pasture, conservation practices, lease hunting, predators, and conservation aspects of the farm bill. Specific programs help farmers respond to requirements of the Conservation Reserve Program, particularly conservation tillage, windbreaks, and residue management.

Human Health and Well-Being

Responding to a growing awareness of the role of diet, lifestyle and health in reducing health problems, this initiative addresses issues relating to diet and food safety. Programs are designed to reach consumers as well as producers. Educational programs on nutrition were presented to 68,600 persons and food safety programs to 2,538 persons last year.

Youth at Risk

This initiative is designed to meet the needs of youth in a changing society. Programs are designed to help youth build self-esteem and develop new skills. Specific programs include substance abuse, sexuality, latchkey children, self-esteem, and self-worth. Programs are offered through county programs, school systems, and satellite video conferences. One program, 4-H CARES, was named the 174th Point of Light by President Bush.

Developing Human Resources

This initiative recognizes the need to maintain a capable leadership base. Programs help strengthen family relationships, develop leadership skills in youth and adults and build volunteerism. Programs for youth focus on careers and leadership responsibility. Other programs emphasize organizational and community leadership. Family Community Leadership programs have placed certified FCL trainers in 52 counties. The Kansas PRIDE program resulted in more than 475,000 hours of volunteer effort toward community development. Two hundred youth have graduated



from the two-part Teen Leader College. A new Kansas Community Leadership Program provides training in community development for local leaders.

Waste Management

This newest initiative addresses the major issues related to safe disposal or reuse of waste. Programs focus on recycling, safe disposal, public policy and hazardous waste, and are conducted cooperatively with other state agencies.

LIVESTOCK REPRODUCTIVITY

Gerry L. Kuhl

*Extension Specialist, Beef Cattle Nutrition & Management
Department of Animal Sciences and Industry*

Extension programs are designed to keep producers abreast of the latest research based technologies to optimize productivity and maximize profitability. To assist farmers and ranchers in the area of livestock reproductivity, interdisciplinary educational programs have been developed with participation from agricultural economics, animal science, veterinary medicine, entomology, agronomy and agricultural engineering.

Genetic Selection

KSU Extension and the Kansas Livestock Association co-sponsor the Kansas Bull Test, in which about 1,300 bulls are performance tested annually. The top 50 percent of these bulls are sold to commercial producers based on performance information at three special sales each year. The Kansas Steer Futurities are another Extension effort to help commercial producers evaluate the feedlot performance and carcass merit of their cattle. A 14-year summary involving over 7,000 cattle in the steer futurity program demonstrates the genetic progress made in the last decade and the profitability of retained ownership by cow-calf operators with genetically superior cattle.

A continuing educational effort is to show producers how to utilize the latest genetic tools available for performance enhancement. Numerous workshops and clinics have been held to illustrate dairy and beef bull selection based on Expected Progeny Differences for milk production, growth, calving ease and carcass traits. Artificial insemination and reproductive management schools have been conducted to assist beef, dairy and swine producers in making more rapid genetic progress with their herds. Educational programs emphasize the advantages of systematic crossbreeding programs in all species. For example, sheep breeding programs utilizing Finncross ewes have increased percent lamb crop by 25 to 50 percent.

Computer Technology

Beef: In addition to emphasizing the importance of production and financial record-keeping, a computer program (BEEFpro) has been developed to assist producers in analyzing their operations. BEEFpro

performs a cost/return analysis, identifies specific areas of deficiency, and estimates the impact of management changes on net returns. More than 150 operations have been analyzed with BEEFpro in Kansas. In addition, cost and return summaries from these operations have been utilized to stress the variability in production costs and returns among herds and characterize high- and low-profit operations. Producers in the upper one-third profit group average \$228 in net return and 505 pounds of calf weaning weight per cow, while those in the lower one-third group average 442 pounds of calf sold and lost \$1 per cow in their herds annually.

Dairy: Similarly, 605 dairy herds with DHIA records were analyzed to evaluate progress by comparing 1989 with 1988. A computer program, the KSU Dairy Herd Analyzer, showed that improved reproductive efficiency resulted in an additional \$513,576 income over feed cost in 1989. The increased profitability resulted from lower age at first calving, fewer dry cow days and reduced services per conception, and accounted for 24 percent of the total improvement on these dairy farms in 1989.

Swine: In the swine area, a multi-state Extension effort involving the use of the Enterprise Record Analysis Program is being tested with hog producers in Kansas, Nebraska and South Dakota to give producers an accurate description of their production, expenses and income. This computerized record-keeping system allows producers to troubleshoot their costs and management level in several production areas, as well as calculate an overall break-even price for their hogs. These values are then pooled to form a database which ranks producers into the top and bottom one-third of all producers. By comparing individual records to the pooled values, below-average areas of production can be easily identified and measures taken to improve them. This program also tracks reproductive performance to evaluate production changes and the progress made through integrated management.

Integrated Resource Management

The Kansas Extension Beef Integrated Resource Management (IRM) program began in 1983 with emphasis on identifying the major areas of cow/calf production inefficiency. More than 400 producers were surveyed to evaluate the reproductive and economic efficiency of their herds. The survey indicated that reproductive efficiency (pounds of calf weaned per cow annually) was a major production problem and feed costs were the major expense. Numerous educational programs were implemented to address these inefficiencies — workshops on ration formulation and the use of cow body condition as a nutritional barometer for improving reproductive efficiency; practical record-keeping systems to allow rapid evaluation of reproductive efficiency and cost of production; and an integrated approach to the genetic, nutritional, medical and financial management of cow herds and troubleshooting reproductive problems. A similar IRM effort has been in place for several years to assist the dairy industry, and new programs are being developed to serve swine and sheep producers.

