

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Historical Materials from University of
Nebraska-Lincoln Extension

Extension

3-1933

EC29 Ten Years of Agricultural Extension Work with Nebraska Farmers, 1922-1931

Follow this and additional works at: <https://digitalcommons.unl.edu/extensionhist>

"EC29 Ten Years of Agricultural Extension Work with Nebraska Farmers, 1922-1931" (1933). *Historical Materials from University of Nebraska-Lincoln Extension*. 2090.

<https://digitalcommons.unl.edu/extensionhist/2090>

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Historical Materials from University of Nebraska-Lincoln Extension by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

E.C. 29
AGRI
S
85
E7
#29

-181-

Extension Circular 29

March, 1933

Ten Years of Agricultural Extension Work with Nebraska Farmers 1922-1931



AGRI
EXTENSION
FILE

The University of Nebraska Agricultural College Extension Service
and United States Department of Agriculture Cooperating
W. H. Brokaw, Director, Lincoln

UNIVERSITY OF NEBRASKA-LINCOLN

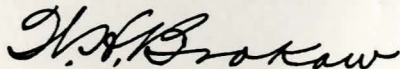


R02379 96941

FOREWORD

This report includes a very brief summary of what Nebraska's leading farm people, their county extension agents, and fifteen state extension agents (agricultural specialists) have been doing to improve farming methods in the state during the ten year period 1922-1931.

Two other reports, Nos. 27 and 28, summarize activities of the extension service in boys and girls 4-H clubs and in home economics work.

A handwritten signature in cursive script, reading "J. H. Brokaw".

DIRECTOR EXTENSION SERVICE.

Ten Years of Agricultural Extension Work with Nebraska Farmers

The ten-year period, 1922 to 1931, has been a favorable one in which to do agricultural extension work. Conditions changed so rapidly, means of communication were so good, and leading farmers were trying so hard to adjust their farming to new situations that the program of the extension service met with favorable response and grew steadily each year.

Prices were low in 1922, and going down again in 1930 and 1931. Good crop years, a diversified agriculture, and easy credit gave many people an unwarranted feeling of prosperity during several of the years between the two extremes. At no time in the ten-year period, however, were Nebraska farmers able to exchange their farm products satisfactorily for manufactured goods and services.

Nebraska farmers made definite shifts to more extensive farming and to the use of power machinery in the ten-year period. They added modern conveniences to their homes; improved their dairy cattle; learned to control diseases, pests, and weeds; started to plant seedling trees; and gave more attention to the maintenance of soil fertility and to erosion control. These are only a few of the changes and improvements.

In the following pages will be found the brief summary of the agricultural projects of the extension service. The list of projects and the index are given below:

PROJECTS	PAGES
AGRICULTURAL ENGINEERING	4
DAIRY HUSBANDRY	9
POULTRY HUSBANDRY.....	14
ANIMAL HUSEANDRY	18
HORTICULTURE	21
FORESTRY	24
ENTOMOLOGY	25
COMMUNITY ORGANIZATION.....	27
MARKET ORGANIZATION	29
FARM MANAGEMENT.....	30
AGRONOMY	32

AGRICULTURAL ENGINEERING

Agricultural extension engineers summarize their work of the past ten years under four main headings: farm structures, farm machinery and power, home equipment and farm utilities, and reclamation. In doing this work, they have co-operated with other state extension agents on livestock, dairy, poultry, soils, and home economics projects.

The extension engineers have maintained a farm building and equipment blue print service, helped farmers with building problems, given instruction at gas engine and tractor repair schools, built septic tanks, held sewing machine clinics, given talks at irrigation schools, laid out drainage demonstrations, and distributed excess war explosives for use in land clearing.

THE GREAT EROSION PROBLEM

Nebraska farmers have been losing their farms, particularly those in the hilly section of the state. Rain water has been washing the top soil away in sheet erosion and in gullies. Farmers have terraced 63 fields as erosion demonstrations for their neighbors to watch. State and county extension agents helped them lay out the terraces and build them at practically no cash expense. The terraces are not only preventing sheet erosion on the hillsides but are also conserving moisture for crops. In some sections of the state the moisture conservation is as important as the erosion control. Terracing promises to be one of the important extension projects of the future in the hilly part of the state.



FIG. 1.—Gullies like this destroy the value of a farm in a few years.

Ninety-two large soil saving dams, 51 large brush dams, and hundreds of small brush dams have been installed by agents and farmers to stop gullies. It is already known that 18,216 acres have been protected by the dams and terraces. How many thousand more acres have been protected by farmers who copied the demonstrations will not be known unless a survey is taken at some future time.

BUILT BULL PENS AND MILK COOLING TANKS

The building of safety bull pens is another project with a lot of promise for the future. In 1931, the dairy and engineering extension men held ten meetings at eight bull pens which farm dairymen had built according to directions. One hundred ninety farmers attended the ten meetings. Many of them said they would have used proved, mature bulls before if they had had safety bull pens in which to keep and handle them.

Dairy and engineering extension agents cooperated also in the building of 60 milk cooling tanks as farm demonstrations, talking at annual meetings of 26 cooperative creamery associations, and helping representatives of the Lincoln and Omaha whole milk distributors in the construction of 251 cooling tanks. Many other tanks were built by members of cooperatives, since the forms for the concrete tanks were provided by the management of the cooperatives.

