1983 Annual Report

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SOUTHEAST EXTENSION AND RESEARCH CENTER & EXTENSION DISTRICT V

1983 ANNUAL REPORT

SERVING SOUTHEAST NEBRASKA THROUGH THE
• NEBRASKA COOPERATIVE EXTENSION SERVICE
• NEBRASKA AGRICULTURAL EXPERIMENT STATION
• NEBRASKA FOREST SERVICE

THE UNIVERSITY OF NEBRASKA—LINCOLN
1983 ANNUAL REPORT

OF THE

SOUTHEAST EXTENSION & RESEARCH CENTER/
EXTENSION DISTRICT V

Dr. Loyd L. Young, Director
Elizabeth A. Birnstihl, Supervisor

A UNIT OF

THE INSTITUTE OF AGRICULTURE &
NATURAL RESOURCES

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Dr. Leo Lucas, Dean & Director, Cooperative Extension Service
Dr. Irv Omtvedt, Dean & Director, Agricultural Experiment Station
Dr. Ted E. Hartung, Dean, College of Agriculture
Dr. Robert W. Kleis, Dean, International Programs
Dr. William L. Powers, Director, Water Resources Center
Mr. Vincent H. Dreeszen, Director, Conservation & Survey Division

OF THE

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Genoa
Blair
Genoa
Crab Orchard
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Lincoln
Murdock
Clarkson
Auburn
Wahoo
Lincoln
Omaha
Burchard
David City
Rising City
Beatrice
Blair
Beatrice
Platte Center
Yutan
Fairbur
Omaha
Oakland
Omaha
December 23, 1983

Dear Friends,

We are happy to present the Annual Report of Cooperative Extension Service, Agricultural Research, and Nebraska Forest Service programs conducted by the staff during 1983 in southeastern Nebraska. The report represents an overview of the programs in the three areas and not a detailed description of each and every program carried out here at the Center and in the individual counties of southeast Nebraska.

The Southeast Extension and Research Center is located in Miller Hall on the East Campus of the University of Nebraska-Lincoln. The Center serves a twenty-three county area of southeast Nebraska, stretching from Albion to Falls City and Tekamah to Fairbury.

The research portion of our program is very limited as the major agricultural research for southeast Nebraska is carried out on the campus or at the University of Nebraska Field Laboratory located near Mead.

The scientists, foresters, extension agents and extension specialists are all members of the faculty of the University of Nebraska-Lincoln (UNL). The extension agents serve as your direct link with the resources of the UNL Institute of Agriculture and Natural Resources. Through your local agent, you can obtain results of research and other information in agriculture, home economics and related subjects.

We are very pleased with efforts of our faculty and look forward to even more effective programs in all areas in the future. I hope you will find these highlights of some of our programs interesting and informative. If you have any questions or would like more information about any program, please contact me.

Yours truly,

Loyd L. Young
District Director
DISTRICT DIRECTOR'S REPORT

1983 was another interesting year for the staff of our unit, our clientele and for those of us involved in administration.

On the agricultural front, the fall and winter of 1982 and the spring of 1983 were very wet; while July, August, and September were very, very hot and dry.

The PIK (Payment In Kind) added a dimension of uncertainty, but did have a positive effect on prices. Over 50% of the cropland was retired in some of the counties in southeast Nebraska.

Unfavorable economic conditions strained the financial stability of many farmers and businesses in our district. Unemployment climbed in the early part of the reporting year. There was some reduction in unemployment toward the end of the period.

The programs of our staff continued during the year to address the recession. There are still needs in this area as the year closes.

The staff continued to upgrade their professional competency by undertaking graduate programs. Sheila Johnson (Platte County) completed her Master of Science degree at the University of Nebraska-Lincoln in May, 1983 and returned to her Extension Agent-Home Economics position. Debra Kabes (Richardson-Pawnee Counties) will complete her Master of Science degree at Kansas State University in January, 1984 and will return to her position as Extension Agent-Home Economics.

Five of our faculty were granted academic promotions or continuous appointment (tenure) by the Board of Regents. The academic promotions were effective July 1, 1983, and the tenure will be effective July 1, 1984. These actions included:

- Dennis Adams (Southeast Extension and Research Center) promoted to Associate Forester (equivalent to Associate Professor).
- Dennis Bejot (Sarpy County) promoted to Extension Agriculturist (equivalent to full Professor).
- Elizabeth Birnstihl (Southeast Extension and Research Center) Associate Professor of Cooperative Extension was granted continuous appointment (tenure) effective July 1, 1984.
- William Gustafson, Jr. (Southeast Extension and Research Center) promoted to Associate Professor of Horticulture.
- Warder Shires (Nemaha County) promoted to Associate Extension Agriculturist (equivalent to Associate Professor).

Recognition was received by our faculty in various ways. Some of these are awards and some are positions of leadership.

- William Gustafson, Jr. (Southeast Extension and Research Center) was awarded the Honor Award by the Nebraska State Council - Soil Conservation Society of America.
- Phil Johnson (Boone-Nance Counties) was awarded the Agricultural Achievement award from the National Association of County Agricultural Agents.
- John Lindsey (Douglas County) was awarded the Distinguished Service Award from the National Association of Extension 4-H Agents.
- Kay McKinzie, Paul Hay and Larry Germer (Gage County) will receive the Excellence in Programming Award for their total Extension program from the Nebraska Cooperative Extension Service.
- Warder "Gus" Shires (Nemaha County) was named Man of the Year by the Auburn Chamber of Commerce.
- Robert Voboril (Platte County) received the Outstanding Extension Agent Award from the Nebraska Association of County Extension Boards.

Leadership positions assumed by the staff:

- Linda Buethe (Nemaha-Johnson Counties) served as chairperson of Extension Agents - Home Economics section of the Nebraska Cooperative Extension Association (NCEA). (NCEA is the professional organization of the Extension staff in Nebraska.)
- Doug Duey (Southeast Extension and Research Center) served as president of the NCEA during 1982-1983.
- Bob Voboril (Platte County) was elected Vice Director for the north central region of the National Association of County Agricultural Agents.
- John Wilson (Burt County) is serving as chairperson of the 4-H Agents section of NCEA during 1983-84.

I may have missed some recognition or leadership positions staff are carrying out. My point is that we have a very capable staff that are being recognized by the awards they received or the positions of leadership they are elected to in their organizations and communities.

Bill Gustafson, our horticulturist, and Dennis Adams, Rich Lodes and Bruce Webster, of our forestry staff, along with many other campus staff were very involved in serving as hosts for the Annual Meeting of the Northern Nut Growers Association. The meeting was held on the East Campus of the University of Nebraska-Lincoln.

The units of the Institute of Agriculture and Natural Resources are moving forward in acquiring microcomputers. Our office on campus, the Southeast Extension and Research Center, added two additional microcomputers to the one we already had. County Extension offices were given an opportunity to purchase on a 50/50 cost share with funds from the University of Nebraska-Lincoln and the University Foundation. A total of eighteen counties in our unit now have microcomputers.

In the area of funding, our unit had financial challenges because of the continued reduction of University budgets by the Legislature. These reductions have necessitated some changes in support from the county level. These changes included:

1. Formerly the Agents serving multiple counties (area Agents) received county support based on a fixed dollar amount. On July 1, 1983, the positions were shifted so that the counties paid 25% of
the Agents salaries, the fringe benefits on the county salary and all of the travel.

2. The new staffing policy for county positions was announced by Dr. Leo Lucas, Dean and Director of the Nebraska Cooperative Extension Service on March 15, 1983. Under this staffing policy, the counties will pay 25% of the salary of the Extension Agents and Extension Assistants for the first two positions, 35% of the third and fourth positions, and 50% of the salary of all positions above four as long as the county is within its allocation of staff. Counties are to meet this funding plan by July 1, 1985. This increase will cost eleven counties in our unit about $36,000 based on July 1, 1983 salaries.

Indepth county program reviews were completed in Butler, Gage, Johnson, Lancaster, Otoe, Pawnee, Polk and Richardson counties. This process has given local people the opportunity to examine their Extension program in the county and to make recommendations for the future. Reviews will be conducted in Colfax, Jefferson, Nemaha and Washington counties during the coming year.

We continue to see good program progress at our Eastern Nebraska 4-H Center near Gretna. James Bell, a retired Air Force officer, was hired as the full time manager effective October 1, 1983. The addition of this position will increase the usage of this fine facility.

A cross section of the extension programs plus reports on our forestry efforts and research reports are reported in the following pages. I invite you to read these reports. If you have any questions, do not hesitate to contact the appropriate faculty in my office.

In the last two annual reports, I have indicated the financial challenges that faced us as a unit. In the 1982 report, I indicated that we would be compelled to make some adjustments in staff and program because of the financial situation. In 1983, we have had to begin to make those adjustments. This has not been accepted joyously by all concerned, but it has been absolutely necessary.

Loyd L. Young
District Director
Southeast Extension and Research Center/
Extension District V
SOUTHEAST EXTENSION AND RESEARCH CENTER

PROFESSIONAL STAFF

Young, Loyd L.
Birnstihl, Elizabeth A.

Adams, Dennis A.
Ahlschwede, William T.
Andersen, Lloyd W.
Bredensteiner, Gary L.

Duey, Douglas D.
Gustafson, William A. Jr.
Hay, DeLynn R.

Jones, Mike L.

Leisy, Tom D.
Leonard, Wanda M.

Lodes, Richard J.
Mooter, David P.

Naber, Keith

Penas, Edwin J.
Webster, Bruce L.
Zollinger, William A.

District Director*
District Supervisor

Extension Forester
Extension Swine Specialist (.25 FTE)
Extension Entomologist (.50 FTE)
Extension Farm Business Consultant (.50 FTE)
Extension Economist-Farm Management
Extension Horticulturist*
Extension Irrigation Specialist (.40 FTE)
Extension Farm Business Consultant
(Stationed at Washington County Office)
Extension 4-H Youth Specialist
Extension Community Resource Development Specialist
NRD Forester
Urban Community Forester
(Stationed at Douglas County Office)
Extension Farm Business Consultant-
Corporations & Partnerships
Extension Soils Specialist*
Urban Community Forester
Extension Livestock Specialist

*Joint Research and Extension Appointment
## EXTENSION DISTRICT V COUNTY STAFF

### PROFESSIONAL STAFF

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>NAME</th>
<th>SUBJECT AREA</th>
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<tr>
<td>Boone/Nance</td>
<td>Phil Johnson*</td>
<td>Agriculture</td>
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<tr>
<td></td>
<td>Anita Hall</td>
<td>Home Economics (10-82 to 1-83)</td>
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<td>Burt</td>
<td>John Wilson*</td>
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<td></td>
<td>Janet Shamburg</td>
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<td>Butler</td>
<td>Delmar Lange*</td>
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<td></td>
<td>Dianne Zeilinger**</td>
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<td>Judy Fruhbauer**</td>
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<td>Duane Kantor**</td>
<td>Agronomy</td>
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<td>Cass</td>
<td>Connie Ahlman*</td>
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<td>Colfax</td>
<td>Dennis Kahl*</td>
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<td>Judy Fruhbauer**</td>
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<td>Duane Kantor**</td>
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<td>Dodge</td>
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<td>Russ Lang</td>
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<td>Jody Jurging</td>
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<td>Eunice Beran**</td>
<td>Expanded Nutrition (.60 FTE)</td>
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<td>Douglas</td>
<td>Bill Cartee*</td>
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<td>Dotti Callahan</td>
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<td>Charlotte Kern</td>
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<td>Mary Kudlacek</td>
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<td>John Lindsey</td>
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<td>Betty Maier</td>
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<td>Mary Ross</td>
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<td>Vern Waldren</td>
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<td>Gage</td>
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<td>Barbara Lake Schmidt</td>
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<td>Johnson</td>
<td>Jim Carson*</td>
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<td>Linda Buethe**</td>
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<td>Nemaha</td>
<td>Warder Shires*, Linda Buethe**</td>
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<td>Otoe</td>
<td>Gary Garey*, Judy Schwab</td>
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<td>Pawnee</td>
<td>Duane Dalluge*, Keb Kabes***</td>
<td>Agriculture, Home Economics</td>
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<td>Platte</td>
<td>Bob Voboril*, Eunice Beran**, Sheila Johnson, Duane Kantor**, Jane Munson</td>
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<td>Polk</td>
<td>Don Sigler*, Judy Fruhbaumer**, Dianne Zeilinger**, Duane Kantor**</td>
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<td>Richardson</td>
<td>Gerald Hopp*, Keb Kabes***</td>
<td>Agriculture, Home Economics</td>
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<td>Vi Damkroger*, Randy Pryor</td>
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<td>Sarpy</td>
<td>Dennis Bejot*, Sue Bush, Monte Stauffer, Bob Woolman, Shirley Niemeyer</td>
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<td>Saunders</td>
<td>Gayle Hattan*, Keith Glewen, Sharon Skipton</td>
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<td>Seward</td>
<td>Marvin Sefrna*, Marilee Karlberg</td>
<td>Agriculture, Home Economics (10-82 to 8-83)</td>
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<tr>
<td>Washington</td>
<td>Jim Peterson*, Becky Versch</td>
<td>Agriculture, Home Economics (.60 FTE)</td>
</tr>
</tbody>
</table>

*Indicates designated Agent Chairman
**Serves multiple counties
***On study leave
All Extension work planned or performed that deals with agriculture, forest production processing and marketing, fisheries, wildlife, natural resources, conservation and related environmental improvement is grouped in the Agriculture and Natural Resources area of emphasis.
Cooperative Extension Service
Agricultural and Natural Resources
Success Stories - County Level

**Improving Pork Production Efficiency** (Boone-Nance Counties)

Educational programming. The formation of a pork producers association within Boone and Nance counties was an initial thrust from the previous year. Once it was established, the chance of providing relevant, beneficial education was one way of maintaining interest and encouraging growth.

Tour. Pork producers in both counties were invited to take part in a tour to swine facilities in northeast Nebraska. They visited two breeding stations, Boar Power and DeKalb. A stop at the Northeast Station provided them a chance to see ongoing research into feeder pig management and swine housing. Mike Brumm described the operation of the station and other specialists commented on their individual projects.

Appropriate information dissemination media. To gain greater interest in the thrust, a special effort was made to inform all pork producers about the programming activities of the association. In addition, a complete news release highlighting the significant points of each program were provided as follow-up to each meeting or event.