Farm Demonstrations and Field Trials

One of the most effective ways of encouraging producers to adopt research-based technology has been the use of Extension demonstrations

and applied research trials. This method allows progressive producers to understand, firsthand, techniques for solving production problems. Moreover, the results of on-farm demonstrations and trials are used in field days and other Extension events to illustrate the positive impact of new technology. Numerous Extension demonstrations have been conducted, including ammoniation of crop residues to stretch the feed supply, estrous synchronization of dairy and beef heifers to enhance performance and enable the use of genetically superior sires, increasing performance and lean meat production through the use of growth promotants and pre-conditioning programs designed to reduce health problems and enhance reproductivity.

CROP REPRODUCTIVITY

James P. Shroyer and Dale L. Fjell

Extension Specialists, Crop Production, Department of Agronomy

Extension efforts related to crop reproductivity are interdisciplinary in planning and delivery, with agronomy, plant pathology, and entomology as the primary disciplines. The objective is to provide Kansas farmers with unbiased, timely and accurate information so they can make sound management decisions. Farm action research and demonstration plots, established cooperatively with crop breeders and specialists from other disciplines, will be an important feature of those programs.

Variety Plots

Each year, approximately 90 counties establish wheat, soybean, corn and/or grain sorghum variety demonstration plots for observation and in many cases, yield determinations. Demonstration plots are an integral part of county crop production programs and are invaluable in selecting locally adapted varieties. In a recent survey of farmers at wheat variety demonstrations, 75 percent attend the tours every year and 92 percent said variety plots and tours influenced their variety selection process. Since variety demonstrations are established in most counties and represent many environments, they are used extensively by Extension plant pathologists and entomologists to evaluate varietal response to diseases and insects. The data are an excellent information source for Kansas farmers and Extension workers. The USDA Cereal Rust Lab, St. Paul, also uses the wheat variety demonstration plots to evaluate stem and leaf rust races for potential rust epidemics.

Work with Plant Breeders

Extension specialists work closely with plant breeders by relaying grower concerns about varieties and production problems. Recently, specialists analyzed four years of yield data from county wheat variety demonstrations. Varietal differences could not only be detected in homogeneous environments, but, more importantly, the results were correlated with those from Experiment Station trials. Based on these findings, Extension will continue analyzing demonstration plot data for use by county agents, farmers, and agribusiness personnel.

Computer Analysis

A computer program, WHEATWIZ, was developed to assist with variety selection based on agronomic characteristics and farmer location. This program uses the characteristics of more than 200 hard red winter wheat varieties to match farmer needs with variety strengths. Another computer program, CORNWATCH, was developed to predict the growth stage of corn based on planting date, location and heat units. This program assists in irrigation scheduling, replanting decisions, and in determining the probability of the crop maturing before frost.

Farm Action Plots

Farm action research plots were established to demonstrate (1) that high test weight seed wheat was worth 2.5 to 4.0 bushels per acre more than low test weight seed; (2) that high quality seed is of greater value on low fertility soils (based on preliminary results from the response of 30 wheat varieties to low and high fertility environments); (3) the response of blending two or more varieties to enhance grain yields; (4) whether wheat varieties, based on location, will yield more saleable seed wheat (two such varieties have already been identified); and (5) variety hardness, stability and cleanout percentages.

Extension specialists also worked to inform farmers about potential grading problems associated with variety 2163.

Short Season Corn

In 1990, corn acreage increased 17 percent in Kansas, due primarily to renewed interest in corn produced with short season hybrids. Extension specialists established nearly 30 corn action research plots on dryland sites in central and eastern Kansas and under limited irrigation in western Kansas. These plots were used to assess the yield potential of short season corn and to monitor potential pest management problems. The Farm Action research program will be expanded in 1991 to include soybean population studies and alfalfa and cutting management trials.

DEVELOPING HUMAN RESOURCES

Marilyn B. Corbin

Acting Associate Director of Extension

Our state's economic productivity and competitiveness, quality of life and democratic form of government ultimately rest on the capabilities of its citizens. In today's highly complex, technological society, many people are facing barriers to achieving their full potential.

Human resource programs increase people's ability to reach their potential through involvement in families, organizations, communities, and work. Investment in human resources provides people with the skill, ability, and understanding to function effectively in a complex, changing society.



Cooperative Extension focuses on the development of human resources in four major areas:

- Leadership Development
- Volunteer Development
- Preparing Youth for Responsibility
- Family Relationships

Leadership Development

Our state and nation have an ever-growing need for capable, well trained leaders. Literally, thousands of leaders are needed to guide local government, voluntary organizations, and corporations. The focus of Extension programs is centered in eight priority initiatives. A leadership component is an essential part of each initiative.

Agricultural Profitability and Competitiveness: Training of agricultural leaders who can initiate and demonstrate model programs and shape agriculture's public policy decisions.

Conservation of Natural Resources: Training of leaders who are concerned with the conservation of air, land, and water.

Developing Human Resources: Training of leaders for all sectors, including volunteer leaders and youth.

Human Health and Well-Being: Training of leaders who can educate others about individual and community aspects of nutrition, diet, and health.

Economic Revitalization: Training of local officials and other community leaders who can renew rural governments and contribute to economic development.

Solid Waste Management: Training of local officials and key community leaders who can help resolve local solid waste issues.

Water Quality: Training of leaders who will help their communities address water quality problems.

Youth at Risk: Training of leaders and youth to prevent youth from adopting harmful behaviors.

Family Community Leadership

This county- and community-based program helps citizens become effective participants in public policy decisions influencing families and communities. Fifty-two counties now have certified FCL trainers. Ninety volunteers have returned at least 7,980 hours to the program and reached 19,850 Kansans in workshops and public and group meetings.