DESIGNED HOG EQUIPMENT

Since much of the success with the hog lot sanitation project depended upon the ease with which a farmer could make use of it, the A-type hog house, portable feeders and waterers, moveable fences and other pieces of equipment were definite factors in the success of the project. Aside from the cooperative work with the livestock extension men, the engineers have shown 422 lumber dealers in 18 schools the details



FIG. 2.—A Pig Palace in Pork Park, Nebraska.

of the Nebraska blizzard beater A-type hog house. They also conducted 38 building demonstrations for 958 farmers, talked at five general meetings, and fitted up one equipment car of a special train which was visited by 117,872 people. County agents report that farmers in their counties built 12,965 hog houses, and lumber dealers sold 17,124 portable houses in 1930 alone.

REBUILT POULTRY HOUSES

Farmers used suggestions and plans of the extension service in building or remodeling 2,592 poultry houses in the ten-year period. Extension engineers and poultrymen helped county agents and farmers build or remodel 32 poultry houses as demonstrations for the neighbors to copy. The extension men also built 21 brooder houses and showed the features of them to 7,061 people at 21 county fairs. Half the lumbermen of the state who came to 16 schools were told how to build the Nebraska type laying and brooder houses to give greatest satisfaction to poultry raisers of the state. It is impossible to estimate the number of waste-proof mash feeders that poultry raisers have built and used following the 62 feeder building demonstrations given by the extension agents, the 4-H club demonstrations given by boys and girls, and the work of the county agents along this line.

FARM FAMILIES INSTALLED WATER SYSTEMS

Farm women have said they wanted running water in the house more than any other of the modern conveniences. Working through men and women project leaders appointed by home economics extension clubs, the extension engineer trained 1,077 leaders in 30 counties to help themselves and their neighbors with water supply problems. A special exhibit



FIG. 3.—One thousand seventy-seven local leaders from women's extension clubs received training in home modernizing. These leaders in turn trained 5,916 others.

truck and an exhibit coach on a special train took the idea to nearly 80,000 people. Census figures show that people were interested in the project and that they did make many improvements in their water supply systems. The number of water supply systems in Nebraska farm homes almost doubled from 1925 to 1930. The number of systems increased three times as rapidly in one typical county with the project as it did in six surrounding counties without the project.

The use of a septic tank affords the only method of sewage disposal meeting all the health requirements and at the same time remaining within the means of a farmer's pocketbook. Since 1922, 73 septic tanks have been constructed as demonstrations. The average cost of materials was \$36.40 per tank, including connections and absorption system. County agents report 542 more tanks were built by people who saw the demonstrations.

FARMERS IMPROVED HOMES

Nebraska farmers were keenly interested in improving their homes during the years 1925 to 1930. The extension engineer worked with the home economics extension agent and project clubs, and also held schools for lumbermen, contractors, and draftsmen. The women's project work reached 4,410 farm families through the cooperation of 622 leaders. They report 610 homes were remodeled or constructed new within a year after each lesson was given them. The improvements cost over \$85,000. The engineers have held 41 lumber dealers' schools, 16 contractors' schools, and two draftsmen's schools, and at each one pointed out the advantages of Nebraska type buildings and farmstead arrangements.

MACHINERY REPAIR SCHOOLS POPULAR

The average farmer owns \$1,165 worth of farm machinery. The number of tractors on Nebraska farms increased from 11,000 in 1920 to 40,000 in 1930. This great increase in power equipment added to the call for help with the adjustment and repair of motors and machinery. County and state extension agents held 160 two-day schools at which they helped farmers adjust, repair, and operate gas engines and tractors more efficiently. The 3,671 men who came to the schools brought their own engines and tractors and worked on them. Twelve farm machinery schools, also conducted on the hard work basis, drew a total attendance of 199 farmers.

In two years, 2,066 women were helped with the cleaning, adjusting, and repair of their own sewing machines in 45 sewing machine clinics. Women who attended were so en-



FIG. 4.—Ready for a two-day school in operation and adjustment of gasoline engines and tractors. One hundred sixty of these schools were attended by 3,671 farmers in the ten-year period, 1922-31.

thused with the clinic that they told many other women how to fix their machines.

FARM BUILDINGS BLUE PRINT SERVICE

The extension engineers have designed and helped farmers lay out 101 complete farmsteads for convenience in doing chores, handling livestock, drainage, and winter protection. Suggestions regarding the placing of one or two buildings have been given to hundreds of other farmers. A similar planning service has been given to 12 county fair boards in laying out their grounds and planning their buildings, to three communities interested in public parks, to three communities wanting community buildings, and to one group interested in a neighborhood sales barn. County agents report the use of extension service blue prints in the building and remodeling of 435 homes, 252 barns, 1,151 silos, and 671 other farm buildings.

DRAINAGE—IRRIGATION—EXPLOSIVES

Drainage work has been confined only to the draining of low spots in cultivated fields, or to the draining of low land on the farm so the hills could be seeded down and the low land farmed. As a result, 36,999 acres have been drained on 660 farms, 156 of which installed complete drainage systems.

One county agent reports irrigation practices were improved on 1,015 farms including 74,512 acres as a result of extension work. The extension engineers have helped with the programs of 17 irrigation schools and with problems dealing with the handling and the use of water.