The association helped their own cause by constructing and entering an information-type float in local parades to promote their product.

The activity of the association continues to increase. The membership has grown from 30 in 1982 to 66 this year. This can be attributed to the active interest shown by many of the members as well as the type of programs and support given by Cooperative Extension Service staff and specialists.

Considering that there are approximately 100,000 swine in the counties of Boone and Nance, the economic impact of improving number of pigs per litter, increasing feed conversion or average daily gain, even slightly, in an average number of the herds is enormous. Couple that with a more informed producer who sells his animals at a more uniform, acceptable market weight and, not only will the farmer benefit, but the consumer also. This has been the major goal of this thrust.

**Reduced Tillage Systems for Row Crop Production** (Burt County)

Conservation Tillage Meetings. Two tillage meetings were held in our area, the Area Tillage Meeting in Fremont and the Tri-State Tillage Conference in South Sioux City. Farmers were contacted by mail, news releases and personal contacts informing them of these meetings. Rides were also arranged and provided to get more people to these meetings. About 20-30 area farmers attended each of these meetings.

No-Till Planting Demonstration. A planting demonstration was held on land farmed by Larry Mussack southwest of Decatur, on May 10. At this
field day we demonstrated three kinds of planters: International, John Deere, and White. Corn was planted into undisturbed corn, oats, and soybean stubble. Over 30 area farmers attended this demonstration. Considering that planting was already behind schedule and this was the first day most farmers could get into the fields, we felt this was an excellent turnout.

Demonstration Fields. In addition to our planting demonstration we had four other fields scattered around the county showing no-till corn into soybean (2) and small grains stubble and one demonstrating no-till corn into established alfalfa. Planning and recommendations were carefully worked out with these farmers and progress was monitored throughout the growing season.

Individual Consultations. As mentioned above, I've worked closely with several cooperators on demonstration fields and the planting demonstration. These activities have apparently served their purpose as I've received many questions on their progress through the summer and anticipate many more farmers converting their present system towards reduced or no-tillage systems.

Summary. Over the last two years I have worked to increase the interest in and awareness of conservation tillage systems in Burt County. I feel the various avenues used to do this have been quite successful. In 1982 an SCS survey indicated 5500 acres of cropland using some form of conservation tillage or no-till system. In 1983 we had 10,932 acres using these improved practices.

Using the universal soil loss equation it is estimated that soil erosion was cut anywhere from 1 to 33 tons per acre over conventional tillage, depending on the field and the tillage system adopted. Over these 10,932 acres soil erosion was lowered an average of 6.49 tons per acre for a savings of 70,979 tons of soil. This equated to a 52.7% reduction in the potential for soil erosion.

Integrated Pest Management (Butler County)

Approximately 25 farmers and Co-op personnel attended each of the Integrated Pest Management Tours. The emphasis on the early tour was on identification of the bean leaf beetle, first brood corn borer and on rootworm damage. We toured fields that had been prescouted so we knew there were insect infestations. We then pointed out the characteristic markings of the bean leaf beetles and the various colors in the population. We then evaluated the feeding level and determined at what level control should start. The first brood corn borer damage on the leaf surface was pointed out, infestation levels were taken and control methods were discussed.

We also evaluated rootworm control on corn planted into soybean ground with no insecticide application. The key for this rotation is weed control.
in the soybeans.

The later tour emphasized corn leaf aphid, bean leaf beetle and second brood corn borer. We made stops at milo and corn fields that had infestations. Identification of corn leaf aphid, and greenbug were explained and population counts were made. We also discussed the timing of applications on second brood corn borer. We were able to show egg masses of the borer.

The Co-op personnel feel quite comfortable with identification and determining economic levels. They now offer the service of scouting the fields to determine infestation levels. Fifteen hundred acres were scouted by the David City Farmers Co-op this year. They also trained on a one-to-one basis, six more farmers who had not attended the training sessions.

A previous survey indicated those who attended the training sessions had scouted an average of 402 per farm, 50% has scouted at least once a week. Eight-six percent indicated they keep on top of the insect problem. The participants indicated they saved an average of $1,162 by using a scouting program.

**Conservation Tillage (Colfax County)**

**Demonstration Plots.** Three comparison plots were set up in cooperation with the Lower Elkhorn NRD and the Soil Conservation Service. The first plot, located on the LaVern Clausen farm south of Howells, was the site for a conservation tillage corn plot showing the conventional disking in soybean stubble, then planting vs. directly planting corn into soybean stubble. There were hard rains this past spring, which proved to the cooperating farmer and neighbor that even soybean residue can greatly reduce erosion. They were impressed.

A second plot on the Clausen farm compared no-till, single disking and double disking systems of planting soybeans into cornstalk ground. The soybeans were harvested the last week in September; however, yields aren't available yet. Again, farmers had a chance to follow these three different systems through the season, seeing the problems and the advantages of various tillage systems.

A third plot was placed on the Ernest Shonka farm north of Schuyler. This plot compared weed control in no-till corn vs. conventional disking of soybean stubble, then planting corn. Twenty-four herbicides were applied across the field. During a summer tour farmers came to evaluate herbicide performance on weeds.

**Crop and Tillage Tour.** Sixty farmers participated in the July 29 tour. A countywide tour featured all of the previously mentioned demonstration plots, plus corn planting equipment demonstrations, grain drill demonstrations for solid seeding soybeans, visiting with a farmer with solid seeded beans, seeing steep front and back sloped terraces with tile outlets, and soybean chlorosis plots.
More farmers have asked about conservation tillage this summer than before. Reports from neighbors "across the road" show that yields are just as good with conservation tillage as with the conventional plowing or disking, "and with less time and money involved". This past summer, it was very easy to see which fields had been plowed or disked a couple times before planting, as these were the fields that really washed soil to the bottom. It had been years since we had a heavy 5-10 inch rain to really wash down the hills. These rains were very convincing!

Annual Popular Report. Pictures and facts about conservation tillage were featured in the 1982-83 annual newspaper report.

Statistics for 1983 from SCS:
- 44,987 acres were in setaside and PIK
- 153,000 acres in crop production
- 2,000 acres in no-till
- 50,000 acres in conservation tillage other than no-till
- 5,000 acres in conservation tillage with over 50% ground cover
- 52,000 acres planted in conservation tillage

In 1982, 12,000 acres were planted to conservation tillage and in 1983 52,000 acres. This is a very unusual increase of 40,000 acres. It would be nice to credit our efforts to all of this increase. However, I believe rain and weather factors had a lot to do with the large increase. The spring was very wet, not allowing a lot of time to get field work done, therefore farmers had to skip the extra tillage to get their crops planted. After this year, many will probably throw away the plow though.

Conservation Tillage (Dodge County)

A number of factors influence farmer decisions. Mass media plays an important role. Machinery and chemical dealers can influence greatly practices in their area of expertise. Educational efforts by the Cooperative Extension Service and the University of Nebraska are also a factor. What neighbors do or don't do may be important. Economic factors also play a part in the decision. Machinery availability and cost, weed control methods that work, erosion during the previous season and weather during the spring tillage period would all influence the amount of tillage a farmer may do in a field and the depth of that tillage. Customs, traditions, tractor size, planting equipment and a thousand other influences could determine tillage decisions.

In the final analysis, a farmer decides whether to leave residue on the surface, plant in it or incorporate it and clean-till the field.

In 1983 a dramatic change took place in tillage practices for at least 20 farmers in the county. They chose to plant in crop residues, with over 60% of the soil surface covered by residue at planting and after planting. These 5,000 acres that were essentially no-tilled were estimated by the SCS
As a result of these multiple factors, not all related to extension, a dramatic change took place on many farms in the county. An estimated 5,000 acres in the county were planted with practically no tillage prior to planting. In previous years perhaps 500 acres were planted with over 60% cover by previous crop residues. Therefore, a 1000% increase in no-till or nearly no-till acres was effected. Many of these 5,000 acres were planted to corn but the majority of these acres were soybeans planted in corn stubble. Soil preparation consisted only of chopping the corn stalks and planting. The figure of 5,000 acres was arrived at independently by both the SCS director and the Extension agent.

As the season progressed, these 5,000 acres appear to have tolerated the summer drought better than contiguous fields. These acres also had little or no erosion and good weed control. Therefore, it would appear that the change effected in 1983 will be expanded in 1984.

Microcomputers - New, Valuable Farm Management Tool! (Gage County)

Fifty-two farmers, as well as a couple of Agri-Business people, attended a three day workshop on microcomputers. The meeting was conducted by Mr. Jim Emal, University of Nebraska Extension Microcomputer Specialist, and sponsored by the Cooperative Extension Service in Gage, Jefferson and Saline Counties.

Those in attendance saw several different models of Microcomputers demonstrated. They were able to get hands-on experience on the various units and were able to try out some of the different softwares available. Many of their questions about the computer and what they might be able to do for them were answered by Mr. Emal.

Of the 52 enrolled in the workshop only three had microcomputers of their own. Many in the class were contemplating purchasing one in the near future and so the class was very valuable to them. One member stated that this workshop saved him at least $200 and possibly $500 in the purchasing of the equipment he needed to perform the task he needed to accomplish. If this is true for the other 30 units that were represented in the class, the saving by those in attendance reached from $6,000 to $15,000 totally.

Horticulture Program (Lancaster County)

Landscape Plan Development Program. Four programs were presented. Each program built on the other to help the participant develop their own landscape. Each participant developed a landscape to use on their own home. Of the 60 participants who developed landscapes, there were 45 who have started planting. If the landscapes are completed, their total cost would be estimated at $45,000. The increase value to the properties in 10 years would be estimated at approximately $200,000.
Replant Consultation Meeting. After the plans were completed and as the plans were being used to develop the landscapes, each participant was encouraged to re-evaluate their plans. They were encouraged to come to the office and go over their problems. There were 5 participants who felt a need to re-evaluate their plans. This additional help encouraged them to continue with their plans. It also added an additional $5,000 value to the landscapes.

Master Gardener Training Program. Each volunteer received 50 hours of training in horticulture subject matter. Eight training sessions were conducted with each being focused on a different subject matter area. In Lancaster County there were twelve volunteers involved in the training.

Volunteer Service Program. Each participant in the training program was asked to volunteer 45-50 hours of their time to the master gardener program. This averages out to a commitment of four hours per week for the summer growing season. Total hours contributed by the master gardeners was 330. This would be valued at approximately $2,400 and two and one-half days of added service per week to the residents of Lancaster County.

Urban Soils Workshop. There were 45 commercial business owners and employees present to study urban soils. Ed Penas presented a program on soil reactions and their importance in urban situations. Many of the participants hadn't been exposed to soil problems from this point of view. Interpretation of soil analyses sheets has always been a problem. As a result of this program, 5 firms have indicated they are able to interpret the sheets with more confidence and accuracy.

Disease and Insect Workshop. The majority of 55 participants in this workshop were employees of garden centers and lawn care businesses. Accurate diagnosis of plant damage is essential for effective control. Training stressed proper diagnostic techniques to specifically identify the problem. Participants were able to associate insects with insect damage and pathogens with pathogen damage. This had helped them help their customers be effective with pest control.

Commercial Pest Newsletter. The Pest Newsletter was sent to all commercial nurseries, garden centers, lawn care services, and tree services. The newsletter was printed and sent each week of the growing season. Each newsletter highlighted pests or potential pests in yards and gardens and their most effective control. The newsletter was highly praised by the industry and will be expanded in the future.

Using Microcomputers on the Farm (Lancaster County)

Workshop. Forty-five persons attended three 2 day microcomputer workshops held in November, January and February. The workshops were hands-on type programs with all participants receiving 4-6 hours to operate and run programs on the hardware equipment provided. The hardware was
equipment owned by the Nebraska Microcomputer Association. Jim Emal, Extension Specialist, instructed the workshops with assistance from the Extension Agents. From an extensive library of software programs, participants were allowed to operate various record keeping, data processing and data management type programs.

Newsletter. Farmers were asked to call the extension office for information on a microcomputer newsletter. The announcement was made in the ASCS letter. A five-dollar fee was charged to offset handling costs. The newsletter grew from a county or trade area effort into a statewide newsletter being sent to over 500 farmers. Four mailings have been made this year.

User Group. Efforts to form a local user group in December failed with only 4 people in attendance. This spring a second attempt was made in cooperation with Saunders County. A group of about 15 farmers was formed. They have met 5 times. They are struggling for programs and organizational maturity. David McFarling is president. The organization name is CORN (Computer Organization of Rural Nebraska).

Forage and Pasture Workshop (Nemaha County)

A special workshop designed to inform beef producers about growing utilization of all types of forage was attended in January by 25 producers. Extension Specialists Paul Guyer, Bruce Andersen, and Doug Jose presented the workshop. The information presented at that workshop set the stage for one additional pasture management meeting and two pasture tours which took place later in the year. As a result, no less than 20 producers with beef herds have undertaken some program of pasture improvement and at least 15 have undertaken projects to establish warm season pasture programs.

Grain Crisis Alert (East Platte Area)

In preparation for the 1982 harvest (October) large quantities of grain from farm storage were moving into elevators. Much of this grain was out of condition and in several cases so bad that farmers were asked to take it back home. Following a committee meeting with elevator operators and several local farmers, a grain crisis alert meeting was planned for the David City area. It was held just before harvest. Extension Specialist Richard Pierce presented the technical information regarding drying and aeration; local elevator operators made up the panel which brought in grain samples and discussed the spoiled grain coming into their elevators; other speakers presented information on proper combine adjustments to reduce damages, etc. The crisis alert meeting brought in 200 farmers. This meeting followed with additional information at the annual "Ag Update" held in February. Several other grain storage-drying meetings were held in the area during the winter with smaller groups. A follow-up telephone survey with grain elevator managers indicates the David City elevator is
receiving grain with little or no damage from farm storage while other elevators surveyed were receiving damaged grain ranging from 5 to 85 percent from many farmers at the time.