Volunteer Development

Volunteer service is an essential part of the democratic process. Volunteers provide needed time, talent, and financial resources to meet societal needs. In a time of shrinking resources, well-trained volunteers play an even more important role.

Cooperative Extension, as a provider of trained volunteers, has established an impressive record in organizing professional and volunteer teams to teach or demonstrate leadership and other skills. An important

objective is developing leadership skills among rural and urban citizens, local government officials, homemakers, officers, and members of agricultural, rural, and community groups.

Home Economics Volunteer Leaders

Extension home economics has an excellent record in working with leaders. During 1989-90, almost 14,000 leaders in 73 counties were trained in a variety of skills. Those leaders, in turn, taught skills in leadership, family resource management, nutrition and food management, clothing, textiles, and other skills to an additional 95,838 individuals.

Training Extension Homemakers

Members of the Kansas Extension Homemakers Council received training in organizational development, committee management, program planning and implementation, goal setting, and conference and meeting management. On average, Extension home economists spent seven hours per week developing leadership skills among clientele.

CROP AND LIVESTOCK BREEDING PROGRAMS

CROPS

Newly released crop varieties and hybrids can significantly influence crop yield, acreage, and profitability. Cooperative Extension's role is to ensure rapid adoption of superior varieties and hybrids and to help producers realize the genetic potential of the crops they plant. Following are a few examples of Extension outreach in crop breeding programs.

Crop Performance Tests: Crop performance tests are conducted by the Agricultural Experiment Station and used by the Cooperative Extension Service to give farmers and private research and sales personnel unbiased agronomic information on wheat, corn, grain and forage sorghum, alfalfa, soybeans, spring oats, spring wheat, spring and winter barley, winter triticale and sunflowers. Because entry selection and location are voluntary, not all hybrids and varieties are included in the tests, and hybrids and varieties are not grown uniformly at all test locations. In 1990, objective performance data were obtained on 606 varieties, many at multiple locations. This comprehensive data set is published promptly and distributed widely.

Variety and Hybrid Demonstration Plots: Surveys show that 92 percent of Kansas farmers use KSU data in selecting the crops they grow. However, they want to observe varieties in the field and learn firsthand about variety characteristics, yield potential, resistance to insect and disease pests, winter hardiness, maturity and other factors affecting yield, adaptability and profitability. Demonstration plots and crop performance tests allow farmers to make side-by-side comparisons of new and established as well as public and private varieties. To meet the demand one



Extension specialist established 75 wheat, 15 summer annual forage, 5 alfalfa, and 30 corn action plots.

Wheat Marketing: The objective of the McPherson County wheat marketing program is to help farmers reduce expenses, optimize yield, and increase profitability. Wheat marketing and production topics were highlighted in public meetings, six marketing clubs, tours, monthly newsletters, weekly newspaper columns, and twice weekly radio programs. In 1988-89, 1,585 people were reached with wheat educational programs and 85 percent of all farmers in the county plant one or more of the top seven varieties.

Seed Sales and Yield Potential: Special meetings were held in Butler County to explain provisions of the Kansas Seed Law and the Plant Variety Protection Act so producers could comply with and take advantage of those consumer protection acts.

Pre-Plant Wheat Meetings: More than 130 people attended the Fall Pre-Plant Wheat Meeting in Sedgwick County and over 50 samples of seed wheat were evaluated. As a result, the demand for processing seed wheat increased and nearly all producers requested the use of large, properly sized screens as recommended. Public response was so positive that one Co-op updated their equipment to meet demand.

Wheat Pest Management Programs: Growers are interested in predictive surveys and pest management strategies that help them protect the genetic potential of their crops. The 1990 wheat pest management program focused on Russian wheat aphid, greenbugs, Hessian fly, and other pest problems. The use of newsletters and electronic dispatch is the heart of Extension Entomology's rapid delivery system to producers, county agents, and consultants. Most county offices analyze, update and re-release this information to keep producers informed of potential and actual infestations, recommended treatments, and rescue operations.

Grain storage capacity in Kansas is 1.3 million bushels. The stored grain management program was instituted because even small improvements in quality yield substantial returns. The stored grain program, developed cooperatively with Texas and Oklahoma, uses an 'Integrated Care Package' approach. A Grain Management Handbook was furnished to county agents and is available for purchase. Color diagnostic sheets are being developed to aid producers, elevator operators and agents in assessing damage and treatment needs.

Plant Disease Diagnosis: Diagnosis of plant disease problems is difficult and often requires equipment and materials not available to producers. The Plant Disease Diagnostic Lab provides prompt, accurate disease diagnosis to farmers, homeowners, and county agents. Demand for diagnostic service in 1990 is expected to exceed 3,000 samples.

Wheat Disease Control: This program encourages management practices that maximize profit and minimize adverse environmental impact. Winter meetings emphasized cultural and chemical control. Producers were informed about disease control methods through grower meetings, plot tours, field days, the Disease Alert Newsletter, radio shows, and news releases. New varieties like Karl and 2163, with good resistance, do not require fungicide sprays for tan spot. More judicious use of fungicide sprays was a major program accomplishment.

Endophyte Toxicity: In southeastern Kansas, spring-calving cows grazing tall fescue infected with endophyte fungus suffer conception declines of 15–20 percent. Extension specialists and researchers demonstrated that pasture renovation with fungus-free seed, interseeding legumes, feeding antibiotics in mineral mixtures, and rotation to different forages improves reproductive efficiency. The economic benefit of those practices could be as high as \$75 to \$125 per cow. Implanting stockers, nursing calves and feedlot cattle with Ralgro has also proved beneficial. Six county ASCS committees now require the use of fungus free seed in conservation reserve plantings.