The extension service distributed 397,250 pounds of excess war explosive material to 1,194 farmers who cleared 5,394 acres of stumps or stones.

DAIRY HUSBANDRY

Many Nebraska farmers have purchased cattle of the dairy breeds and entered the dairy field for the first time during the ten-year period. Naturally they ran up against new problems, and asked their county agents, cow testers, and the agricultural college for information and help.

Those already in the dairy business at the start of the ten-year period have appreciated the work of the extension service in helping develop the dairy business on a high quality plane. The standards set in 4-H club work and for exhibits at the state fair have done much to build a sound foundation for the dairy business in the state.

Dairy breeders and business concerns were so interested in the dairy development program in 1924 that they organized and financed an association known as The Dairy Development Society. This society has employed two men who have worked closely with the extension service on the dairy program. These men also purchased breeding stock for both farmers and 4-H club members. This report includes some of the educational work they have done.

DAIRY HERD IMPROVEMENT ASSOCIATIONS

More than 25,000 cows in 1,200 herds have been on test in 33 different dairy herd improvement associations during the ten-year period. Cows in herds and herds in associations change from year to year. The Douglas county association is the oldest organization. It has operated continuously for nine years.

Average production per cow in the associations has increased from 258 to 313 pounds of butterfat per year. Four thousand seven hundred seventeen boarder cows were culled out of herds and marketed. Association members have improved rations for their cows. They have learned to judge, select, and breed up good cows and herds. Four members have already demonstrated that it is possible to maintain an average production of over 400 pounds of butterfat per cow in their herds for more than five consecutive years. Production of the high herd of the state has risen each year until in 1931 it was 604 pounds of fat per cow. Only 17 of the association members were still using herd sires of scrub or inferior grade in 1931. Many members are interested in proved sires. Twenty-three sires have been proved and 126 partially proved by comparing daughter and dam production records.

These are but a few of the practical results of the dairy herd improvement association work in the past ten years. Each association has been self-supporting. Members have

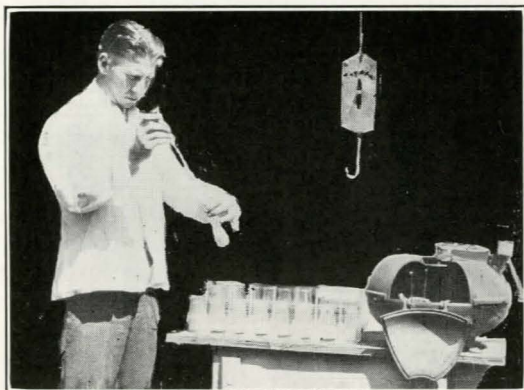


FIG. 5.—A pair of scales, the Babcock test, and a good cow tester have been the combination with which the D. H. I. A. members have determined the value of their milk cows.

association and other dairy interest awards for high production and herd sire excellence.

Over 2,000 people have attended the annual field days at the agricultural college in May. The programs have combined judging contests, serious talks, and recreation. Monthly dairy reports, mailed free of charge to all members, have included answers to questions asked at field days as well as figures from the testers' books. Practically every association has had an annual tour and picnic each year.

DAIRY 4-H CLUBS

Dairy club members have started with small calves and continued their 4-H project three years. In this time they have had experience in raising calves, handling yearling heifers, and in feeding, milking, and keeping records on a cow. Many of the members have become so interested in the project that they have built at least the foundation of a good dairy herd. The table below gives the number of clubs and members during the ten years.

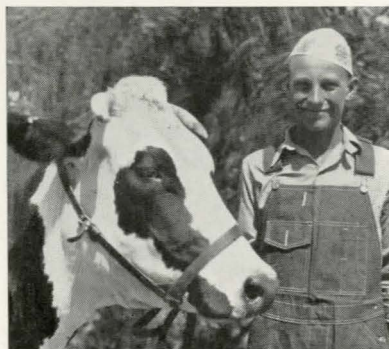


FIG. 6.—A typical dairy club smile.

paid the salary and traveling expenses of their testers. The extension service has helped organize the associations, trained the cow testers, supervised the testers' work and reports, helped with individual management problems, meetings, reorganization, and publicity, and obtained from the state dairymen's asso-

Year	Enrollment	Completions	No. Clubs
1922.....	99	88	16
1923.....	165	107	21
1924.....	210	151	27
1925.....	498	355	55
1926.....	501	422	58
1927.....	594	429	63
1928.....	702	524	73
1929.....	877	685	94
1930.....	897	690	98
1931.....	973	801	111

Nebraska has taken the lead among all states in setting a high standard for dairy calf club work. In order to show at the state fair, the members had to start with a calf from a cow producing more than 300 pounds of butterfat per year. This requirement seemed high when it went into effect in 1925, but the members and leaders decided to raise it to 400 pounds for the 1932 state fair. Entries at the state fair grew from none in 1924 to 232 in 1931. In 1929, 1930, and 1931, Nebraska 4-H club members exhibited 55 head of their best calves at the national dairy shows. They won over \$1,400 in premiums, and in 1930 and 1931 they took more high awards per animal shown than exhibitors from any other state represented. The winnings in 1931 included the grand champion Guernsey female of the open show.