Nebraska Cattleman's Exposition (Platte County)

An idea to have a broad meeting to cover many subjects, the expo idea was the route to go. With the excellent experience of the pork expo, a group of area feeders were called to start the beef expo. There were 3 committee meetings to make plans to conduct a two day expo at Ag Park on February 1 and 2. Commercial exhibitors were contacted to make the expo more attractive for feeders. An educational program for two days was planned by the Animal Science department staff with Bill Zollinger and Rick Stock taking the lead. There were 46 exhibitors entered for the expo, but only 31 showed. The weather played an important role as it was the worst winter storm of the year. Since this was a bad storm only 150 feeders were recorded for attending the two day expo. Those who came were very much interested in the program and seeing the exhibitors. One feeder said this was a very worthwhile program as he will change his operation with a saving of several thousand dollars. Another said we need to repeat the program as it was worth all the effort and more feeders need to attend and hear the talks. The agent received 6 calls the first evening to see if the program will be repeated. The committee met to evaluate the expo and decided to try in 1984. The dates were set for February 1 and 2.

Pin Oak Chlorosis Can Be Cured (Richardson County)

Eight local residents attended a Pin Oak Chlorosis Clinic in Stella, Nebraska on June 22, 1983, presented by Bruce Webster, Urban Forester.

Those attending this evening demonstration were shown how to use different types of materials and ways to correct this iron deficiency in pin oak trees. Many such trees are used for landscapes and the vigor of these trees can be treated if chlorosis becomes severe.

The technique explained in detail by Webster was the injection of water and ferrous sulfate into the flair roots of the tree. Those attending responded that this technique may hold longer lasting results than capsules or soil applied iron compounds.

This technique was put into practice by the owner of a garden center in Humboldt and a friend to treat chlorotic pin oaks in Humboldt. The results were very dramatic as shown from the follow-up visit made to Stella.

Correcting chlorosis problems will save homeowners hundreds of dollars to salvage ornamental trees and keep the landscape a valuable part of the homesite.
Improve Soybean Production (Saunders County)

To update soybean growers on soil fertility needs for profitable soybean production, a three-day "In-Depth Soils School" was held at Wahoo in February 1983. Twenty-three farmers attended, representing 12,000 acres. Drs. Ed Penas and Don Sander, Extension Soils Specialists, conducted the three day event.

One producer, who farms 680 acres, made the statement: "Because of this In-Depth Soils School, I will cut out the use of some forms of fertilizer on my farm that are not needed, and therefore reduce my production costs." A questionnaire will be sent to the participants at the end of the 1983 growing season to see if any changes have been made in their soil fertility program. Overall, the soils school received an excellent rating by the participants.

Farrowing School Attracts Good Crowd (Washington County)

Twenty-seven Washington County hog producers' wives along with three men participated in a Hog Farrowing School sponsored by the Cooperative Extension Service in Washington County. The two-day school was held April 4th and 5th at the Extension Office meeting room in Blair.

Dr. Bill Ahlschwede, University of Nebraska Cooperative Extension Swine Specialist, was the instructor for the program during the first day of activities. Instruction during this day included swine housing, heating, feeding and nutrition, disease prevention and others. Steve Pemberton, a local veterinarian, was the chief instructor for the second day of activities. The morning session included instruction on proper farrowing techniques as well as health needs for the sows and pigs. The afternoon session was an on-hands training session held at the Don Lambrecht farm in southern Washington County. Here, Dr. Pemberton provided instruction on castration, clipping needle teeth, vaccination, ear notching and other health needs.

Enthusiasm for the farrowing school by the participants was excellent. Several of the participants sent thank you letters and were very complimentary of the instructors and of the course. In one instance, this thank you was done publicly through the local newspaper.

An economic impact of the school is difficult to measure. The participants attending the school were, for the most part, the wives of some of the larger swine producers in the area. If the training enabled the participants to save a 1/2 pig more per year per sow farrowing, and the average herd size of the producers represented was 100 sows, there would be a total of 50 pigs saved each year per participant. This would result in an increase of sales of about $5,500.00 per participant. Multiply this out by 27 and we would get a total increase in sales of $148,500 in increased
pork production. This does represent quite an economic impact to the community.

Because of the success of the first school, efforts will be made this coming year to conduct a second school for those missing the first school.

Using Fertilizer More Effectively
by Edwin J. Penas, Extension Soil Specialist

Programs Conducted.

In-depth Soils Schools: One held at Grand Island for fertilizer dealers. Another held in Saunders County for producer.

Fertilizer Management Schools: One conducted at Tri-county meeting in Plymouth for producers and local dealers. Fertilizer management topics were presented at Farmland Industries Crop School for dealers.

Crop Production and Fertilizer Use Clinics: Corn Production Workshop in Nemaha County. Soybean Production Workshops in Platte, Johnson, Lancaster and Burt Counties. Patron meetings in cooperation with fertilizer dealers and Extension Agents at David City, Panama, Ashland and Genoa. Crop Clinics in Saunders and Polk Counties. Conservation Tillage meeting at Columbus. Lincoln Radio KECK Farm Show.

Field Demonstrations, Tours, and Field Meetings: Conservation Tillage Planting and Cultivation Demonstration in the Valparaiso area. Wheat Fertility Plot meetings in Gage and Saunders Counties. Platte Valley Yellows Soybean Plot meetings in Merrick, Colfax and Saunders Counties. Farmland Industries Field Training Meeting for dealers with stops at Wheat Fertility Plots, Platte Valley Yellows Plots and at Mead. Hosted annual Soils Staff Tour with stops at Wheat Fertility Plots, Platte Valley Yellows Plots and at Mead.

Radio Programs: Two discussed fertilizer management and one covered general crop production discussion in a phone-in talk show.
Publications

Two Soil Science News were written. One reviewed data by George Rehm, formerly at the Northeast Station, on Non-traditional/Non-conventional Products for Corn Production. Extension agents and crop producers were requesting information on various products that are being promoted by door-to-door salesmen. This data clearly demonstrates that the normal fertilizer recommendations based on a soil test from the UNL Soil Testing Lab result in the most profit in producing corn. The second, Banding Phosphorus Fertilizer for Wheat Most Efficient, reported yield data from the phosphorus studies on winter wheat. These data, along with previous research, clearly support the application of phosphorus fertilizer in bands either prior to seeding or with the seed at the time of planting. Either method is superior to broadcast applications on phosphorus deficient soils.

An article, Right Soybean Variety Beats Back Chlorosis, was published in the Fertilizer/Irrigation Issue of the Nebraska Farmer. Results from soybean variety trials in Dodge County were reviewed. As soybean producers expand their acreage of soybeans, more soybeans are planted on high pH soils in the Platte Valley. Some varieties are better adapted to these soil conditions than other varieties.

Accomplishments

Proper use of soil testing, including deep samples for nitrate-nitrogen was stressed in most programs. Producers and dealers are becoming aware of the need to use soil testing as a management tool. Many are concerned about the lack of agreement in fertilizer recommendations from the various laboratories. Philosophies used in making fertilizer recommendations were discussed at Soils Schools, Fertilizer Management Schools and Fertilizer Use Clinics. Requests for this information came from fertilizer dealers as well as crop producers. Numerous individuals felt that they were wasting fertilizer and planned to cut back according to UNL recommendations.

New developments in fertilizer application are also popular. Many producers and several dealers are beginning to use the Dual-placement concept of applying phosphorus fertilizers. Recent research in Nebraska and subsequent Extension efforts have gotten this practice started.
Nebraska Pork Programs

by William T. Ahlschwede, Extension Swine Specialist

Nebraska Feeder Pig Exposition. The 10th annual Feeder Pig Expo was held in Columbus in February. It was the best attended and received of them all. Accurate attendance figures are not available. Those who watched the doors reported several thousand in attendance both days. Two of the three seminars were standing room only (the room seats 350), the third drew a smaller, more intense group. The feeder pig show was also attended by a standing room only crowd. The attendance pattern covers all of Nebraska with a few from South Dakota, Iowa and Kansas. More came from nearby than from farther away. The strength and success of the Expo seems to be in the combination of strong seminars, a large high quality trade show and the pig show.

In recognition of ten years of existence, the Feeder Pig Expo Committee sponsored an evaluations-planning event in May. With the help of the Vice Chancellor, IANR, a task force represented Expo participants, Agribusiness leaders, State officials and University representatives was assembled. The task force reviewed and critiqued the ten Expo's heartily endorsed its continuation and suggested some changes. As a result, the name has been changed to the Nebraska Pork Industry Exposition, the Seminar series is being restructured and negotiations are underway to have a new facility available for the pig feedout.

Crossbreeding Systems. The adoption of more productive crossbreeding systems by pork producers is a continuing program emphasis. Although formal activities have not been as numerous this year as last, the thrust appears to be accomplishing its goal. During the last year, I have had increased contact with suppliers of breeding stock regarding breeding programs needed at their level to supply the needs of commercial producers who are adopting the "new" systems. I have worked with, as a group, the Nebraska SPF Breeders. I have consulted individually with many Nebraska breeders about matching their breeding program with the demands of their customers. I have had contacts from four national breeding stock companies and two regional companies regarding breeding systems. We continue to search for more productive breeding systems, ways to implement the systems and methods of delivering the information to all pork producers.

The analysis of swine crossbreeding systems indicate the adoption of specialized systems can increase profit potential by as much as $50 per litter. Various systems are being adopted by pork producers to take advantage of the improved production of the specialized sow lines. The systems differ in the ease with which they can be operated and in their expected returns.

Workshops, meetings, articles and stories in periodicals and private consultations were utilized to help pork producers make decisions about crossbreeding systems. Meetings and workshops were held in eight counties.
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or areas. Success stories of producers who are using the systems recommended by this program appeared in both state and national periodicals along with descriptive material prepared by the specialist. The development of a computerized systems analysis program has been an effective teaching tool. The microcomputer based program has been used at workshops, state and national meetings.

The emphasis on the specialized crossbreeding programs is in its third year. Much of the activity during this program year has been working with suppliers of breeding stock. The adoption of the specialized systems has been extensive enough that the seedstock suppliers are changing their programs to support them. The specialist has worked with individual breeders, groups of breeders and breeding stock companies during the program year to evaluate their programs and to help them design breeding systems which will be more profitable to their customers.

New technologies and practices are available which can make all pork producers more competitive. Producers who fail to adopt more efficient methods will have a difficult time remaining in the pork business in the next 5-10 years. This program was designed to confront pork producers with those practices and provide motivation for their adoption.

The multi-disciplinary multi-method approach included input from specialists in Animal Science, Veterinary Science, Agricultural Economics and Agricultural Engineering and substantial input from Extension Agents. In addition to special programs in 29 counties, statewide coverage through radio spots, television programming, newspaper releases and columns and periodicals were used to meet the objectives of these programs. Many of the county programs included in-depth workshops, some of which spanned several weeks. The cooperation from the Nebraska Pork Producers Association and their county affiliates was particularly effective in targeting programs to the appropriate audience.

A survey of Nebraska Pork Producers taken late in the program year indicated some positive responses to the subject matter involved in this program area. Over 50% of the respondents said they would build the type of nursery for weaned pigs that would meet the specifications of program recommendations if they were to build a nursery. Nearly 50% use a premix program in their feed manufacturing process and over 45% reporting using breeding stock from sources which meet the specifications recommended.

The adoption of new technology and practices on Nebraska Pork Producing farms is a continuing process. Successes lead to further successes. The staff involved in this program are challenged to clarify the technical issues involved in the new practices, evaluate the economic impact and seek ever more effective ways to reach the end user.
Sheep Expanding Numbers
by William A. Zollinger, Extension Livestock Specialist

The number of sheep and sheep production units have grown rapidly over the last five years. This growth is characterized by small flocks across the state. There are about 2500 sheep producers in Nebraska with about 650 in southeast Nebraska. Clientele experience ranges from none to lifelong involvement. A multi-effort program was developed to meet the needs of the different producers.

The second annual Nebraska Sheep Symposium was held in Kearney on November 15 and 16, 1982. The theme for the symposium was "The Future of the Sheep Industry". Various areas covered included meat preparation, what are we producing and general outlook. Dr. J. Whiteman of Oklahoma was the keynote speaker. There were approximately 75 producers present which was an increase from last year.

Area Sheep Days were held in Scottsbluff, Calloway, Clay Center, Stanton and Humboldt. Attendance was lower than expected with only 220 sheep producers at the five meetings. Special speakers included Gary Rickets, Illinois Sheep Specialist and Dr. Bill Kvasnicka, a veterinarian from Clay Center. Subjects covered included general herd management, health and lambing facilities.

Sixty-six rams were delivered to Mead, April 9 to begin the second annual Ram Test. The field day was then held June 28. Unlike 1982, this year there were no deaths.

Plans for the future are also being drafted. This involved a trip with other specialists and support people to Iowa to meet with local support groups. Two items for consideration that came from the meetings are: (1) the establishment of a group feeding program in conjunction with the Ram Test and the Spring Lamb Show, and (2) the establishment of a Nebraska tested rams sale. Local producers felt that the feeding program would lack support and that the sale would be highly supported by not only the producers, but by the Nebraska Sheep Council. The sale is being planned for 1984.
District V Irrigation Program
by DeLynn R. Hay, Extension Specialist, Water Resources and Irrigation

The primary thrusts of the Extension irrigation program are improved irrigation water management and pumping plant efficiency. The hot, dry weather during the summer of 1983 had a significant impact on agricultural production throughout the state, but southeast Nebraska probably suffered the most. A weekly estimated crop water use report and newsletter were sent to District V Extension Agricultural Agents from mid-June to mid-September. The estimated crop water use was provided based on the data from the automated weather stations at Mead and Havelock. This report provided a water use summary for agents to review without taking the time to access the AGNET ET program. The report also provided current comments on water use and irrigation water management. Three "Conservation Notebook" articles on irrigation scheduling and crop water use were prepared. A videotape on soil moisture monitoring was used by KOLN for its farm news show. Scheduling the last irrigation was the topic for a radio tape, news story and a Farm and Ranch Report segment.

With above normal precipitation in 1982, there was low interest in irrigation educational meetings during late 1982 and early 1983. Extension agents were assisted with three meetings on soybean irrigation and one each on irrigation scheduling and pumping plant efficiency. Seventeen agents participated in an in-service training program on drip irrigation that was conducted in June, 1983 with Bill Gustafson. The Irrigation Short Course continues to provide an excellent opportunity for District V irrigators to attend an educational program. The attendance was down for the 1983 short educational program. The attendance was down for the 1983 short course with 128 people registered; 32 of these were from District V.