Pesticide Resistant Greenbugs: Data gathered in 1990 show that greenbug biotypes resistant to all commonly used organophosphate insecticides are now present in 10 western Kansas counties. The affected area is approximately 50,000 acres and resistant greenbugs likely cost Kansas farmers \$400,000 in retreatment costs or reduced yields. Extension specialists and experiment station scientists are actively searching for new control strategies.

Wheat Quality: Because quality is important nationally and internationally, an Extension agent training program in baking and milling quality utilizing K-State's unique pilot milling and baking facilities has been instituted. Topics include wheat quality, cleaning techniques, mill practice, flour specifications, physical dough characteristics, and baking processes.

Improved Sorghum Insect Management: Greenbugs and chinch bugs were of major concern to sorghum producers in 1990. Greenbugs were particularly severe, infesting 1.05 million (28 percent) of the acreage. Specialists cooperated with 29 county agents to conduct timely educational programs; control measures were instituted on 750,000 acres and rescue treatments on 473,000 acres.

Chinch bug numbers reached a 10-year high and caused extensive damage in 19 counties. Agents used news media, meetings, field visits and individual consultations to advise growers on treatment options. Growers used planting time insecticides to protect 307,000 acres. Without treatment, grain sorghum yields on many farms would have been seriously reduced.

Reducing the Use of Corn Insecticides: In 1978, 1.3 million acres of corn (72 percent) were treated for corn rootworm. Subsequently, research demonstrated that corn yields could be improved using a corn-soybean rotation instead of continuous corn. The rotation broke the corn rootworm production cycle and eliminated the need for insecticides costing \$8 to \$12 per acre. Extension agronomists estimate that corn rootworm insecticides are no longer used on 177,000 acres, reducing treatment costs by \$1.7 million annually.

WHEATWIZ: Selecting hardy, well-adapted and high-yielding varieties with superior insect and disease resistance is a critically important production decision. Agronomists and agricultural engineers incorporated those factors into a computer software program, WHEATWIZ, to assist producers, county agents and others in optimizing wheat variety selection. Surveys show that 84 percent of all Kansas county agents and several regional and international groups use this decision-making aid.



Early Corn Production: Extension specialists and Experiment Station scientists collaborated to develop an improved corn production strategy. The cropping system is adapted to dryland conditions and uses early maturing hybrids which are less susceptible to temperature stress and produce excellent yields with reduced water use. This program resulted in a 17 percent increase in corn acreage in Kansas. Data from 30 strategically located plots were used to inform producers about the new production system.

Monitoring Fruit Pests: A pilot fruit pest monitoring program was instituted in Marion County. Insect traps were observed during the growing season and growers were informed about the numbers and growth of major fruit insects. As a result, growers targeted pesticide applications more effectively, eliminated some insecticide treatments, and reduced production costs and environmental hazards.

LIVESTOCK


Recent advances in genetics, breeding protocols and reproductive efficiency have significantly enhanced rate of gain, feed efficiency, and growth rates. Selected state and county programs summarized below assist cattle producers in achieving those same benefits on the farm and in the feedlot.

Dairy Herd Analyzer Program: Individual dairy producer records can be analyzed by the Dairy Herd Analyzer computer program to determine management effectiveness and profitability. Even though feed costs increased 15 percent, DHIA members increased income-over-feed costs by 8 percent by increasing average production to an all time high of 17,085 pounds per cow. The analysis shows that producers increased income-over-feed costs through the following management programs: reproduction, \$5/cow; nutrition, \$22/cow; milk quality, \$11/cow; and genetics, \$9/cow. Although DHIA members increased their rolling herd average from 15,025 pounds in 1985 to 17,085 in 1989, a calving interval approximating 400 days was maintained.

Sire Selection: Genetic improvement through sire selection is particularly important in dairy herd management. A sire selection and culling program was reviewed with producers in 35 annual DHIA meetings and summarized in newsletters and radio tapes. Sire summaries were also provided to 676 dairy producers. Producers significantly increased their potential for milk production through improved sire selection.

High Plains Cow Calf Conference: Five Southwest Kansas Extension Councils pooled the expertise of recognized bull breeders, specialists and agents to enhance the profitability of cow-calf operations. A major goal was to demonstrate the use of Expected Progeny Differences (EPDs) in selecting breeding stock. Bull breeders provided examples of high growth, low birth weight, and high milk producers.

Feeding Dairy Cattle: Cows convert feed into milk more efficiently as production increases because feed requirements for maintenance vary primarily with the size of the cow, not the level of production. In a program to increase milk production, 676 producers received monthly



feeding recommendations, 332 rations were balanced using the KSU Dairy Ration Balance and seven dairy feeding schools were conducted. Milk production increased 622 pounds/cow/year while feed costs increased only \$80/cow/year. Nutritional losses computed by the Dairy Herd Analyzer program were reduced by \$22/cow.

Averting Resistance to Livestock Insecticides: Livestock utilize 17 million acres of pasture and range plus the grain and forage grown on another 9 million acres, 51 percent of the state's land area. However, the development of pests resistant to pesticides is a serious concern due to increased use of sustained release formulations — ear tags, neck bands, feed additives, and stomach boluses. For example, the use of impregnated ear tags facilitated the development of horn flies resistant to pyrethroids. Effective educational programs have been organized to inform livestock producers about insecticide resistance and non-chemical control methods and insecticide use patterns that are effective, economical and safe.