FIG. 7.—One of Nebraska's National Champion 4-H dairy club groups.

Eight dairy cattle judging teams entered the state fair contests in 1925, 21 teams competed in 1931. From four to ten demonstration teams have competed in dairy demonstrations each year since 1925. Nebraska has had a national champion judging team and demonstration team and several second and third place winners in the past ten years.

FEEDING SCHOOLS

The extension dairymen discussed the feeding of dairy cattle at 263 feeding schools called by county agents between 1924 and 1929. The total attendance was 10,536 farmers. All problems connected with the management of dairy herds came in for discussion at the meetings. The testers of dairy herd improvement associations have taken care of many of these problems in recent years.

QUALITY DAIRY PRODUCTS

Nebraska ranks fourth as a butter manufacturing state, and will probably always send her butter into the markets of the world. High scoring butter can not be made from low quality cream. Poor cooling facilities, holding cream too long before marketing, a lack of knowledge in handling cream, and unsanitary utensils are the four main causes of poor quality cream. The extension dairymen, cooperating with the extension engineers have talked to 974 members of 22 cooperative creameries, and demonstrated to them and also before 893 people at 58 cooling tank demonstrations the practical value of a cooling tank and running well water in cooling cream.

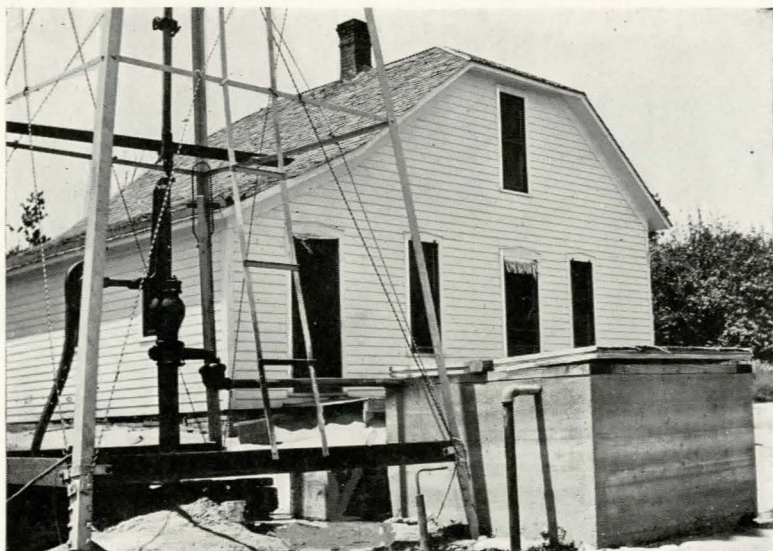


FIG. 8.—Sixty farmers who had cooling tanks built as demonstrations on their farms replied to a questionnaire later that the tanks were 100 per cent satisfactory when they ran well water through the tanks while cooling the cream.

HERD SIRES

At its annual meeting in March, 1931, the Saunders county bull association members estimated that 500 daughters of the bulls used had displaced poorer cows in the county, and that the average increase in production was at least 50 pounds of butterfat per cow, due to the continued use of bulls out of dams producing over 500 pounds of butterfat per cow.

When the agricultural college and state dairymen's association started a purebred sire contest in 1931, it was immediately accepted as a popular project. Members in 22 herd improvement associations entered 337 bulls in the contest to find out which association had the best group of herd sires. The bulls were judged according to pedigree, suitability in

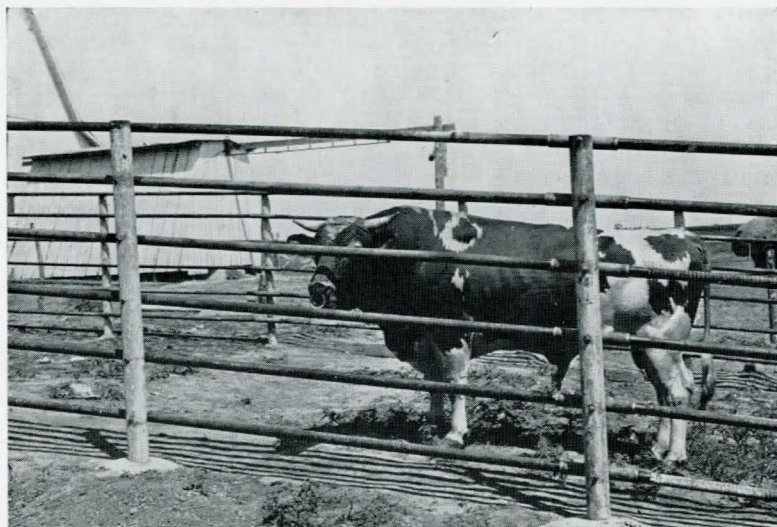


FIG. 9.—This bull is "safe" where he is now.

the herd, daughter-dam butterfat comparisons, and the type of the individual bulls. The contest stimulated replacement of inferior sires by good ones, and at the end of 1931 only 17 members of dairy herd improvement associations in the state were using scrub or inferior bulls.

One of the main reasons why most dairymen do not keep mature bulls is that the bulls become dangerous. Extension dairymen and engineers started safety bull pen construction demonstrations on eight farms in 1931 and will continue the project in coming years.