The interest in pumping plant testing appeared to continue to decline in 1983. A pumping plant evaluation demonstration was conducted in Saline County as a part of a conservation field day. Pumping plant repair feasibility was discussed at a Seward County meeting. I assisted with a pumping plant workshop for well drillers on September 26 and 27, 1983. Although there were only seven people attending, there was some very positive feedback about the workshop. A draft Extension circular, "Feasibility of Pumping Plant Repair", has been prepared.
Nineteen hundred eighty three (1983) can be remembered for many things:

1. Year of the PIK program.
2. Year of early and excessive moisture.
3. Year of drought and high temperatures. (15 days of 100 degrees plus temperatures).
4. Year of pesticide sales (1,500,000 acres of corn treated for first brood corn borer).
5. Year of innovation (approximately 250,000 acres of corn treated with Lorsban and oil through the pipe [center pivot]).
6. Year of severe insect pest problems on corn, soybeans, sorghum and alfalfa.
7. Year of the woollybear caterpillar.
8. Year of the European Corn Borer (worst on record).
9. It was year to remember - one problem after another.

Weather greatly influenced the decision making process for the producer, as was the case in 1982. Broad spectrum recommendations were out and each field needed to be assessed as an entity in itself.

Diseases for the most part on the various crops were less prevalent and severe than last year, the exception being - Fusarium and charcoal rot in both corn and sorghum, charcoal rot in soybeans, eye spot disease in corn and rust in the dry edible field beans in western Nebraska. Tan spot and Cephalosporium of treated wheat seed led to the decrease of seedling decay in many wheat fields. This is the same disease organism that caused the scab problem during 1982.

The early season moisture again caused some leaching of nitrogen in the sandy soils and caused volatilization of some nitrogen from the saturated loamy fine-textured soils.

The early season precipitation also caused some changes to be made in weed control programs in some regions of Nebraska (i.e.) switching from a pre-emergence program to a post-emergence program.

Changes Brought About

The integrated pest management program which began in 1978 in Lincoln County, now includes 76 counties, an increase of 24.5 percent over those counties involved in 1982. The various crops besides corn include sorghum, soybean and alfalfa.

Although the self-help program is still much in demand and in use, there was a major movement by clientele to the agribusiness concerns in
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1983. Farmland and Land-O-Lake Cooperatives in Franklin, Red Cloud, Sargent, Columbus, Stromsburg, Waverly, David City, Cozad, Lexington, Burwell, Henderson and Dorchester included field scouting as a part of their services to the producer.

Other agribusiness concerns such as Huebner's of North Platte, Cargill's of Central City, Tilden Fertilizer of Tilden, Big Byron of Grant, Platte Valley Agri-Science of Central City and Archer, Archer Grain of Archer and Coash Inc. of Bassett all increased their scouting efforts during 1983.

Scoular Elevators headquartered in Gibbon, Nebraska, which has 18 elevators located in the eastern 1/3 of the state, scouted 32,000 acres utilizing 18 individuals in a field scouting program. Eighty percent of the acreage was corn and the remainder was made up of wheat, sorghum and soybeans. Mr. Gene Carstens, Field Coordinator for Scoular Elevators, felt by the introduction of the IPM program, that they maintained the same tonnage by early detection of pest problems and their customer base broadened at all locations in Nebraska. Expanding the program with additional scouts is planned for next year.

Cargill of Central City scouted 7,500 acres of corn during 1983. Five thousand acres were treated for first brood corn borer with 90 to 95 percent control. Mr. Don Monaghan, Manager of Cargill, also attributed much of the good yields of corn in the area (130-150 bushels) to the early detection and control of European corn borer and western bean cutworm problems. Increased acreage for scouting is planned for 1984.

Henderson Farmland Cooperative scouted 4,200 acres of corn involving 40 individuals. Yields ranged from 150 to 170 bushels per acre. Again early detection attributed to the good yields according to plant manager Darrol Gross. Plans are now underway to increase the acreage to 6,000 plus acres under the direction of two field scouts in 1984.

Excellent cooperation and participation was received from all disciplines involved in IPM programs at the Lincoln campus and at the various experiment stations. Slide tapes were made by Extension Specialists in Plant Pathology and Weed Science and Environmental Program departments which were used at Scout Training Sessions and other educational programs throughout this year.

In addition, excellent support has been received by various members of the seed industry, Rob-See-Co, Funks, Golden Harvest, Pioneers, NC+ and Northrup King, members of Nebraska Independent Crop Consultants Association, Aerial Operators and Agricultural Chemical and Fertilizer Association, all of which aided in conveying IPM principles to the people.

The producers (898) were again very receptive to the 15 field tours conducted throughout the southeastern and southcentral portions of the
state (Extension Districts 4 & 5). These educational programs emphasizing the "What, Where, and How" offered the producer a hands-on approach to various pest (insect disease & weeds) problems occurring in their fields.

The Swat Line growers cooperative in Richardson County involving 350 acres of corn, soybeans and sorghum began operation in mid-May, continued through the first week of August. Pest surveys were terminated at this time due to excessive drought conditions. Plants are to continue with the program during 1984.

The 4-H scouting program and FFA youth program remain viable in Nebraska. A 4-H scouting program was initiated in Hall County during 1983.

Four meetings were held at strategic periods of insect activity, to meet with the youth and their fathers in their fields for a hands-on approach to the problems.

The FFA Entomology Contest produced 150 contestants from across the state. Medals, ribbons and plaques were provided by Nebraska Independent Crop Consultant's Association. For some of those involved, this would be their last formal instruction in the study of insects.

Educational and training programs for consultants, field scouts, producers and agri-business concerns continue to be made. The telephone hot lines, operable in several counties have aided in dissemination of the IPM information to the producer. The computerized information program MAILBOX has capabilities to transfer information throughout the state within moments. The newsletter (21), radio (7), TV programs (5), plus numerous newspaper stories all aided in dissemination of IPM information. The new scout handbook greatly aided those involved in scouting fields.

Grower Acceptance

There continues to be support of all IPM programs offered to Nebraska producers and industry. Due to the present economic situation and production problem that existed during the 1983 growing season, the producers are taking a closer overall look at specific needs (irrigation, fertility, varieties, pesticides, etc.) to gain top yields.

Benefits

Through the concerted efforts by all, one of the major benefits to the producer is his increasing awareness and knowledge of integrated pest management and of what it can and cannot do for him.

One of the goals of an IPM program is to stress some alternative pest management measures with the hopes of reducing pesticide usage and hence
leading to a better environment. But there is nothing inherent in an
integrated pest management program that insures that this will happen, and
in 1983 this was the situation. More pesticides were used in 1983 than any
other year to combat a multitude of insect pests such as: corn borer,
spider mites, western bean cutworm, woollybear caterpillars and alfalfa
weevil. The big savings to the producer was the early detection, timing
and judicious use of the chemical for best results.

All definitions of IPM (Integrated Pest Management), and these are
many, feature one theme: the system chosen must be based on sound
ecological principles. Early control methods emphasized either applied
and/or natural controls. Integrated control is a marriage of the two
techniques.

Future for IPM

The future for IPM continues to be bright. It is an advancing concept
in agriculture and it fits into the new innovations that are forthcoming
for the producer. Pheromones, sex attractant secretion can perform several
functions. First, the substance can be used for monitoring purposes. By
luring male insects into a trap-like area, it is possible to obtain a count
of insects in a region, thereby indicating the extent of the problem.
Insects can also be trapped and destroyed in this manner. More work is
needed on this phase.

Another element which favors the IPM concept is the development of
insect growth regulators (IGRs). These products affect the insect's
development in various manners such as chitin inhibitors, or interfering
with normal development in the larval or pupal stage.

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General Farm Records and Analysis
by Douglas D. Duey, Extension Economist-Farm Management

Farm records and analysis is a continuing educational effort. The
results of better farm records become apparent with the satisfaction of
having made more profitable management decisions and the filing of
accurate income tax returns. Profitable farm management decisions are
based with the farmers' experience and the ability to utilize the information
available to him with records. Good farm records provide the base to
make interpretative analysis of the farm business and enterprise selection
and adjustments on the farm.
Farm wives often have much involvement in the keeping of farm records. They have been eager to know more about the business of which they are a part. Meetings held for farm wives are workshop type, and experiences gained are bookkeeping and income tax management.

The "blue" farm record and account book, which is made available to farmers in Nebraska, has been the mainstay of the Nebraska farm records thrust. This year's edition was revised slightly and 15,000 were printed for a two-year supply. The Extension offices in the counties are distributors of this publication. Bank and accountants also order quantities for distribution at year-end. About one out of seven Nebraska farms or ranches uses this record book. Many good comments are received about the practical use of this publication.

**Machinery Economics**

by Douglas D. Duey, Extension Economist-Farm Management

Every two years a survey is made of 3,500 known farm machine custom operators and farmers to obtain the rates being charged for hiring various farm jobs and operations. This information is highly sought by clientele. The summary of data is published as a NebGuide. It has become the most widely distributed publication of any NebGuide, according to the Department of Agricultural Communications.

The custom rates are summarized by State Crop Reporting Districts and by job. Averages, a range of values, and mode (most common rate) are given. As soon as summaries are completed, the Nebraska Farmer magazine publishes the entire custom rate information. They have many readers who diligently clip and file the custom rate tables for reference. Both Part I and Part II summaries were published this year.

There continues to be a large number of telephone calls and letters asking for information on farm machinery custom rates. They are used as a basis of settlement between neighboring farmers, between operator and landowner, and for budgeting or projecting production costs.

A quarterly supplement to the Cornhusker Economics newsletter on percent change of custom rates using USDA index of prices paid by farmers has met with widespread and overwhelming approval.

AGNET is used considerably by extension agents to determine machine costs of ownership and operation with the MACHINE, CUSTOM, and CROPBUDGET programs.
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Nebraska Income Tax Management
by Douglas D. Duey, Extension Economist-Farm Management

Income tax management is taught as an important component of good financial and business decisions throughout the year.

The objective has been to inform Nebraska farmers of income tax management practices which will enable them to minimize their federal income tax liability, subject to sound overall business management practices. The objective was also made to help keep income tax preparers abreast of changes in tax laws and preparation procedures. The extension specialists in farm management and the Extension Farm Business Association consultants do an estimated 95% of the direct consultation with clientele. As income tax is closely tied to the financial aspect of the commercial farms, the service of the Farm Business Association includes considerable emphasis on tax management. The Extension Farm Business Coordinator of Consultants estimates that $500 per association member is saved in income taxes by individual consultation prior to the end of the year. With 300 members, the amount saved is approximately $150,000. When new members enroll, a review of the five previous years tax returns is made to detect errors by the taxpayer or preparer(s). Approximately $17,000 of income tax was refunded to the 34 new members enrolled this year, $8,000 to one farmer. This has been higher in previous years, but the quality of tax returns being filed for farmers by tax practitioners has been improving.

Consultants and specialists have written six newsletters containing income tax tips for this year. Five group meetings have been held on income tax management and the 1981 Tax Act for the public and one radio tape made on Tax Changes.

Marketing, Managing and Financing in 1983 for Nebraska Farmers
by Douglas D. Duey, Extension Economist-Farm Management

Marketing, Managing and Financing in 1983 was a pioneering effort in two respects. First, it was an integrated program in terms of subject matter - marketing, management and finance. Four specialists from these three subject matter areas conducted programs in Seward, Schuyler and Omaha. The objective was to teach farmers how to use the basic tools in these three subject matter areas in developing a total risk management plan for their farms. It also demonstrated the interaction of these subject matter areas in the planning process. The program was directed at farm couples. They attended a two-day workshop and received a notebook of materials for use in the workshop and as a reference after the workshop.

The workshop series was designed to help farm families deal with the management problems which they were facing in 1983, as well as the changed economic environment of the 1980's. A detailed evaluation completed by the workshop participants revealed the following:
1. How helpful was this workshop in demonstrating practical procedures for analyzing farm business decisions?
61% very helpful, 38% some value, 1% little value

2. How many new ideas were brought up which you will be able to use in your business management?
29% many, 65% some, 11% few

3. Were the topics discussed relevant to the problems you are facing in 1983?
60% many, 30% some, 10% few

Workshop participants were also asked their past use of selected financial management and marketing tools.

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| Marketing Practices                      |                |               |           |
|------------------------------------------|                |               |           |
| Grain - hedging                          | 6              | 17            | 77        |
| - forward contracting                    | 14             | 42            | 44        |
| Livestock - hedging                      | 7              | 17            | 76        |
| - forward contract                       | 5              | 14            | 81        |

Southeastern Nebraska Farm Business Association
by Gary L. Bredensteiner, Extension Farm Business Consultant

The primary objective of this program is to provide financial management assistance to individual farm operators. Emphasis is placed on the development of a complete farm records system to provide the needed basis for achieving this objective.

The Southeast Nebraska Farm Business Association is open to all southeast Nebraska farm operators. Farmers who enroll pay a fee for the individual services provided and also have a voice in the operation of the association through an elected Board of Directors. The program has relied heavily on the support of district farm management specialists, extension agents and current members for the recruitment of new clientele. In addition, many agricultural lenders have cooperated in promoting the association.

Farm Business Association members are provided with: 1) a farm accounting system (choosing between a hand kept or a "mail-in" computerized system), 2) year-end computerized total farm analysis, 3) quarterly or annual detailed enterprise analysis (if desired), 4) comparative analysis data and, 5) individual consultant service. It is the consultant's job to provide individual attention to each member as required and the success of
the program relies heavily on the consultant. There are currently three full-time and one part-time consultant serving Southeast Nebraska members. Consultant assistance is given in areas such as: 1) explanation of and continual overseeing of the farm records program, 2) accurate completion of analysis data, 3) explanation and use of analysis data, and 4) individual consultation on income tax management and other financial management.

The association approach originated in District V in 1975. Membership in the association has grown from 25 in 1975 to 215 in 1983.

The importance of accurate financial information to a modern farming operation cannot be overemphasized, especially in view of recent economic conditions. Consultants make use of financial data each day to assist association members with management problems. For example, crop enterprise analysis data was used to project 1983 grain production costs as a first step in developing an effective marketing plan. This information was used with individual members as well as at group marketing meetings held. Consultants in District V assisted with the formation of one new family farm corporation and one general partnership this year. Cash flow workshops were held for interested members.

Efficiency factors stressed by consultants to association members have led to improved management practices. For example, feed efficiency data has provided the incentive for ration analysis and also facility alterations for several members.

Farm Business Association members have made use of analysis data for enterprise selection decisions, particularly in regard to the mix of crops produced in 1983 and decisions regarding participation in the government's "Payment in Kind" program. Also, data and consultant assistance has been helpful in appropriately cutting production costs in 1983.