Central Kansas Bull Tests: The Central Kansas Bull tests provide the research base for workshops and public meetings on genetics, reproductive efficiency, nutrition and management; and for integrating cattle of known biological types into profitable production systems. Data from 17 years of bull tests with 11,494 bulls of 32 breeds show that starting weight, frame score, and scrotal circumference have increased significantly. Frame test scores increased from an average of 3.4 in 1973 to 5.9 in 1986. The average daily gain (140-day test) and the adjusted 365-day weights increased within all breeds.

Steer Futurities: A steer futurity allows producers to enter three or more cattle in an Extension-supervised production trial at a commercial feedlot and compare rate of gain, feed efficiency, carcass characteristics and overall performance. Since 1974, steer futurities involving 7,000 cattle have provided a historic record of increases in birth weight, slaughter weight, and growth rate. The data also show that breeders have adapted to industry requirements for weight, backfat, and leanness. Based on futurity results, many producers increased profit by retaining ownership from birth to slaughter.

Disease Prevention for Poultry: Kansas is classified as a U.S. Pullorum-Typhoid Clean State, so all poultry exhibited and shipped interstate must be certified free of pullorum-typhoid diseases. The National Poultry Improvement Plan also mandates testing for salmonella enteritidis. This program requires periodic sampling of blood, hatching eggs and the poultry house environment. Other National Poultry Improvement Plan programs include Mycoplasma Gallisepticum, Synoviae, and Meleagris Clean. This program, coordinated by an Extension specialist, provides essential protection for breeder and commercial flocks.

Heifer Synchronization: Producers in Marion County participated in a heifer MGA-prostaglandin synchronization demonstration program. Extension specialists treated 139 heifers with prostaglandin following which KSU students artificially inseminated 92 heifers and 12 cows.

BEEFpro: Extension workers in Marion County organized a BEEFpro integrated management program. A total of 788 cows (six herds) were scored for body condition and the BEEFpro program was used to analyze



management, feeding, and production costs. Producers learned to condition-score cows, fine-tune feeding programs and reduce feed costs.

Artificial Insemination Clinic: Ranchers in Butler County were updated on the use of the latest artificial insemination techniques, heat synchronization, nutrition, sire selection, and heifer development in a workshop setting where individual questions and problems could be addressed



HUMAN RESOURCES AND LEADERSHIP PROGRAMS

HUMAN RESOURCES

Extension programs, by focusing on leadership skills, family relationships and priority needs, help ensure the future of Kansas and its people, both rural and urban. Brief summaries of a few of those programs follow.

Balanced Farming and Family Living: This intensive personal program assists farm families seeking ways to improve farm profitability. It helps families set and achieve family, personal, and farm management goals by developing individualized plans, using all available resources, and addressing family goals and financial needs. Consultation in financial analysis, crop production, livestock production, and family living is provided for each family. The objective is to help keep families on the farm wherever possible or to assist in the transition to another job if farm resources are insufficient. Some 230 farm families in 18 pilot counties enrolled in the program. Educational materials have been provided to all 105 counties.

Rural Family Support: This program assists farm families and those in rural areas who are experiencing economic or social stress. Rather than create new sources of help, Rural Family Support increases the effectiveness of existing mental health professionals, care-givers, and rural support systems. The program, structured as a part of the Farmers Assistance, Coordination, and Training Service (FACTS), has provided training for 400 social service providers; 120 county agents were trained in crisis response skills.

Job Search Education: Sixty-six county Extension agents were trained in job search education to enhance the job seeking skills of rural people who are changing careers or entering the job market. Over 250 individuals found employment after participating in the program.

Job Search: Forty individuals participated in a job search workshop in Harvey County. The four-session workshop focused on skill assessment, applications, interviews, resumes, and where to look for jobs.

The Kansas PRIDE Program: The Kansas PRIDE Program is a self-help community development program. It helps local people identify community needs, involve local leaders, develop an organizational structure, and implement programs to make communities better places to live and work. In the past 20 years, more than 400 of the state's 627 cities

have enrolled in PRIDE programs. In 1990, 100 communities enrolled in PRIDE and 72,548 volunteers donated 475,244 hours of labor (valued at \$2,376,220) to accomplish 2,188 community projects. The PRIDE program is coordinated by the Cooperative Extension Service and the Kansas Department of Commerce. Corporate and association sponsors provide cash awards.

Kingman Takes Charge: In 1990, Kingman received a first place cash award in the Statewide PRIDE program. The Kingman PRIDE Committee developed a directory of community projects and conducted a survey of needs and concerns. Priorities were established through a series of 14 neighborhood and a Town Hall meeting using a risk/benefit perspective. Citizen leaders were asked to write their name beside the project to which they would be willing to donate time, talent or money. The Kingman process was adapted from training the chairman received in a national Extension conference.

Community Development Programming: Last year, Cooperative Extension assisted the Montgomery County Economic Development Corporation in a strategic planning program. Extension professionals helped by gathering and analyzing the necessary demographic, baseline and economic studies and in drafting reports. The strategic planning effort focused on job development, retail/commercial trade, and leadership development.

Community Leadership Development: Leadership development is at the heart of all Extension community and economic development procedures. "Take Charge" is a community leadership program that enables local leaders to assess community resources, gain a vision of the economic future, analyze alternatives, and implement action programs. The focus of Kansas Community Leadership (KCL) is on developing a cadre of effective leaders in small rural communities.

Consumer Image: Concerned citizens in Cheyenne County asked Extension to organize a consumer image study and determine the attitude of residents toward county businesses, government services, and community functions. Because of the study, positive action was taken in county road improvement, drug and alcohol abuse, tourism, safety, fund-raising, beautification, and support for local businesses.

Local Government: Educational programs for local government address public finance, health care, and risk management. For example, numerous public and private data bases are available for use in identifying alternative funding sources. In addition, educational programs in risk management address liability exposure, risk management techniques, personnel policy, park safety, and minimum cost insurance plans. Risk management programs will be presented in 17 counties in early 1991.