POULTRY HUSBANDRY

The culling of hens was the opening wedge for all the poultry extension work in Nebraska. While extension agents culled the hens, they talked with the farmers and their wives about feeds, equipment, records, and 4-H club work. County and state extension agents held 539 poultry culling demonstrations during 1922, 1923, and 1924. 4-H club members have repeatedly demonstrated poultry culling at local meetings and at fairs. It is safe to say that 75 per cent of the poultry raisers of Nebraska have attended at least one culling demonstration during the ten-year period.

THE FEED PROBLEM

The Nebraska farm can produce 90 per cent of the feed stuffs needed in a well balanced ration for growing chicks or laying hens. Research work at the Nebraska experiment station and the experience of many poultrymen have proved that fact. Cost of feed amounts to about two-thirds of the total cost of producing eggs, according to averages of records kept by poultrymen and in experimental tests. The extension poultrymen and county agents have distributed these facts to poultry raisers. Extension agents have also urged millers and elevator operators to mix the high protein ingredients of poultry mashes, then sell the high protein concentrate to farmers for them to mix with their home grown grains on the farm.

A Nebraska poultry raiser heard of the great progress that had been made in the poultry business in California. He wrote the California Experiment Station for their feed formula. The answer came back by return mail, "Go to your own Nebraska College of Agriculture for the information, that's where we got ours."

POULTRY RECORDS SERVED AS GUIDES

Fourteen hundred ten Nebraska poultry raisers have kept track of receipts, expenses, and egg production of their poultry flocks for a year or more. A few have complete records for the ten-year period. This project started as the Accredited Farm Flock project. Average egg production increased in the first five years of the project from 113 eggs to 151 eggs per hen.

A farm woman who kept these records was almost always recognized by her neighbors as the one in the neighborhood who had "good luck with her chickens." She talked chickens on the party telephone line, in the village grocery store, and out in her own chicken yard. Others copied her methods, particularly when there was money in the poultry business.

The figures obtained from all these cooperators have served as guides to the poultry extension agents and to many individuals who became interested in the poultry business as a means of livelihood. Poultry extension men have not hesitated to tell enthusiasts not to count their chicks before they hatch nor to figure profits theoretically. The actual records, as farm poultry raisers have kept them year after year, have told a true story of what the best poultry raisers of the state have been able to do.

THE ACCREDITATION PROGRAM

Hatcherymen and the leading poultrymen of the state started an Accreditation program in 1926. From that time on the record keeping project was known as the "Record Flock" project. For about three years, the poultry extension men supervised the work of the Nebraska Poultry Improve-

ment Association rather closely. During the three years, the members were setting up their own organization which has carried on the work since 1929. By 1931 half a million hens in about 1,500 flocks were accredited. Hatcherymen also set up standards for their hatchery plants and marketed a quality product.



FIG. 10.—Customers of accredited hatcheries have received the benefit from the accreditation program.

Two special trains operated over two rail-

roads in the state in 1926 stopped at 145 towns and drew a total attendance of 310,204 people. County extension agents took care of requests for demonstrations and information after the stops of the trains in their counties. Poultry extension men held 37 culling meetings, 18 feeding schools, and eight marketing meetings in counties without agents.

TRAINS ATTRACTED ATTENTION TO EQUIPMENT

Lumber dealers along the route of the special trains reported they sold 1,229 brooder houses and hen houses during the next year. One hundred twenty-four mash feeders were built at 72 demonstrations in the fall of 1926. These demonstrations spread to almost every poultry raiser in some of the communities.



FIG. 11.—This hen house, before it was remodeled, was too narrow and too high. A straw loft reduces the height of the inside of the house now.

Since 1928, extension poultrymen and engineers have built poultry houses for exhibit demonstrations at 19 county fairs. Five exhibits and 13 brooder house equipment meetings were responsible for the building of 345 new brooder houses during the fall of 1930. One county agent, summarizing his work with poultry houses, says he has furnished blue prints for 38 Nebraska type laying houses, and helped remodel 40 hen houses. The lumbermen sold 242 new poultry houses to farmers of his county.

INCREASED SIZE OF 4-H PROJECT

Ten years ago Nebraska 4-H club members were setting a hen or two and raising ten to thirty chicks as a 4-H club project. It did not challenge their best interests. The requirements were raised to 150 eggs or 100 baby chicks as a minimum to start a project. In 1931, 685 members raised 73 per cent of the 74,000 chicks they started in 4-H poultry clubs. The average adult poultry raiser loses half the chicks hatched.

Several poultry club members have taken over the management of the farm poultry flock or built up a poultry business of their own. Some of them have made their way through

high school or college with their egg money. In some communities the 4-H club members have done the culling, feed mixing, and taken the lead in other poultry management work. A poultry demonstration team from Nebraska represented the United States at the World Poultry Congress when it was held at Ottawa, Canada. The Nebraska 4-H club poultry judging team was second with the high individual judge of the 1931 national contest. Nebraska's two boy degelates to the national club camp in Washington in June, 1932, were both poultry club leaders and former poultry club members.