Income tax management is emphasized on the consultant's fall visit each year. Because the majority of farm operators are cash basis taxpayers, effective tax planning assistance provided by the consultant pays big for many members both in higher and lower income years.

Working a son into a farming operation can be a difficult task. Consultants assisted with operating agreements or other planning devices for father-son operations for four association members this year.

Finally, simply teaching what records are necessary and how to effectively use records in your farming operation is an "every visit" task for the consultant.
NORTHERN NUT GROWERS ANNUAL MEETING ONE BIG SUCCESS
by William A. Gustafson, Jr., Extension Horticulturist

The University of Nebraska-Lincoln and the Nebraska Nut Growers Association hosted the 74th Annual Meeting of the Northern (North American) Nut Growers Association (NNGA), an international association of 2000 members. This meeting was designed to educate the beginning nut culturist. The meeting was highly successful, well organized, and without a doubt one of the best to date. UN-L's high rise, air-conditioned dormitories and meeting facilities, excellent food service, good illustrated talks, and fine speakers, all produced an outstanding international meeting in August (1983).

All of the over 300 registered for the meeting at UN-L's East Campus enjoyed a variety of seminars, workshops, tours and activities arranged by the Cooperative Extension Service and the Nebraska Nut Growers Association. The speakers, tours, seminars and workshops were excellent. People from thirty states, three Canadian provinces and one person from England attended the meeting. One-hundred and forty people attended the 10th Anniversary Party of the Nebraska Nut Growers Association, a nonprofit education corporation. Many letters of praise were receive about this meeting, but basically they all stated "Thanks for a job well done!"

Many educational and research papers were presented covering just about the whole field of nut tree culture. These papers will be published in the NNGA Annual Report scheduled for March-April distribution (1984).

National Nut Evaluation Contest. A very ambitious effort was put forth by the Nebraska organization and their committee of nut evaluators for this annual meeting. More than 200 nut samples were evaluated in a manner patterned after the Iowa Formula #1 which takes into account...crackout percentage, nut size, seal, appearance, usability, separation, pieces, kernel size and color, veins, shrivel kernels and taste grades.

Slogan Contest. Many witty, thoughtful, observant sayings were submitted for the NNGA annual meeting. The Awards Committee had quite a job settling on a "best" slogan, and after much deliberation they decided upon a submission from Ray Walker (MO) [deceased], a great gentleman and nut grower. The official slogan reads: Plant Nut Trees Please.

Big Nut. Wendell Greiner (KS), reigning Big Nut, selected Cyril Bish (NE) to wear the crown during 1983-1984.

Merit Award. For outstanding contributions to the field of nut tree culture, the NNGA Merit Award was presented to Dr. Harry Lagerstedt, USDA Research Horticulturist, Corvallis, Oregon.
All Extension work planned or performed that is directed toward the solution of community problems, achievement of community goals, development of community leadership and community organizations is grouped in the Community Resource Development area of emphasis.
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Crime Prevention (Butler County)  

Information was presented to approximately 75 people at the Co-op Annual Meeting in Ulysses and about 125 in Brainard. Farm losses and the Universal Marking System were discussed. Equipment was borrowed from the sheriff so they could see what was used and how to use it. Brochures were provided from the Farm Bureau as well as some confetti that is used in grain. There were 25 new names added to the list at the sheriff's office this past year. It is difficult to determine if the sign-up was from the paper or the meeting. Assuming a tractor, disk, field cultivator, planter, weed control equipment and a combine were marked from each farm, an additional 2 million dollars of equipment was protected.

Community Assistance in Education is Responsibility of Extension Service (Colfax County)  

Since the Land O'Lakes Beef Packing Plant closed nearly a year ago, many families have had to make big adjustments in their way of living. One group of people organized a group called the Positive Seekers to meet on a regular basis. This group of people who were unemployed asked the Extension Service for help in developing educational programs that would help them in better utilizing the money they did receive as unemployed workers.

Three programs were presented to the Positive Seekers. The first program was on Budgeting and Financial Planning presented by Extension Specialist Kathy Cue. A second program presented by Extension Specialist Janet Wilson was on frauds and bad buys. She gave many good hints on how to shop economically. The third program was on Home Gardening presented by Extension Agent Dennis Kahl. Suggestions on how to get the most from your garden and how to maintain a lawn cheaply were discussed at this meeting.

Helping the Financially Disadvantaged (Johnson County)  

In times of high inflation, helping the financially disadvantaged can be a more difficult task than normal. Because of this, the Cooperative Extension Service initiated a training session during March for Human Resource Agency personnel from the four-county area of southeast Nebraska.

Eighteen individuals, representing fifteen different agencies, were present to hear Kathy Cue, Extension Specialist - Family Economics and Management, discuss numerous aspects of financial counseling. Extension material, suitable for counseling, was shared as a part of the training.

Since the educational session, agency personnel have indicated they have had numerous occasions to reproduce the counseling material in response to their need when working with local clientele.
With limited resources and counseling in-service, agency representatives reflected great satisfaction with this Extension educational opportunity.

Customer Relations (Lancaster County)

A workshop on Customer Relations was given to managers and personnel of small businesses at Gateway Auditorium with 86 in attendance. Comments from participants included: (1) "I learned some different techniques about how to handle people." (2) "The film was an excellent addition to the program. It really got the point across. I know my customer relations has really improved since the program. My employer has even noticed." and (3) "I have tried some of the techniques and they work. I make sales and the customers even seem happy."

Community Self-Help Project (Nemaha County)

The village of Nemaha has only 200 residents and limited facilities. All organizational or club meetings either have to be held in one of two churches or in the fire station. In addition, the school building, which closed nearly twenty years ago, is in such disrepair that it is a hazard to the community. Extension Agent Shires and Extension Community Resource Development Specialist Wanda Leonard have been working with the town council and members of the community to undertake a community improvement project. A request for a Federal Grant was made to no avail. The community has formed a committee to work towards achieving their goals. Plans include razing the old school building and developing the grounds into a recreational area. Long range plans call for construction of a community center on the school grounds. However, the committee and town council have decided to renovate an old store building as a temporary community center.

Farm Safety and Rescue Workshop (Pawnee County)

A Farm Safety and Rescue Workshop was held in Pawnee City on April 10th. Rollin Schnieder, Extension Safety Specialist, presented the program on farm safety and rescue. Over fifty people attended the indoor program from 1:00 to 3:00 p.m., and seventy attended the outdoor program from 3:30 to 5:30 p.m. The program was originally planned for the fairgrounds, but due to the weather the program had to be moved to the bank parking lot.

A lot of people worked to help make the program a success. The typing class at the Pawnee City High School addressed envelopes that were used to mail meeting announcements and information on what to do in an emergency to every person that had a telephone in the county with the exception of Pawnee City.
The Pawnee City EMT Group helped to fold and stuff all the envelopes. In Pawnee City this material was hand delivered to every household in town by the Sertoma Club.

Community Crime Prevention (Platte County)

The program is off and going. The new sheriff, Neal Drum, Jr., is very interested in the community crime programs. He is working very close with agents. A booth at the County Fair had a slide-tape and brochure about crime. A booklet entitled Crime was made by the Insurance Underwriters and distributed.

A meeting of key leaders of various groups were invited to a meeting to discuss a countywide crime program. The sheriff of Hall county was invited to speak on his program. The group said, "Let us in Platte County have a program like Hall county." The wheels are moving. The Fall of '83 is the target time to start.

A 4-H project named the 4-H Crime Stopper has been developed with the help of Ohio State project. Norma Fuhr, 4-H Aide, Duane Olson, Extension Specialist, and Robert Voboril presented the project on Vandalism for the 5th and 6th grade level. Three schools signed up for the project. The lessons covered are: The Problem; Mischief; Vandalism Victims; Vandals; and Vandalism Solutions. A community crime conference was held with the youth that took the project. At Ag Park, there were 146 youth attending. The whole day was a real asset to the project. With high marks the project was forwarded to the State Community Crime Committee. A committee was selected to study the project and make it a statewide 4-H project. There are eleven counties trying out the project. We in the county will continue to promote it and start on another subject.
Customer relations was identified by the Pawnee County retail trade analyses as a hindrance to business prosperity in that county. This problem was substantiated by studying the population and retail dollars information available from the bureau of Business Research. A program on customer relations was developed and delivered to Pawnee County businessmen. Thirty-three business owners/employees took part in the training. Following the training, nine individuals requested that parts or all of the material be made available to other organizations and/or business groups.

The customer relations program was repeated in other business communities. Evaluation results were very positive about the overall program. On questions relating to attitude change and practices adopted, 94% registered a change in attitude and 86% reported a practice adopted. Several of the respondents said that they had held "in-store" training and discussion sessions following the presentations.

A new program offered for small business groups consists of analyzing retail sales tax returns and per capita income from a given community or county and comparing that data first with state totals and secondly with similar population groups and similar income groups. The presentation also includes historical trends as compared to current conditions. Using the state as 100% equality, each county and/or major trade communities can readily determine their "pull/loss factor" or "dollar gain/loss" to surrounding trade areas.

Business development and/or expansion concerns have shown a remarkable growth this year. Consultations with several individuals and community business search groups have resulted in six new business start-ups. Over 30 businesses have not began operation because of unfavorable economic projections. To discourage business development, if that business is highly likely to fail, is as much of a success as those businesses beginning operations.
All Extension work planned or performed that pertains to individuals and families and has as its basic orientation the improved quality of family living is grouped in the Home Economics area of emphasis.
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Machine Quilting Popular and Successful (Cass County)

Quilting has enjoyed a revival in the past few years and people with limited time are interested in machine quilting as a speedier technique. Machine quilting is also very durable. Quilting allows positive use of talent, self-expression and personal development of clientele. It is also a subject matter area which provides an opportunity for extending dollar resources in home furnishings, clothing and gift items.

Classes were on machine quilting to three different groups at five evening sessions in Cass County. Thirty-nine people participated in the classes. Various machine quilting techniques and ways to use machine quilted items to conserve energy in clothing or for the home were taught. In a follow-up evaluation, fifteen of the thirty-nine people responded that they had made items since the workshops with a retail value of $811. Materials to make these items were estimated to cost $288. This represents a savings to participants of $523, and this is less than half reporting the items they made. If the other twenty-four people made just one item each at a savings of $10 over retail cost of that item, the savings to participants would increase to $763.

In addition to the people who participated directly in the workshops, the fifteen who responded to my evaluation questionnaire said they had shared the information with thirteen other people in sufficient detail to enable them to make at least one item. This is an additional savings of $130.

EFNEP Cheese Days (Dodge/Platte Counties)

Cheese give aways were the best recruiting tool we were able to use this past year. The aides participated several times in both Columbus and Fremont. More than 500 eligible families were contacted and eleven new families enrolled in Expanded Food and Nutrition Education Program (EFNEP) the month following the first free food distribution.

The EFNEP aides set up display tables using EFNEP "To Do" sheets, program information, Fact Sheets on storing and using cheese; cheese recipes and a taste of a product made with cheese. "Our" cheese whiz always proves to be popular. Benefits derived from participation were:

1. Improved agency relationship with Welfare, Social Services, Low Income Ministry.

2. Meeting community volunteers who now know what EFNEP is "about". Those administering the program and volunteers, as well, voiced their appreciation for the help of the Extension Service.

A Food Pantry is now being established in Fremont. It will be coordinated by the Low Income Ministry. The EFNEP aides have been invited
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to do food demos in exchange for low income referrals. Seven food items will be distributed to people who qualify - nonfat dry milk, cheese, butter, cornmeal, rice and oatmeal.

**Enriching Family Relationships Newsletter** (Dodge County)

A letter of information and a sample copy of this newsletter were mailed to twenty Dodge County churches in January, 1982. Fourteen ministers requested that the newsletter be sent to them each month. The ministers can use the newsletter as they would like - to duplicate the letter and mail to church or parish members, post the letter on church bulletin board or use only portions of the "Family" newsletter in the church bulletin.

**Property Rights of Women Learnshop** (Douglas County)

The program was divided into two segments. The first dealt with investments, at which time such things as social security, pensions, IRA, Keogh's, Money Market accounts, certificates of deposit, life insurance and stocks and bonds were discussed. Each investment was looked at from a pro and con viewpoint.

The second half, on estate planning, was presented by a bank trust officer/attorney. He focused on wills, gifts, trusts, taxes, probate and state inheritance laws.

When the participants were asked that evening what the most important thing they learned was, those mentioned several times were trusts, the importance of having a will, probate and insurance.

Amending a present will, the need of a will, making a will, and changing rights of survivorship were the most frequently mentioned actions the participants felt they could do to improve their estate plan.

Twenty (20) persons responded to a questionnaire that evening asking if they would make any changes to improve their estate plan. Four definitely felt they would and 10 probably. Six months later a questionnaire was mailed to all who were in attendance that evening. Twenty-one (21) returned the questionnaire. When asked if any changes had been made in their estate plan, seven (7) answered yes.

In addition to those who made changes in their estate plan, one person had since made a will and two were in the process of drawing one up, and one wants to have a new will made.
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Think Nutrition Taskforce (Gage County)

A need was expressed in the evaluation sheets of the Door to Good Health participants, for further information dealing with diabetes, high blood pressure and cardiac care.

This need was expressed to Jerry Davison, Public Relations Consultant at Beatrice Community Hospital. Through Jerry's efforts and the support of the Beatrice Community Hospital a Health and Nutrition Advisory Committee was established. It is made up of persons interested in health and nutrition education.

Brainstorming sessions resulted in the decision to create a newsletter written by hospital staff, medical staff and the Extension Agent - Home Economics, addressing the above stated health concerns.

The first issue of the newsletter, called "Healthline", was mailed in June. It is co-sponsored by the Beatrice Community Hospital and Gage Cooperative Extension Service in Gage County. Subscription cost is $2.50. Topics are suggested and coordinated by the Advisory Committee. Various hospital staff submit articles. These include the Pharmacist, Home Health nurses, Emergency Room personnel, Dietitian and Doctors. Dr. K. E. Gustafson acts as medical advisor and reviews each newsletter before it is printed.