Life Skill Volunteer Programs: Thirty-three volunteer leaders in Ellsworth County were trained in personal safety for women, decision making, and consumer services. The volunteers then presented those programs to an additional 400 people in the county.

School Lunch: In response to a request from a school principal in Ellsworth County to help reduce the amount of food wasted in school lunches, a Rat/Nutrition Project was introduced. The six-week project



consisted of weekly lesson plans, student activities, student worksheets, and sample test questions. This program was one of 24 curricula featured at the National American Home Economics Association Convention.

Self-Care Education: A series of five after-school self-care education programs were conducted in two elementary schools in Abilene. Volunteers were recruited and trained as school coordinators and lesson team teachers. Classes were promoted through the school. A 4-H club and an EHU Unit were recruited to provide nutritious snacks that were served by parents.

Public Policy Forum: Three public forums attended by 175 community leaders addressed the impact of declining population on health care, education, transportation, and shifts in retail trade in a six county area in north central Kansas. Because of the meetings there is an increased awareness of regional problems and the need for strategic planning on a county and community basis.

Leadership Independence: After introducing Family Community Leadership to a business networking group, the Montgomery County FCL team assisted with leadership training responsibilities for the organization in Independence and Coffeyville. One team member worked extensively with minority groups.

BUILDING HUMAN CAPITAL

The following educational programs were organized to prepare youth for career and leadership responsibilities and to enhance the leadership capability of adult, volunteer, and family and community leaders.

Career and Leadership Programs for Youth

Focus on Your Future: Three counties (Finney, Wallace, and Dickinson) are piloting an agricultural careers package for youth. This careers package, developed by North Carolina and Missouri, holds great promise for youth of 4-H age. Programs developed by the three pilot counties will be adapted for statewide use in 1991.

Teen Leader College (TLC): Since the introduction of Teen Leader College in 1987-88, 535 teens have completed the first workshop, TLC I. Two hundred youth have graduated from the two-part TLC series and are certified as project leaders, camp counselors, or assistant organizational leaders. Last year, 51 graduates served in leadership roles in their counties. Since 1988, 43 adults in 38 counties have served as TLC advisers.

Ambassadors: In 1990, 69 youth and 17 adult advisers from 24 counties enhanced their skills in public speaking, newswriting, radio presentations and marketing to prepare to be ambassadors for county 4-H programs. Advisers were also instructed in program implementation and support.

Officers and Club Leaders: Volunteer leaders and agents planned and implemented officer and club leader training in 79 counties. The objectives were to help youth and adult leaders understand their leadership responsibilities; develop a working knowledge of 4-H programs, parliamentary procedure, and club by-laws; and ways to make meetings enjoyable, appealing, and effective.

Developing Volunteer Leaders

Kansas Volunteer Leader Forum: Participants in the 1989 North Central Leader's Forum in Ames, Iowa, recommended that a follow-up State Leader's Forum be held at Rock Springs 4-H Center. Approximately 150 volunteers pre-registered; however, a late March snowstorm reduced participation to approximately 60. Despite the weather, enthusiasm was high, and an annual Kansas 4-H Adult Leader's Forum is planned. This "train the trainer" forum is expected to become an important event for Kansas 4-H volunteers.

Organizational Leader Training: In-depth training is offered to volunteer organizational leaders to provide skills in helping youth develop self-esteem, improve decision-making ability, and increase interpersonal skills. The four-workshop package, in place since 1984, was condensed to two, 2-day workshops. Three counties offered a mini-version of this training for 72 4-H leaders.

Elected County Extension Councils: More than 2,500 elected Kansas Extension Council members received handbooks and orientation and leadership training in 1990. This training helps ensure a continuous core of effective leaders who provide direction and guidance to local county Extension programs. New orientation materials, recruitment brochures, handbooks and videos will ensure continuity in training procedures from county to county.

Family Community Leadership (FCL): FCL is a leadership project co-sponsored by the Kansas State University Cooperative Extension Service and the Kansas Extension Homemakers Council (KEHC). This program, funded in part by the W. K. Kellogg Foundation, helps citizens become effective participants in public policy decisions affecting families and communities. In May 1990, 18 new counties joined the program, making a total of 52 counties with certified FCL trainers.

County teams, usually three to five persons, receive over 30 hours of training in leadership, group process, team building, issue identification, public policy, volunteerism, and teaching methods. They make a commitment to extend this training to others. A board of directors provides overall coordination and four county teams conduct concurrent training sessions at each state FCL institute. Team teaching is a special feature of the FCL program.

Ninety volunteers received 480 hours of training and 250 volunteers contributed over 6,000 hours in planning, promoting and teaching FCL workshops to 2,540 participants.

Follow the Yellow Brick Road: This original show is an allegorical play written by Cowley County FCL volunteers and Extension professionals in which Dorothy and her friends demonstrate how FCL training influences community change. Presentations have been made at FCL training sessions, the State Fair, and the Annual Extension Homemakers Council Meeting in Milwaukee, Wisconsin.

Family Leadership Skill Team: A Saline County FCL skill team provides leadership development in time management, listening, and other leadership skills.



The Finney County FCL team, comprised of three volunteers and three agents, trained over 450 people in leadership and networking techniques. FCL audiences included homemaker councils, homemaker units, businesses, professional clubs, rural arts conferences and women's leadership conferences. One volunteer estimates she has made over 100 local, regional, state, and national FCL presentations.