TURKEYS HAVE BEEN PROFITABLE

The Nebraska Experiment Station was the first one in the country to prove that turkeys can be raised in yards, and that the corn belt farmer can raise turkeys successfully by following certain precautions. The extension service took these facts out into the state. Webster county poultry raisers increased their turkey production from half carload in 1925 to ten carloads in 1932. They have raised 85 to 90 per cent of the poult hatched, marketing the highest quality dressed turkeys on the market. Most important of all, they have made a profit each year.

Extension agents have helped the Webster county turkey growers with their cooperative association as well as with the problems of turkey production. The county farm bureau office has done the work of secretary of the association. Twelve other county farm bureaus report turkey raising activities of their cooperating farmers.



FIG. 12.—Turkeys can be grown profitably on Nebraska farms

ANIMAL HUSBANDRY

Hog lot sanitation, creep feeding of calves, big team hitches, meat cutting demonstrations, and the 4-H livestock clubs have been the main projects of the animal husbandry extension agents in the ten years, 1922-1931.

Probably no extension project reached the campaign stage more quickly nor spread over the state more extensively than the hog lot sanitation project. Practically every farmer in the state has heard something about it. Preventable diseases take one pig out of four and make "hard feeders" out of some of the pigs that survive. The hog lot sanitation system keeps

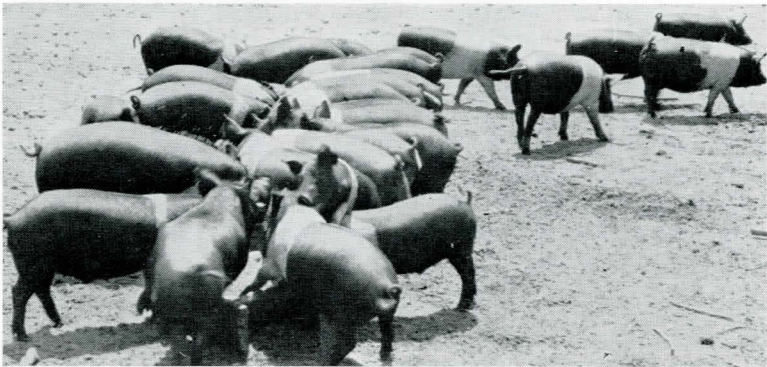


FIG. 13.—Find the runt in this bunch.

the pigs and the diseases apart. It is a means of preventing rather than curing trouble.

Livestock extension agents and county agents held 1,395 demonstration meetings in 62 counties in the five-year period, 1923-27. A survey in 1930 and 1931 in five representative counties showed that 41.5 per cent of the farmers were still following suggestions they got from the hog lot sanitation project of the earlier years.

The annual pig crop contests have interested 521 farmers, practically all of whom have followed the hog lot sanitation system in making high records of efficiency in pork production. Results of the contests and methods used by the winners have been discussed at "corn and hog day" meetings and at other local gatherings of farmers. Attendance at the 530 meetings totaled 143,831 farmers.

CREEP FEEDING CALVES ENCOURAGED

Experimental work and the experiences of a few cattlemen who have tried creep feeding calves show that the most eco-

nomical beef is produced on the young calf. The creep feeding project has been emphasized only during the last few years. Farmers have conducted demonstrations to show that creep feeding calves is practical and profitable on many farms and ranches. The calves not only returned a high price for the grain they ate but also weaned and went on feed without shrink.

BIG TEAM HITCHES ARE POPULAR

The big team hitch makes it possible for a farmer to use big machinery and from five to twelve head of horses with ease and perfect safety. When the hitch is correctly made every horse must do his share of work and the farmer can handle the team with one pair of lines. Livestock extension men, working with county agents, held 98 big hitch demonstrations between 1926 and 1930. They hauled the eveners, chains, buck straps, and tie ropes with them, and hitched up



FIG. 14.—Hundreds of Nebraska farmers wish they could do this now.

horses to plows, disks, and other machinery at the demonstrations. It was not uncommon for some farmer to stick a colt, bronco, or balky horse into the team to see what would happen. Not a single mishap occurred at the 98 meetings. Over 5,000 farmers watched the demonstrations.

Farm slaughtering of hogs and cattle was popular between 1922 and 1927 and again in 1931. Livestock and home economics extension agents held 157 butchering, cutting, and curing demonstrations during the winters from 1922 to 1926-1927. The women discussed canning, curing, lard and soap making while the men did the killing and dressing. Six thousand six hundred seventy-seven men and women attended the demonstrations.

In 1930 and 1931, 82 lamb, beef, and pork cutting demonstrations were given before retail meat dealers, women's clubs, civic clubs, and other organizations. Over 23,000 people saw the demonstrations. Meat packers and distributors reported increased sale of lamb following the demonstration.



FIG. 15.—Mervin Aegerter of Seward county and his Hereford baby beef with which he won the award of Grand Champion Showman at the 1930 Ak-Sar-Ben.

BABY BEEF CLUB DEVELOPMENT

Baby beef clubs which have attracted a great deal of attention at fairs, started in 1922. In 1931, 1,473 members were feeding beeves. Many of these members have fed two calves at a time, a few of them have fed from three to a carload. The lessons have helped the club members select their calves wisely and buy them right, to use economical and well balanced feeds, to fit and train their calves for the show ring, and to exhibit the calves with good sportsmanship, win or lose.