Family Communication (Jefferson County)

The target audience for the February program was parents of preschoolers. Dr. Herb Lingren, Extension Specialist - Human Development and the Family, presented a program on discipline to 22 persons. Sixteen of the participants were not members of a home extension club and six had not previously attended a program of any type represented by the Cooperative Extension Service. Over half of the audience rated the program excellent and four persons requested to be put on the county newsletter mailing list. Reactions to the program included these comments by the editor of the Fairbury Journal News who had attended the program. "It was an excellent program... area residents (not attending) are missing valuable and sometime unique educational programs."

Depression - The Common Cold of Mental Health (Lancaster County)

Approximately 115 adults (94 women and 21 men) attended programs on the topic, "Depression - The Common Cold of Mental Health", sponsored by the Cooperative Extension Service in Lancaster County. Dr. Leon Rottmann, Extension Specialist - Human Development and the Family, presented the program which included such information as the causes of feeling blue or depressed in adolescents, young adults, the middle years and the elderly. The symptoms of depression and treatments available were discussed.

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Stretching the Family Clothing Dollar (Lancaster County)

Wardrobe Coordination. Wardrobe Coordination was given to a group of men (school teachers). This was the first time the participants had had a lesson on line, design and color. Their enthusiasm will warrant including this as a thrust for next year and consideration will be given to offering it to business men, school teachers, factory workers, etc.

Fabric Fun Fair. Fabric Fun Fair was held in March with 620 in attendance. At this event, 49 percent said it was their first Extension activity while 51 percent had been to other Extension sponsored events. Survey results show the following: "It provided me with several new ideas", 64 percent strongly agree, 35 percent agree, and 1 percent disagree. "I will use at least one thing I learned", 60 percent strongly agree, 31 percent agree, 9 percent were not sure. Eighty percent want to see the fair offered again next year.

"Point of Purchase" Information. Wooden boxes with University of Nebraska identification were constructed to hold information fliers at the "Point of Purchase" in fabric stores. Fliers (800) are delivered to the 8 fabric stores in Lincoln each month. Tips on clothing are offered several times each month on radio as well as for Nebline Tips. The Learn-at-Home packet on children's clothing was shown to young homemakers at workshops and advertised via radio, Nebline Tips and newspapers. Approximately 30 packets were sold.

Focus on Clothing Care (Otoe County)

Missing buttons, split seams, and holes in knees are strangers to none, including clients at Region V Mental Retardation Center in Nebraska City.

Seven clients requested their supervisor, Carol Brockly, to teach them to make minor repairs in their clothing. Mrs. Brockly requested a four part series workshop from Extension Agent Judith Schwab.

Four successive weeks found clients attending on-hands clothing repair sessions after their work day at the Center was completed.

Needles and thread were foreign objects to the four male participants. They soon learned the fine techniques of threading the needle, knotting the thread and then using them.

Clients learned to sew on buttons, repair rips using the hand backstitch, the art of applying and reinforcing iron-on patches.

As a result of the lesson, six participants have used at least one method twice. They all agreed that the program was useful. Three requested and received hand sewing equipment for Christmas gifts.
Food Preparation for Men (Platte County)

A highlight of the year was a two week cooking class for a group of fourteen young men (20 to 30 years of age). Terminology, measurements, nutrition, label information, buying, etc. were discussed and demonstrated, plus recipes were prepared that showed what a variety of terms mean. "What is an easy, clean way to flour meat?" In a brown grocery sack, of course. "I don't like fish, but that fish is really good!" Lima beans are not popular food, but the casserole was almost empty. The participants did all of the food preparation the second week while the agent talked. One of the participants and the reporting agent met in the grocery store. He and his wife were buying the ingredients for the sweet and sour pork chops that had been prepared in class. The comment made later, "his preparation was a success and they were so simple to make". A plus for the agent - the fellows did all of the dishwashing and cleaning up! Five evaluations sent back four months later indicated the value of the class.

What has been of most value to you since attending the workshop?
- Knowing how the food groups, nutrients and calories intermix.
- Discovered what the Cooperative Extension Service is and how it benefits our community.
- Menu planning.
- Terminology use in recipes.
- How to prepare simple, nutritious meals in a short time.
- How to prepare some great dishes for family and guests.

How and why information and skills gained will help you economically?
- Differentials between cuts of meat.
- That fish is a welcome addition and alternate to a primarily beef and pork diet.
- Purchase more for my money.
- Cooking in larger quantities for "plan-overs".
- Knowing what substitutes can be used in place of more expensive ingredients.

Helps learned about food preparation?
- Better understanding of terms.
- Broadened my skills.
- Helped build cooking confidence.
- Knowing how long certain foods will keep and how to store them.

All were interested in attending future food classes.

Machine Tailoring (Polk-Butler-Colfax County Area)

The Machine Tailoring Classes initiated in the 1982 program year were continued as a major portion of the "Stretching Your Clothing Dollar" thrust. The series consists of seven, 2-hour classes in which a lined
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blazer was demonstrated. The series was held once in each county with a total of 38 participants attending.

Some of the features taught included pad stitching of the collar and lapels, taping the roll line, machine sewing invisibly stitched patch pockets, making tailored buttonholes and making shoulder shapes. Participants also gained expertise in choosing appropriate fashion fabrics and interfacing for tailored garments. A number of new pieces of sewing and pressing equipment were introduced throughout the classes. Each week, class members had a chance to share their experiences with the group and ask questions.

Based on estimates of like garments purchased rather than sewn, 25 class participants responding to a questionnaire saved at least $2588, or $103 per person, by sewing their blazers. When asked what the most important thing they learned was, twelve different responses were listed. Those rating the most first-place responses included pad stitching, the invisibly stitched patch pocket, tailored buttonholes, and interfacing use.

Participants were very enthusiastic about sewing and pressing tools that they added to their personal inventory. Tools, either purchased or homemade, totaled 70 by those responding to the questionnaire. Other comments made included these: "I learned what problems to look for and how to correct it by watching Dianne fit the other class members' jackets on them". "The class and the instructor were fantastic, and I've achieved a blazer which I've always been too afraid to tackle! I'd like to thank the instructor and Extension Service for providing such a program to the general public and so inexpensively." "I enjoyed the class very much. I learned a lot and I know if I put them to work, I'll have some beautiful garments." "I really enjoyed the class, learned a lot and will use lots of new techniques. I'm looking forward to more classes."

A follow-up telephone survey of machine tailoring class participants was done from 6-9 months following the class. Each person was asked about sewing skills they have applied since the class. The responses included: pressing techniques, pre-treating fabrics, pad stitching and lining application. One woman taught her daughter all the techniques used in making a machine-tailored blazer.

Use of Sewing Machines (Saline County)

One sewing machine clinic called "Creative Sewing Workshop" was held in February. Linda Biles, Extension Specialist-Clothing from the University of Nebraska, was contacted to conduct the clinic.

Participants brought their own sewing machines, operator's manuals and attachments to the workshop. Going home, they not only took what they brought, but also samples of the skills they had learned to do with their
own sewing machines, such as lettuce edging, applique, smocking and embroidery.

The first half day session was training on care and maintenance of their own machines. The second day session was extending knowledge and skills of participants in using their machines. Because of the need for individual help during the clinic, the enrollment was limited to 25. A future clinic is planned to accommodate others on a waiting list.

The clinic did reach the objectives set for it as evaluated by a follow-up phone conversation with a number of the participants eight months following the clinic. Fifteen reported they felt they had less trouble and frustrations while operating their machines during the last eight months.

An estimated total of $1,275.00 was reported by participants to be their savings on clothing and gift expenditures during the last eight months. One person had calculated she had saved $143.50 on seven items she had made using the decorative skills learned.

Counseling Program for the Military Community (Sarpy County)

Identifying a problem then finding a solution is the key to meeting the needs of a specific group of individuals. Over 50 percent of the military personnel stationed at Offutt Air Force Base and SAC Headquarters have need of counseling to assist in solving financial problems.

The two scheduled workshops provided 32 active military personnel with skills needed when assisting another person with a financial problem. Training received included: listening skills, laws, budget preparation, credit, fraud and developing a professional relationship. The case studies reviewed provided insight into how counseling can work. All persons attending the counselor training felt they were better equipped to assist someone with a financial problem.

According to CM/SGT Leon Wietershause, each person who received the training has counseled between 18 and 45 individuals per month. If each person averaged 30 counseling sessions per month, then the trainees contacted 960 individuals. This accounts for approximately 8% of the active military personnel. The Air Force is trying to identify the person with financial problems as early as possible and provide assistance.

All persons in attendance felt they received adequate training to handle most problems dealing with financial management. One trainee said, "I'm excited about implementing the material presented." Another person stated, "Too bad this course can't be given to everyone in the city."

Due to the training provided, between 35 and 40 military persons had expressed an interest in receiving training so they can assist others in need.
Leader Training Lesson (Sarpy County)

The "Meat-In-Meals" Leader Training Lesson (for Home Extension Clubs) was held as scheduled with 37 club members attending. This agent presented information about wrapping and storing meat, how to purchase and sharpen knives, and cost comparisons of meat.

Also, as part of the lesson, tours were arranged to the Santee Meat Market in Springfield and the Avery Meat Market in Bellevue. The respective butchers demonstrated how to take large cuts of meat (beef in the bag, etc.) and cut them into meal size portions. A summary of the evaluations completed by each participant included the following: "I think everything about the meat lesson was great"; "It was interesting. I liked the helpful hints about sharpening and purchasing knives"; "I enjoyed going to the butcher and actually seeing meat cut up"; "Informative. Especially in these expensive times"; "We have our own meat on the farm, and I appreciated learning about new cuts for my freezer". As a result of the "Meat-In-Meals" Leader Training Lesson, the possibility of having another meat lesson was discussed at the Fall Home Extension Council Meeting. It was decided to have one on Meat Identification for the 1983 locally developed lesson.

One Hundred Forty-Seven Save Shapes (Washington County)

Over 147 women participated in the ten S.O.S. (Save Our Shapes) groups organized in Washington County during the past year. Meeting one hour a week for eight to sixteen weeks, members reviewed materials on nutrition, exercise or behavior change. The get-togethers also provided an opportunity for sharing and provided an atmosphere for support.

One woman who lost over 30 pounds reports, "It (the S.O.S. program) helped us realize we had a mutual problem. I lost the weight for health reasons but the meeting with the girls gave me an incentive. The program was a good one - the written materials made us think about what we need to do."

Such successes were repeated throughout the county. One group leader who directed three different groups testifies to the value of the program. She reports that she organized a group of young mothers into an S.O.S. "club" after they had "heard about the success of two in another group". Of the six new participants, she reports that four lost 20 to 30 pounds each. She adds, "All are mothers of children in their early years that show signs of obesity, too. I've not seen much change in the kids yet but I've noticed changes in the households. The kids say 'we haven't had this or that for a long time'. Hopefully, we'll see lasting impressions on diet and habit change."
COOPERATIVE EXTENSION SERVICE
PROGRAMS
IN 4-H AND YOUTH DEVELOPMENT

All Extension work planned or performed with either 4-H volunteers or youth or 4-H age in all subject/project areas is grouped in the 4-H and Youth Development area of emphasis.
4-H Promotion Brings Results (Colfax County)

Through the team efforts of "Kolache" the clown (Extension Agent Dianne Zeilinger) and the Extension Agent Dennis Kahl, over 230 fourth and fifth grade youth were contacted through the schools. A skit, with unknowing "Kolache" the clown learning about all kinds of 4-H projects from Extension Agent Dennis Kahl, was presented to several classes in all towns in Colfax County.

As a result of this promotional effort at least three new 4-H clubs were organized, and 77 first year 4-Hers were brought into the family. This amounts to 1/3 of all eligible youth that were contacted.

Teen Fashion Board (Colfax County)

A special Teen Fashion Board was created this year. The objectives are: (1) to learn more about the area of clothing beyond the scope of 4-H clothing projects, (2) to do career exploration, (3) to give older 4-Hers the opportunity to develop leadership responsibility, and (4) to utilize these 4-Hers in helping to carry out prefair and fair clothing activities.

This year we have 35 girls, 13 and older, enrolled in clothing projects. Twenty girls indicated interest in the Teen Fashion Board and signed up for activities.

4-H Council Leader Newsletter (Jefferson County)

Members of the Jefferson County 4-H Council acted as chairpersons of various project areas and activities committees. The chairperson of each committee selected persons to serve on the committee to review the project area or activity. Committee areas included beef, camps and trips, clothing, dairy, foods, health and safety, home environment, horse, horticulture and ag engineering, junior leadership, poultry and rabbits, sheep and swine.

Reports from each committee were made to the 4-H Council at a meeting. From these reports 4-H needs were determined.

The major need identified by the 4-H Council was for a monthly letter to 4-H leaders. A monthly newsletter to all 4-H project and organizational leaders has now been started. The leader letter now goes to 57 leaders. It will be updated as new leaders are added each year. The newsletter will have helpful hints, audio visual aids that are available, project information and other related information. One page is a calendar of 4-H activities, 4-H daily dates, and extension activities for the next month.
Citizenship First-Hand (Johnson County)

Using the nation's capital as a 'classroom', twenty-four 4-Hers from southeast Nebraska profited from a week-long experience in citizenship and leadership training at the National 4-H Center during June.

Along with 500 other 4-Hers from throughout the United States, the youth learned about the structure and function of our system of government by visiting with Congressman Beureuter and Senator Zorinsky in their respective offices. Visits to congressional hearings and the House gallery furthered their understanding.

Field trips to historic shrines strengthened their understanding of the heritage of our county's development.

In workshop sessions at the Center, the young people discussed contemporary issues and concerns, and ways in which skills and knowledge gained during the week could be applied to the 4-H program at home. "Plans of Action", written by the 4-Hers at the end of the week, indicated their intentions once they arrived home. A follow-up to this activity has revealed that participants are utilizing their citizenship experience by:

a) conducting mock trials; b) writing letters to their Senators and/or Congressmen; c) assisting with workshops; d) attending city council meetings; e) inviting IFYEs to speak at local meetings; and f) providing leadership with local celebrations.

The 4-H citizenship participants have also reflected personal growth in the following areas as a result of participation in "Citizenship: Washington Focus": a) decision making; b) management of personal resources; and c) making friends.

Recruiter Helper Program (Lancaster County)

Recruiting 4-H club leaders and members in a highly populated county is a challenging but rewarding opportunity. Lancaster County 4-H staff members and the local 4-H Council are very pleased with the success of the "4-H Helper" program.