YOUTH AT RISK

In Kansas, the average age at which children begin to drink is 12.5 and 7,000 youth received treatment for substance abuse in 1988. In 1988, 8,000 Kansas teens became pregnant, and half of those were from white, middle class homes. In 1986-87, 5,156 children were abused or neglected; 1,571 were sexually abused. Approximately 85,000 Kansas children live in single parent families, 65,000 with female heads of household, and 5,000 with teenage mothers. Another 256,000 children live in homes where both parents work outside the home. Extension programs which address the problems of youth at risk include:

4-H CARES: Participants increase their knowledge about alcohol and drug abuse, decision-making, communication, and peer pressure. This program has expanded from 19 pilot counties in 1988 to 69 counties and over 2,500 Kansas youth. Over 250 Kansas agents and volunteers were trained to implement the curriculum.

The curriculum has been purchased by organizations in 48 states and Canada. In March 1989, 4-H CARES was selected as one of 20 exemplary programs in the United States by the Office of Substance Abuse Prevention, the National Association of State Alcohol and Drug Abuse Directors, and the National Prevention Network. In June 1990, CARES was named the 174th Point of Light by President Bush. 4-H CARES is described in the Science and Health textbook published recently by Scott, Foresman, and Company.

Heart to Heart: A satellite video conference, "Heart to Heart" was presented in Kansas and other states in September 1988. The program was developed to facilitate communication between parent and child about human sexuality and to inform youth about AIDS.

Home economics and 4-H specialists networked with 26 non-Extension agencies to develop and deliver the satellite/video program. Thirty counties plan to involve youth ages 13 to 19 and their parents in this program.

Capable Kids Can (CKC): The objective of this program is to reduce the stress for parents and children associated with being home alone. To date, 177 agents from 74 counties have used the materials in classrooms, after-school groups and clubs. Parents have obtained program information at work sites, agencies and businesses and in newsletters and news reports. In addition, 32 advisers and 8 day care providers were trained and are assisting in program delivery. Sixty counties plan to implement the program.

Hello Beautiful Person: Enrichment materials demonstrating uniqueness and self-worth were completed in fall, 1989. Twelve counties report using the materials successfully with 1,900 youth during winter and spring, 1990. In addition, "Hello Beautiful Person" was listed in school enrichment publications for 1990-91. Children were reached in after-school clubs, school classrooms, day camps, day care facilities, and preschools. The Spanish version was made available in the summer 1990. Sixty counties plan to use the program with youth in their counties.

I'm Positive: This program helps adults responsible for children increase their awareness of the importance of self-worth.

During a statewide TELENET on parents and self-esteem, 9,000 fact sheets and 1,000 leader guides were distributed and 3,000 copies of the personal study course were sold. Agents trained 47 leaders and conducted programs with more than 14,000 individuals. In Johnson County, 235 school bus drivers and 70 day care providers attended an "I'm Positive" workshop. Specialists met with 1,500 adults and 7,000 children. Evaluations show that 95 percent of the participants believe their knowledge of self-esteem was increased; 92 percent said their own self-worth was enhanced. When asked what she learned from the program, one participant stated, "You have the power to change your self-esteem no matter what your age."

Youth at Risk: Extension workers in Butler County assisted in a coalition effort involving elementary schools, the superintendent of schools, and a local savings and loan association, which funded the program and provided volunteer trainers.

Teen Council: Monthly meetings of the Sedgwick County Teen Council feature programs in leadership, careers in law, City of Wichita, teen suicide and depression, environmental protection, and other topics. Providing needed services at county functions and socials helps Teen Council members work as a group, accept leadership roles, fulfill commitments, and learn decision-making skills.

Minority Youth Outreach: Many Asian refugees and Hispanics were attracted to an economy paced by the meat packing industry in Finney County. Population grew by 33 percent, minority enrollment reached 36 percent, and the school dropout rate exceeds 39.9 percent. To combat the school dropout problem, the Finney County Extension Service developed an after school-enrichment program for youth cooperatively with teachers and Hispanic organizations.

The program, now in its third year, focuses on English language skills, science, career education, and self-esteem. Twenty-five 4th-5th grade children began the program and in a short time 50 children were attending regularly. In addition to the Spanish translation of "Hello Beautiful Person," the 4-H CARES notebook (a substance abuse resistance program for 3rd, 4th, and 5th grades) will be available in Spanish in 1991. Plans are in process to extend the program to four additional schools and to parents, including teenage parents.

Self-Esteem: Self-esteem programs — Hello Beautiful Person, I'm Positive, Cornerstones, and I Can Do Workshops — were presented in



mothers clubs, weight loss classes, schools, and 4-H look-ins. Self-esteem materials were also incorporated into 4-H training programs for club officers and for camp and camp counselors in Osage County. Self-esteem was a component of all 4-H media materials.

Capable Kids Can: Extension professionals in Lyon County involved almost every 4th and 5th grade child in the county in programs to reduce stress when they were home alone. An after-school day care program was implemented in Chase County using a grant from the Governor's office.

4-H CARES: Saline County teens and county leaders have developed a detailed plan of action to organize a countywide 4-H CARES program. The program, open to 50 youth ages 7 to 12, will start in January. This substance abuse prevention program will be available to 4-H members and the general public.

LEADERSHIP IN AGRICULTURE

The following represent examples of Extension programs in agriculture that strengthen leadership, organizational and human resource skills.

Public Policy and the 1990 Farm Bill: This public policy series for farm and agri-business leaders has both state and national implications.

A survey on the policy options and consequences of the 1990 farm bill was completed by 1,200 farmers. K-State faculty served on the national steering committee and helped analyze the data and write journal articles, policy options, and a progress report. Additional data were provided to Congressman Dan Glickman.