MANY BOYS IN SWINE CLUBS

Swine clubs have included three projects during the past ten years—the purebred pig club, the sow and litter club, and the market barrow club. It has been possible for boys to convert farm grains into pork at a profit practically every season since they have had pig clubs in the state. Members have carried on almost 13,000 swine club projects in Nebraska since 1922. Today, some of the outstanding herds of hogs in Nebraska belong to young hog breeders who were 4-H pig club boys. Many farmers now have new and better herds of hogs, due to the way the boys have shown their fathers how to raise hogs. In combatting diseases and parasites of hogs, more has been accomplished with the 4-H club members than through the senior projects of the extension service.

HORTICULTURE

Nebraska has produced \$2,000,000 worth of fruit, \$8,000,000 worth of potatoes, and \$2,000,000 worth of vegetables annually in the last ten-year period. The extension service has helped commercial producers with problems of production, pest control, and marketing; and it has also encouraged home production of fruits and vegetables on the farm, and helped farm people beautify home surroundings to make home life more enjoyable and comfortable.

SERVICE TO THE FRUIT INDUSTRY

Illinois blister canker killed out many of the old orchards in the commercial fruit growing territory of southeastern Nebraska. From 1916 to 1922 orchard men were encouraged by the extension service to plant Jonathan, Winesap, and other varieties resistant to injury by the canker. Seventy-five per cent of the 4,000 acres of young bearing orchards in Cass, Otoe, Nemaha, and Richardson counties are of the Jonathan and Winesap varieties. Pruning demonstrations have helped the orchard men develop mechanically strong young trees in these new orchards.

The codling moth is responsible for most of the worms in apples. The size of the cull pile indicated that a spray schedule planned on the calendar was not controlling the pest. Study of the life history of the moth showed that its life cycle

varies with weather conditions each season, and that it is necessary to watch the moths each year and plan the spray applications accordingly. This service has been furnished orchard owners since 1926, and they have been notified by letter or postal card when they should put on each spray.

Charles Lord, who has a 60-acre orchard at Peru, at a meeting of the Horticultural Society in January, 1932, said this about the spray service:

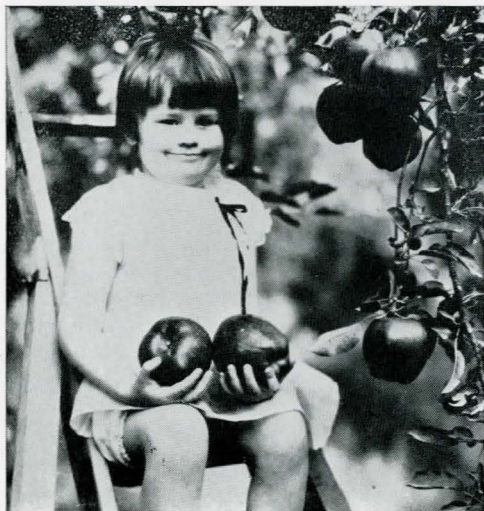


FIG. 16.—No worms in these apples.

"We orchard owners need this spray service. We are not experts in the study of these pests. Since I have followed the directions given by the extension service I have raised better apples. The worms are not causing the losses they did before this spray service was inaugurated."

SOUR CHERRY DEVELOPMENT

Encouraged by a local canning company, orchardists around Nebraska City planted 450 acres of Early Richmond and Montmorency cherries between 1923 and 1928. The extension service helped with planting problems, and gave pruning demonstrations to show how to train young trees, and spraying demonstrations to control leaf spot. The canning company handled 100 tons of cherries in 1932, about half the crop from the young trees.

GRAPES AND RASPBERRIES

Since Iowa and Nebraska experiments showed that long cane pruning of Concord grapes is better than spur pruning, the extension service has recommended the long cane system at demonstrations. At least 80 per cent of the commercial growers have adopted that system. Spasmodic outbreaks of cane borer, root worm, flea beetle, and black rot have all been met by control measures which produced results for those who followed the suggestions. One promotion scheme to increase acreage of grapes died out when the extension service distributed the facts in the case. Developments since that time have proved the wisdom of the action.

Acreage of red and black raspberries has more than doubled in 10 counties along the Missouri river during the last ten years, yet there is little danger of overproduction of these crops. The extension service has helped with planting, pruning, and disease control problems.

HOME ORCHARDS

Orchard meetings to discuss varieties, culture, winter protection, pruning, and spraying have been held in 50 counties. During the first years, spraying demonstrations taught many farmers to spray their trees, which they still do when they have a good prospect for a fruit crop. Western Nebraska people were shown that they could grow grapes if they give them some winter protection.

POTATO GROWING

The Cobbler variety of potatoes will outyield Early Ohio potatoes in central and eastern Nebraska. Good seed potatoes will not run out for several years if grown under a straw mulch. Wholesale dealers have treated seed potatoes for scab and other skin diseases at a nominal cost to the purchaser of the seed.

By far the most important piece of potato improvement work has been the college, extension service, and potato association program dealing with Triumph seed potato production in western Nebraska. Since 1919 when the first seed potatoes were certified, western Nebraska has developed a source of certified seed potato stock of a quality second to none in the country. The Nebraska Certified Potato Growers Association organized in 1924 to inspect, advertise, and sell the crop for its members. This organization has shipped 2,655 carloads of certified seed potatoes which brought 75 to 85 cents per hundred more than common potatoes. The difference totals over \$700,000 in the eight years.