Four-H Helpers are recruiting coordinators on the 4-H football team. Our goal has been to recruit, train, and support a recruiter helper in each elementary school district in the city of Lincoln. A recruiter helper "helps" the 4-H staff identify youth and potential leaders in each community. Inquiries to join a 4-H club are also forwarded by staff to the local recruiter for placement in new clubs.

Does the idea work? Yes, it does as proven by the fact that 12 volunteers organized 17 new 4-H clubs, recruited 29 new 4-H leaders and supported 145 new members. With 578 volunteer leaders in the county, the local staff have found it difficult to maintain close contact with local
Cooperative Extension Service
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Success Stories - County Level

leaders. The 12 recruiter helpers were responsible for a smaller number of new clubs thus improving the quality and frequency of contact. We hope to reduce first year dropout rates through this support effort.

Plans are to double the number of recruiter helpers during 1984 and again in 1985. This new dimension in 4-H program management changes the management style at the local level. The results during this short time period have been very gratifying.

4-H School Enrichment Program (Otoe County)

Otoe County Youth were first introduced to 4-H through a school enrichment program five years ago. Otoe County had a stable number of standard clubs and a few independent members but the largest audience soon developed through School Enrichment. Extension 4-H Aide Paula French began the first year of School Enrichment with the embryology program. This program was a great success. The next task was to offer more projects for enrollment, projects appealing to a wider age range and different interests of youth.

Each year a packet has been developed for the youth at the end of the project. The packet tells them they are a 4-H member and invite them to take part in all the other 4-H activities in Otoe County. We also include a list of all projects offered and invite them to start a club, join an existing club or be independent members. A post card is attached which they can return if they are interested in receiving our 4-H newsletter or joining a club.

How great a success is the School Enrichment program? Otoe County had 2601 youth in School Enrichment program this year. Those youth all became more aware of 4-H programs. Several started new clubs or joined a pre-existing club. Forty-eight of the youth took part in our Timely Topics Contest. One hundred eighty-three were campers at Eastern Nebraska 4-H Center. Not only are School Enrichment 4-Hers involved in 4-H activities, but they are welcome to have exhibits at the fair. One of our school enrichment youth has gone much farther than this. David Linquist was a counselor last year at Eastern Nebraska 4-H Center and made the Staff-in-Training (SIT) team this year at camp. David didn't stop there as he put lots of work into the meats identification team. David was high individual at our county contest and represented Otoe County at the State Fair Meat Identification Contest.

Are Otoe County Youth benefiting from School Enrichment? There is no doubt.
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School Enrichment Project (Platte County)

Two hundred fifty-eight students (11 classes) enrolled in and completed the Money Maze School Enrichment project. The fourth graders discussed "needs" and "wants" and lasting and non-lasting purchases. The fifth and sixth graders worked on a budget for a fictional family of four. They also discussed with their parents their family's yearly utility costs, grocery costs and car expenses. This helped them to understand why they couldn't have whatever they wanted whenever they wanted it.

Thirty-five money maze posters were entered at the Platte County fair. They depicted banks, needs and wants, family discussions, etc.

Robin Hinrichs, a sixth grader, won first place in the junior division 4-H Speech contest for her money maze speech, "Money Does Grow On Trees".

The Art of Clowning (Platte County)

Our second year in 4-H clowning proved to be an exciting year, with teen clowns in Clown Alley I assuming leadership roles for the summer's events, attended by about 80 4-H clowns. The Extension 4-H aide, Norma Fuhr, provided necessary leadership.

The year began with an advanced workshop, led by professional clown "Poppy", and attended by 17 clowns who were in their second year with the Art of Clowning. Second year clowns then assisted with summer programs for 36 beginning clowns in Columbus and 23 in Lindsey. This summer program offered a 3 day course with 2 hours instruction and exercises each day.

Teen clowns offered Clown Clinics at Stanton and Creston for other teens interested in learning about clowning in 4-H. This led into our clowning highlight of the "First Annual 4-H Clown Show" at the county fair. Twenty-six 4-Hers, ages 9 to 16, entertained with skits, specialties, and songs. Clowns were judged on make-up, costume, overall clown personality and performance. Purple and blue ribbon winners assisted teen clowns at the Youth in Action clown show at state fair.

The 5 clown clubs formed shared their new skills by entertaining at numerous rest homes, in-store promotions, clown booths at county fair and Columbus Days and local events. Teens also branched into volunteer clown ministry work during the summer, at their own community level. Total clown experiences readily show the skills involved in the Art of Clowning.

Share-an-Idea (Polk County)

The Polk County 4-H Council sponsored several new events during the Polk County Fair, held July 25-28. A "Share-an-Idea" program was held on Tuesday evening of the fair. This program was piloted in a very limited
version last year. This year, the council decided to promote the event and try to fill one evening with demonstrations or other special features. A total of nine fifteen minute presentations were given by 4-H members, leaders and others from Polk County communities. About fifty people watched the "Share-an-Idea" presentations. The 4-H Council felt the event was quite successful and plan to schedule it again during next year's fair.

Wednesday before the evening entertainment, the 4-H Council sponsored a Parade of Champions for all 4-H livestock exhibitors. This event was initiated and supervised by Bob Ditmer, 4-H Council member. He also established a contest that was open to all youth. The Greased Pig Contest was held Thursday evening. Several 4-H families helped Bob organize the event and they found donors for four generous cash prizes. The contest provided lots of entertainment for the audience as well as the youth! Both the Parade of Champions and the Greased Pig Contest will be held again next year.

4-H Fair Building Program (Saunders County)

The Saunders County 4-H Fair at Wahoo has become one of the larger fairs in Nebraska. The fair annually has 4-H exhibits numbering around 400 head of market swine, 200 head of sheep, 300 head of beef and dairy cattle, usually 100 horse exhibitors, plus a large 4-H home economics exhibit and related activities.

Most of the buildings at the Saunders County Fairgrounds were built in the early 1900s. Buildings on the Fairgrounds were inadequate and, during the 70s, tents were rented for the Fair and crowded conditions prevailed. County Fair office facilities and restrooms were totally lacking.

The Extension Agents, with the support of the 4-H Council, approached the Fair Board about improving present County Fair facilities to meet present day needs. The Fair Board began a program to study future needs. Visits were made to other Fairs and with the help of the Extension Agents, local architects and the City Planning Commission, a plan was developed to renovate the Fairgrounds and to add new buildings.

This plan was presented to the County Supervisors. The Supervisors were unanimous in their agreement to improve the Fairgrounds and a budget was set up for five-years for $250,000 to complete a building program. This included new buildings, repair of old, and correcting a drainage problem.

The first building to be completed was the new office and restroom facilities. The building also includes dressing rooms for the boys and girls. This building was completed in 1983 and a new 110' x 220' indoor arena will be attached to the office building.

The new arena is to be completed by 1984 and will provide Saunders
County with one of the finest County Fairgrounds in Nebraska. The new building will make it possible to schedule 4-H events, particularly during winter months, that were not possible before.

The new Saunders County Fair buildings exemplify the pride that this County has in the County Fair, a show place for the 4-H program. It is a tribute to the Extension staff and to all the past 4-H members, parents, and leaders and a definite look to the future.

Three-Part Beef Show (Seward County)

The live selection of the Grand Champion Market Beef of the past had been scrapped for a new, more realistic three-part program. Comprising the new three-part program are the living place, daily rate-of-gain and live-carcass placing, all of which are correlated to a scoring system.

All of the market beef exhibited at the Seward County Fair were weighed in February, at the time of identification, and before being placed on a finishing ration. This enabled determination of gainability through the feeding period. "Good growth and gainability are traits important to the performance of market beef", states Marvin Sefrna, Extension Agent for Seward County. Both market heifers and steers had to meet minimum gain standard similar to requirements of the Nebraska State Fair and Ak-Sar-Ben Shows.

In the Market Beef Live Show, the judge, Bob Engle of Geneva placed the market steers and heifers in ribbon groups. However, he also awarded scores for those ribbon placings.

"All of the market beef were evaluated for yield grade and quality grade by a packer-buyer judge, Ernest Schuetze, of Firth. Again, the yield and quality grades on each of the steers and heifers were correlated to points," states Extension Agent Marvin Sefrna.

Once all three parts of the Three-Part Beef Show were scored, the total of the three decided the placing of all nineteen market beef entries and Grand and Reserve Grand Champion Market Beef animals.

"All nineteen of the market steers and heifers exhibited at the Seward County Fair were placed according to the three-part program", states Agent Sefrna. The general feeling following the 4-H/FFA Market Beef Show was that the new Market Beef program was more equitable than the old live show placing of the past.

"Considering the acceptance of the Three-Part Beef Program following the 1983 Seward County Fair, plans for 1984 are to carry out a similar program, with some slight modifications", concludes Extension Agent Sefrna.
The summer of 1983 proved to be one of the biggest challenges in recent years.

An advisory committee formed in 1982 recommended that we conduct a camp for handicapped youth in 1983.

A planning committee was formed involving representatives from: LOMR (Lancaster Office of Mental Retardation), Omaha Adoptive Recreation, Benson Center, Easter Seals Camp, Regional Center, the summer 4-H camp staff, an interested parent and UNO, UNL, Nebraska Cooperative Extension Service, and Southeast Community College. Five planning meetings were held from January thru July. The camp was scheduled August 1 - 5, 1983.

Information sheets were distributed through local and state agencies, Extension offices in the counties and community members, to get a feel for the needs of special equipment, counselors and other resource help required to successfully conduct a handicapped camp.

Special education students at UNO and Southeast Community College responded to a request to serve as counselors. Arrangements were made to use the handicapped camp as a practicum for their special ed classes. Cheryl Leigh was our contact with Southeast Community College, while Dr. Edsel Buchanan coordinated the counselors from UNO. Dawn Stockwell, a UNO graduate student, served on the planning committee and agreed to act as camp coordinator.

About three weeks prior to camp a counselor orientation meeting was held. Special handicapped training was also conducted in the classroom at Southeast Community College prior to the orientation meeting. At the orientation meeting counselors received the application forms for the campers they would be in charge. They contacted parents, foster parents or agency case workers mostly by phone to introduce themselves, ask questions and to gain a better insight into the problems of the camper.

Twenty-four campers registered for the camp. The camp fee was $125. A more in-depth training session was held for counselors the Sunday afternoon just prior to camp.

We were a little under our goal of 1 counselor for 1 camper, and as a result some counselors doubled up and took the responsibility for two mildly retarded campers. Our campers ranged in age from 8-20 and from very mild to profoundly handicapped. Seven campers were in wheel chairs.
After adjustments were made the first day of camp, it was necessary to take (or send) 5 campers home. It was evident that these individuals required special counseling care that we were not qualified to give. The 19 campers that did remain for the five days started to feel at home with the camp setting and learned to know their counselors better each day.

Camp programs included canoeing, crafts, singing, special games, project adventure, cookie making and decorating, balloon break, water slide, cupcake walk, hikes, a dance and others. Regular camp activities were modified to fit each situation and each individual where possible.

The most satisfying aspect of the camp was to watch the relationships develop that involved trust, caring and friendship. Counselors were communicating with campers by Thursday and Friday. Several parents indicated that they noticed a visible change in the handicapped campers. They were more responsive and happier than when they arrived at camp on Monday. Friendships were established between campers as well as counselors and staff.

The 1983 handicapped camp was a success; however, we learned a great deal. We need to involve Region 5 in the planning to utilize their expertise and to promote a better understanding and cooperation.

Southeast Community College was very pleased with the experience afforded their special ed students and are anxious to work with us again.

This was, granted, a first step, but it was one that few others have taken. I can't help but feel that our small effort made a difference. The satisfaction that the staff and counselors felt on Friday somehow overshadowed the problems encountered on Monday, and evaluations talked about how to improve next year's camp.

Eastern Nebraska 4-H Center. A milestone was achieved at the Eastern Nebraska 4-H Center in the fall of 1983. On October 1, Jim Bell, Papillion, began serving as Camp Director for the 4-H Center. Jim is responsible for promotion, publicity and management of camp facilities.

The Eastern Nebraska 4-H Center has shown extensive growth since the main lodge was formally dedicated in May of 1982. The 1983 figures indicate an 82% increase in camper days for non-4-H audiences as compared to 1982. 4-H camper days also rose by 18%.

The facility serves all youth and adult groups for camping, conferences, retreats, workshops or other educational needs.
Nebraska Forest Service
Extension and Service Programs
District Report

FORESTRY PROGRAMS
by Dennis M. Adams, District and Extension Forester
Richard Lodes, Lower Platte South NRD Forester
Dave Hooper, Urban Community Forester - Omaha
Bruce Webster, Urban Community Forester - Lincoln

Nebraska's forestry program is unique among states in that two forestry functions, Extension (Information/Education) and Service (Nebraska Forest Service), are combined into one program. These functions are not mutually independent. Extension and Service programs often overlap and compliment each other. The objective of the combined forestry effort is to insure the greatest economic and social benefit from trees and forest lands in District V. The following is a brief description of major forestry program areas and highlighted activities/accomplishments for 1982.

1. Information and Education (I & E) - technology transfer systems to promote wise forestry practices.

Creating an awareness of the social and economic benefits of trees/forestry is a continuing challenge in Nebraska. Forestry specialists employed many media techniques to transmit information to the public. Numerous news releases, radio and T.V. appearances were made concerning various aspects of forestry. Several workshops were conducted pertaining to woodland management, pruning, tree planting and care. In addition, periodic newsletters, e.g. Growing Green, Communitree and Arborist Newsletter, are published to provide timely and useful information concerning trees and forestry.

A major Nebraska Forest Service project each year is the annual Forestry Field Days. The theme for the 6th annual event held in 1983 was "Plant a Tree - or a Forest". Approximately 250 people attended the two-day event at Horning State Farm near Plattsmouth.

A long term goal was realized in 1983 with the completion of the first Nebraska Arborists School. Thirty-seven professional arborists completed the one week course and many positive comments were received. Many of the arborists said they would consider sending their employees to the school if it is held next year. Several Forestry specialists were instrumental in organizing and conducting the school.

A major project that Forestry specialists assisted with and participated in was the 1983 National Northern Nut Growers Association conference held in Lincoln. Approximately 300 people from all over the U.S. and Canada attended the meeting. Forestry specialists helped organize and conduct the bus tour including stops to see Northern Pecan research, selected Black Walnut seed
orchard, Black Walnut timber management and Homestead National Monument.