Subsequently, a series of 21 multi-county Extension policy education seminars was presented to farm and agri-business leaders. At these seminars, 2,700 bulletins were distributed and the results of the policy survey were discussed with 900 Kansas leaders. Discussion topics included commodity programs, conservation issues, and natural disaster policies. TELENET conferences were then offered in Joplin, Missouri, and Hutchinson, Kansas.

Organizational Management Seminars: Depending on need, this leadership series focuses on (1) organizational management; (2) strategic financial planning; or (3) individualized topics for businesses and trade organizations. In 1988-89 the audiences included 3 international, 7 national, 11 regional, 49 state, and 12 local groups.

Leasing CRP Acres for Hunting: Extension professionals cooperated with the Russell County Economic Development Committee to inform landowners about opportunities to lease Conservation Reserve Program land for hunting and fishing. The Russell Chamber of Commerce produced a brochure for distribution at sports and boat shows in St. Louis, Kansas City, Dallas, Denver and Oklahoma City. Respondents were referred to landowners willing to lease land to sportsmen. Russell became widely known for its sport hunting and fishing. Senator Robert Dole proposed a study to determine the feasibility of forming a national park.

Developing Community Based Strategic Plans: This multi-faceted

program is designed to help counties and communities develop a strategic plan. Phase one helps residents recognize strengths and weaknesses as well as opportunities and threats. Phase two concentrates on data collection, data analysis, and community assets. Important issues are then identified and prioritized. The strategic plan is drafted and action projects are implemented in phase three.

The prime objective is to shape the decision-making environment and develop leadership capability.

Water Education for Teachers (WET): Extension specialists in 4-H and youth and agricultural engineering developed a Water Education for Teachers (WET) curriculum. The lessons help youngsters gain new ideas and behavior patterns about water resources. The curriculum contains video materials and more than 60 lessons on the water cycle, water supply, water in waste water treatment, conservation, and pollution.

Approximately 100 teachers received "hands on" training with curriculum materials at the Kansas Teachers of Science and Kansas National Education meetings. In addition, 49 agents and four area Extension specialists received specialized training. The WET curriculum has gained national prominence and was presented at a national workshop for agents and specialists in March, 1990. A workshop was held at the Kansas National Education Association Summer Leadership Conference in 1990.

Environmental Education: Cooperative Extension is the lead agency in developing educational programs in non-point source pollution and in preparing best management practices for statewide use. An Extension environmental specialist has been appointed to coordinate all environmentally related programs and to facilitate interagency cooperation. An interagency Water Quality Information and Education Committee, co-chaired by representatives from Extension and the Department of Health and Environment, prepares a newsletter and other information for state and federal agency personnel.

Project Learning Tree: The Department of Forestry sponsors Project Learning Tree, an industry-supported environmental education program coordinated nationally by the American Forest Council. The program teaches schoolchildren how to think, rather than what to think, about environmental issues. The priority is on training teachers, resource professionals and volunteers in using curriculum materials. Eleven workshops were held in 1990.

Master Gardeners: Thirty individuals were trained in the Master Gardeners horticulture program in Sedgwick County. The volunteers assist the county Extension staff with numerous garden demonstrations and programs. Each trainee receives 30 hours of training and agrees to provide 30 hours of volunteer community service.

Commercial Horticulture: In the Ark Valley area, producers are encouraged to organize, establish guidelines, and develop market outlets for fruits and vegetables and to increase on-farm sales through U-pick and retail operations. Successful farmer markets now operate (one or two days each week) in Arkansas City, Winfield, Hutchinson, Yoder, and in Kingman County.

Marketing Seminar for Women: A seminar format was used to



introduce farm wives to commodity marketing concepts in Grant and Stanton counties. Participants asked for additional information about options, hedging, charting, basis, and the availability of marketing clubs.

Dairy Herd Analysis: The Dairy Herd Improvement program provides valuable information to dairy farmers for making feeding, breeding, and management decisions using on-farm computers. To support farm use of computers, an extensive set of computer software has been developed for use by dairy producers, consultants, extension agents, and DHIA Supervisors. DHIA members have long had access to computerized information on remote databases, but this change provides on-farm access to all management information and producers may generate summary data on command. Thirty-three DHIA supervisors help process farm records for 509 members and 37,114 cows.

Crop Protection Associations: Three pilot crop protection associations involving 5,200 acres in four southeastern Kansas counties have been organized. Farmers in each association form a non-profit organization, provide overall supervision and pay the scout's salary. The scout is trained by local and area Extension professionals.

Training 4-H Leaders: In 1985 a 4-H review panel recommended a new approach to 4-H curricula. The new materials emphasize sequential, age- and skill-specific lesson plans for leaders. A 550-page notebook containing 75 lessons for beef leaders has been developed. Handout materials are provided for 4-H members. To date, ninety-three Extension agents and 65 volunteer leaders have been trained in the use of the new materials.

Land Judging and Homesite Evaluation: Contests are jointly sponsored for 4-H and FFA students by Cooperative Extension and vocational agriculture teachers. In 1990, 207 teams and 885 high school students participated in evaluation contests. Ten teams entered the national Land Judging and Homesite Evaluation contest in Oklahoma. Extension took the lead in revising contest manuals, contest rules and scoring sheets, and in providing training to 119 vocational agriculture teachers.

Aerial Application Technology: K-State specialists instituted an Operation SAFE Fly-In to assist aerial applicators in customizing aircraft to meet application requirements for agri-chemicals, maximize efficiency, and minimize environmental hazards. In collaboration with the Cooperative Extension Service, USDA, numerous Extension specialists from other states were trained in the mechanics and technology of conducting fly-in clinics. In 1990, at least 26 states conducted aerial application educational programs, based in part on the original concepts developed at K-State. The program received the USDA Superior Service award in 1985.