Demonstration is probably the most effective method of persuasion. With this in mind a forestry demonstration area was designed several years ago at the University-owned Rogers Memorial Farm near Lincoln. A management plan was developed to guide development. Several forestry practices are being implemented to demonstrate recommended forestry techniques. Forestry practices being demonstrated include black walnut plantation management and woodland improvement. In addition, a nut tree arboretum is being established for educational purposes. Rogers Farm was utilized in two separate events in 1983. A forestry field tour for media people and a Tree Farm tour for State Senators was conducted to acquaint senators and media with forestry problems and opportunities in Nebraska.

2. Rural Forestry Assistance (RFA) - direct technical forestry assistance to rural landowners.

District V service foresters made approximately 140 rural landowner visits during 1983. Assistance/recommendations were provided concerning planting, management, protection, harvest and utilization of the forest resource. Management plans were developed for about 40 cooperators. Management plans include the necessary technical information to guide cooperators in their forestry program. For example, a typical management plan for tree planting would include specification/recommendations for site suitability, site preparation, tree species, spacing, weed control and future maintenance requirements.

Nebraska landowners are generally not knowledgeable concerning timber harvesting and marketing and can often benefit from assistance provided by the service forester. By proper selection of trees to harvest and assistance in marketing timber the landowner will usually benefit economically. Approximately 15 landowners received marketing assistance in 1983. Timber appraisals were conducted for 6 individuals.

As a service to forest landowners and industry, the District V forestry specialist published four issues of the quarterly bulletin "Timber Talk". This publication includes information pertinent to the forest industry and lists timber sales as a marketing service to landowners.

A relatively new industry in Nebraska is commercial Christmas tree growing. To get in on the industry and economic impact a survey was conducted of all known Christmas tree growers in the state. The results of the survey indicated that approximately 50 growers sell 50,000 Nebraska grown Christmas trees each year. This
annually contributes about $750,000 to Nebraska's economy. As a result of the survey, a publication, "Nebraska Christmas Trees For Sale in 1983", was developed to help people locate "choose and cut" Christmas tree growers in Nebraska.

3. **Urban Forestry (UFA)** - technical forestry assistance to urban communities and individuals to help manage and protect the urban tree resource.

Work was completed on a publication to help homeowners and nurserymen select trees that are suitable for planting in the Omaha area. This represents a major step to improve the quality of tree planting in the area. More than 150 varieties of trees are listed at either highly recommended or recommended trees. In addition, there is a section on exotic trees, trees that are not normally planted but may do well in the Omaha environment.

The Community Forestry Program for small communities emphasizes planning by an organized tree board. Several District V communities are at various stages. For example, Auburn and Tecumseh have developed comprehensive plans and are initiating annual projects. During the year the communities of Elkhorn, Bellwood, Blair, Fremont, Schuyler, Clarkson, Omaha, Beatrice, Liberty, Auburn, Nebraska City, Seward, Humboldt, Plattsmouth, Beaver Lake and Tecumseh received information and assistance in the community Forestry Program. Accomplishments tend to be slow because acceptance by communities of a new concept with future benefit is slow. Beaver Lake and Plattsmouth are communities with a strong interest in community improvement with trees. This interest has developed into several community tree projects including the establishment of community owned and maintained tree nurseries for future tree planting stock.

Chlorosis of pin oaks continue to be a major problem. Classified as a non-infectious disease, chlorosis is an iron deficiency in plants, especially pin oaks characterized by yellow foliage; this problem is most prevalent on high pH soils where iron is not soluble. Three demonstrations on chlorosis treatments were given in Lincoln, Stella and Crete. A "Pin Oak Chlorosis" information sheet was developed for public distribution.

The Lancaster county Plant 2 Trees committee sponsored a tree distribution for school children. The urban forestry program was integrally involved in this project.

4. **Tree Distribution** - the Nebraska Forest Service annually distributes over 3 million tree and shrub seedlings for conservation purposes through the Clarke-McNary Tree Distribution program. Forestry specialists assist with seed collec-
The Nebraska Forest Service is continually working to improve the quality of seedlings sold in the Clarke-McNary program. Since black walnut is the premier timber and nut tree species in Nebraska, distributing seedlings grown from nuts collected in Nebraska is of prime importance to insure planting stock that is hardy and adapted to Nebraska growing conditions. Forestry specialists were instrumental in organizing and promoting a walnut buying station to purchase black walnuts as a seed source. Cooperators who bring nuts to the buying station are paid .08 cents per pound after nuts are processed through a hulling machine. The eventual goal is to produce all black walnut seedlings from Nebraska seed sources.

Long-term efforts to improve the quality of black walnut seedling stock are also underway. A black walnut superior tree clone bank is in the process of being installed at J. Sterling Morton Orchard and Tree Farm in Nebraska City. The 3-acre site will be the location for 68 selections of black walnut selected for superior timber characteristics, e.g. straightness, growth rate, few defects. After superior trees are selected, cuttings are taken in the winter and bench grafted onto rootstocks. The grafts are grown in the greenhouse until spring and transplanted into the clone bank. The clone bank presently contains 64 superior tree selections. The long-term goal for the clone bank is to identify trees that produce superior offspring. Trees identified as superior mother trees can then furnish seed for the Clarke-McNary program and also serve as a source of stock to establish superior seed orchards for the Clarke-McNary program.

Another effort concerning black walnut, began in 1983, is the establishment of a "Figured-Grain Black Walnut Clone Bank" at Horning State Farm near Plattsmouth. A rare and valuable characteristic is "figured" or "curly" grain pattern in black walnut wood. Trees that exhibit this characteristic have been collected and propagated by grafting. The clone bank at Horning State Farm includes 11 clones of figured grain black walnut. These trees will be evaluated to determine whether the figured grain is a genetically transmitted characteristic. To our knowledge this is the only large collection of "figured-grain" trees in the U.S.

Through the efforts of the Forestry Specialists, the Lower Platte South NRD is for the first time implementing a tree planting service for cooperators within the NRD boundaries. This is a major accomplishment in that that tree planting service was previously unavailable at a reasonable cost. This should result not only in increased tree sales, but also improved survival rate within the NRD.
Soil Fertility Investigations Related to Corn, Sorghum, Wheat and Soybeans Grown in Southeast Nebraska

Project NEB-47-001 by Edwin J. Penas, Associate Professor of Agronomy

Phosphorus Studies on Winter Wheat

Fertilizer studies on wheat were conducted at sites in Gage (2), Johnson, and Saunders Counties. Methods of applying phosphorus fertilizer (10-34-0) on wheat were evaluated at three rates of phosphorus (23, 46 and 69 pounds of phosphate per acre). Methods compared were broadcast and incorporated before planting, knifed in bands with ammonia with and without N-Serve (prior to planting), and applied with the seed at planting.

Wheat grain yields were increased by phosphorus at all four locations and increasing the rate of phosphorus increased yield at all sites except Johnson County. Phosphorus placed in bands either prior to planting or with the seed was most effective. Both methods were equally effective and both were more effective than broadcast applications. The addition of N-Serve with the ammonia had no effect on grain yields. These studies were supported in part by a grant from Dow Chemical Company.

Nitrogen Rates on Grain Sorghum

Rates of nitrogen were applied on grain sorghum at a site in Otoe County. Part of the field had been grain sorghum the previous year and rest had been soybeans. Both plots were low in soil nitrate-nitrogen. The objective was to evaluate the nitrogen contribution of soybeans to a crop of grain sorghum that followed the soybean crop. Very little rain was received after fertilizer applications. Yields have not been calculated yet; however, they will be reduced by drought. A response to nitrogen was not observed. This study was supported in part by a grant from the Nebraska Soybean Development, Utilization and Marketing Board in cooperation with Max Clegg, Agronomy Department.

Soybean Variety Evaluation on High pH Soils

Chlorosis, or yellowing, of soybeans occurs on some of the soils in the Platte Valley. This problem is commonly called "Platte Valley Yellows". A study was initiated in 1980 to evaluate soybean varieties under the high pH soil conditions and was continued in 1981 and 1982. Varieties differ in their ability to grow under these soil conditions. Also, some soils, particularly the Gibbon series, are more detrimental than other soils.

A grant from the Nebraska Soybean Development, Utilization and Marketing Board made it possible to expand these studies to other soils in the Platte Valley. In 1983, 44 varieties were planted at six sites in the Platte Valley (Buffalo, Colfax, Dodge, Merrick and Saunders (2) Counties). Each site was a different soil series. Chlorosis was very slight in Buffalo and Colfax Counties to very severe in Dodge County. Seed yields were determined at three sites (Colfax, Dodge and Saunders Counties). The Buffalo site was abandoned because of drought, and the site in Merrick was not harvested because of mud and poor stand. The second site in Saunders...
was lost to heavy snow.

Of the 44 varieties tested, 21 were in the top group at each location and in the top 32 across all locations. S Brand S 48 and Stine 2050 have been in the top group all four years. Seven varieties (Dekalb-Pfizer Genetics CX350, Jacques J105, Midwest Oilseeds 397, S Brand S 47B and S 48, Schettler TC 204A and Stine 2050) that were in the top group in the 1981-1982 averages are again in the top 21 in 1983. These varieties have exhibited the ability to yield under these adverse conditions; however, part of the field in Dodge County was so severe that even the best varieties did not survive.

Greenhouse Container Production of Trees

Project NEB-20-045 by William A. Gustafson, Jr., Extension Horticulturist and Kirk L. Nelson, Graduate Student

Containers are being used at increasing rates in the nursery industry to produce plant material. There are a number of advantages to container grown plant material. The economics of reduced labor, equipment cost, accelerated growth and consumer acceptance of the final product is compensating the added expenses of the containers, growing mediums, fertilizers, greenhouse expense, etc. Survival rates, after planting in the landscape, have been shown to be higher with container grown plants than bare root transplants, especially for difficult to grow transplants of the deep tap rooted tree species.

Greenhouse production of seedlings using accelerated growing techniques should have good application for growing tree species in containers in greenhouses in Nebraska. Most grafted trees and buddings are grown in greenhouses so one can provide optimum growing conditions by regulating the light intensity, photoperiod, temperature and carbon dioxide level. By using these techniques, it is possible to produce buddings large enough for planting or grafting in half the time of conventional field procedures.

The purpose of this research and extension result demonstrations was to gain expertise and experience with production procedures and equipment used in growing trees in containers in a greenhouse environment. Several species of trees, black walnut (Juglans nigra), Persian walnut (Juglans regia), ginko (Ginkgo biloba), heartnut (Juglans ailantifolia), oak species (Quercus sp.), pecan (Carya illinoensis), shellbark hickory (Carya laciniosa), American chestnut (Castanea Dentata) and European filbert (Corylus avellana) were visually examined as to the character and condition of the different root systems from that grown in three different
Agricultural Experiment Station
Research Progress Report
Horticulture

commercially available containers. This experience gave a good picture of
the condition of the root system of a one season container grown seedling.

Containers. All the containers were open ended (without bottoms) and
most had been grown on .635 cm (1/4") open mesh wire hardware cloth.
Central taproot species grown in conventional pots with bottoms developed
winding, rope-like, circular roots. Reports of pecans grown in this manner
showed generally poor survival following transplanting, because they were
poorly anchored and subsequent growth was stunted. Many researchers are
now using containers of various sizes to air prune taproots, but all agree
to the advantages of air pruning root systems regardless of the container
size used.

The commercially available containers used for this research and
extension workshops were the Deepot unit Zarntainer No. 900 tree pot and
various sizes of the Plant Band System. Several seedlings that had been
grown in 10.16 cm (4") Polyvinyl Chloride) open ended tubes from 30.48 to
60.96 cm (12 to 24") in length were evaluated. Since containers are one of
the major expenses in production, it is important to select the right one.
Milk cartons have been successfully utilized. They are good for short term
establishment and, after six months, the seedling can be transplanted into
a more stable container. Polyvinyl Chloride (PVC) tubes of various lengths
and diameters have been tested as have stovetubes and other long, straight,
open ended commercial planters.

Pecans were grown in the following types of containers: Zarntainer
8.9 x 30.48 cm (3 1/2" x 12") holding 154 cu. inches of media; round
conventionally plastic pots 15.24 x 13.96 cm (6" x 5 1/2") holding 156 cu.
iches of media; one-gallon milk carton 10.16 x 20.32 cm (4" x 8" square)
holding 122 cu. inches of media. The Zarntainer consistently produced the
smallest trees.

It has been shown that by growing trees in open ended containers on
frames covered with .635 cm (1/4") mesh wire hardware cloth, you can expect
a more fibrous root system. When the taproot grows out the bottom of the
container, it is pruned by the drying effect of the light and air. This
root pruning has the effect of actually stimulating top growth and
lessening transplant shock. Various sizes of milk cartons and PVC pipe,
10.64, 15.24, 20.32 cm (4, 6 or 8 inches) in diameter that are 25.40 to
30.48 cm (10 to 12 inches), long have been used to grow several species of
taproot trees.

Root development of container grown seedlings, after field planting,
has been shown to be adequate enough to avoid the stress generally
associated with transplanting. This quality can greatly reduce maintenance
and watering of new plantings while reducing loses and improving root
system quality.

Growing Media. Soil alone is not recommended as a rooting and growing
medium because other media have more desirable physical characteristics
such as water holding capacity, aeration and bulk density. Soil is usually too heavy and poorly aerated and has a tendency to draw away from the sides of the container when dry.

Numerous amendments are incorporated into different growing medias and at different concentrations. To mention a few products which are used in growing medias: bark materials; rice, pecan, walnut or mahogany hulls; corn cobs; animal manure and other agriculture by-products. Each ingredient has to be considered on its own merits. The major considerations when deciding which to use are availability, uniformity, price, pH, weight, bulk density, porosity, water holding capacity and aeration.

A mixture of peat moss (remains of aquatic, marsh, bog or swamp vegetation), perlite (gray-white silicacious material) and vermiculite (hydrated magnesium-aluminum-iron silicate) 2:1:1 (v:v) was shown to be an acceptable growing media in a recent black walnut study. A 1:1 (v:v) mixture of peat and perlite has been used as a growing media for black walnuts.

Conclusions. The container production of trees holds promise for mass producing many of the taproot type species. The high initial costs can be offset by having a plant in a saleable condition almost year-round and being able to produce greater numbers of plants in a given area with less labor than a field nursery situation. More highly trained personnel would be needed but, overall, the system has merit.