BEAUTIFYING THE HOME GROUNDS

Extension work along landscaping lines may not equal the fruit and vegetable phases of extension work in economic importance but it has real value in adding to the comfort of the farm home and to the attractiveness of life on the farm. Nearly every home owner and a few renters are interested in the appearance of their home surroundings.

During the first part of the ten-year period, the extension horticulturalist used illustrated talks to help groups of people with their landscaping problems. Beginning in 1926, he met with project leaders of women's clubs taking the home beautification project. They and their club members followed his suggestions about proper selection and placing of trees for shade and windbreak, about the use of shrubs for borders, screens, and foundation plantings, and about lawns, walks, and drives that frame the farm home into a pleasing picture. At the end of the year, leaders made reports of what had been done in their neighborhoods by that time. Nearly 5,000 Nebraska farm families had taken part in the project by the end of the first year. No doubt the effect of the training meetings will extend through many years, and if a survey could be taken even now, the results would be many times greater than the figures obtained at the end of that year.

FARM FORESTRY

Nebraska ships in lumber, posts, and fuel while six million acres of waste land grow up to weeds. Most of this land lies along streams and would grow trees. Nebraska is known as the tree planter state, yet half the farm homes have poor windbreaks or none at all.



FIG. 17.—Chris Latter planted these pines as little seedlings only five years before this picture was taken. He lives on the high plains area near Minden.

Good groves of trees protect homes and livestock in winter, provide a fuel supply, and encourage bird life, as well as adding value to the farm through the beauty of the trees. Trees check hot winds in summer and reduce loss of moisture from cultivated fields.

The plantings of the first settlers and at the Nebraska National Forest in the sand hills showed that trees will grow in the great plains area. The Clarke-McNary Act of Congress made it possible for the extension service to cooperate with other agencies in encouraging a farm forestry program in Nebraska. This educational program has not only been popular with farmers but it has also enjoyed the wholehearted cooperation of the state nurserymen's association.

Sixteen thousand farmers living in all the counties of the state received and planted 4,394,000 Clarke-McNary seedling trees between 1926 and 1931. The C. B. & Q. railroad, cooperating with farm owners along their right-of-way, have planted 108 snow fences and shelterbelt demonstrations. These trees have already replaced the old wooden fences in some places. Three hundred fourteen rural schools have established school ground windbreaks. Thirty-four special demonstrations have been planted on Experiment Station farms and state institutions.

Forty-eight counties have put farm forestry into their agricultural improvement programs and in nine counties, tree planting and rural home beautification has been a major project of the county farm bureaus for one to three years.

THE NEBRASKA TREE PLANTING PROGRAM

As indicated, the Clarke-McNary Act has provided more than just a seedling tree planting project for Nebraska. The program over the five-year period has included five main points:



FIG. 18.—In two years time, Mr. and Mrs. Albin Dusek, Sweetwater, have grown this much of a windbreak around their new farm home.

1. Develop and conduct an educational program in farm forestry.

2. Furnish forest tree planting stock to farmers for demonstrations at a cost which will encourage planting.

3. Assist with demonstration plantings in problems of location, varieties, soil culture, and care of trees.

4. Prepare information for circulars on Nebraska tree planting for use in supplementing general bulletins.

5. Serve as a clearing house for forestry information.

In developing this program the extension forester, working with county agents and local leaders, has held 296 general meetings and conducted 159 leader training conferences, visited more than 100 farm demonstration plantings per year, written four extension circulars, answered 5,800 personal letters, and mailed 136,000 pieces of farm forestry literature to farmers who bought trees or asked for information. The extension forester cooperated with other departments of the agricultural college and the state department of agriculture in controlling an outbreak of red pine scale in three northern Nebraska counties.

ENTOMOLOGY

Control of grasshoppers, Hessian fly, cutworms, pocket gophers, prairie dogs, and rats, and the improvement of honey production methods have been the important projects in entomology since the extension entomologist started his work in 1929.

When grasshoppers began to do great damage to crops in northern Nebraska in 1930 and 1931, the agricultural college and extension service distributed information regarding control measures and demonstrated to hundreds of farmers how to mix and scatter poison bran mash bait. In areas where the poisoning was thoroughly done in 1931, no grasshopper damage occurred in 1932.

The federal and state extension entomologists surveyed conditions in 91 of the 93 counties in the state in the fall of 1931, and found enough eggs to cause concern for 1932 crops. During the late winter and early spring, weekly news stories and radio announcements kept the people of the state well informed regarding the grasshopper situation. Thirty-three hundred farmers attended eleven meetings in northern Nebraska to hear the grasshopper situation discussed. Natural conditions helped the control measures that could be used with limited funds in the spring of 1932. In areas where farmers poisoned the hoppers, no eggs could be found in the fall of 1932, while in some other areas enough eggs are in the ground to cause damage to 1933 crops, should the season be dry.



FIG. 19.—Corn field cleaned by hoppers, 1931.

ing and gassing of pocket gophers, prairie dogs and gophers at demonstrations supervised by the state extension entomologist. County agents did much of this work without the help from the state extension service during the early part of the ten-year period.

ORGANIZED BEEKEEPERS INTO ASSOCIATIONS

Beekeepers formed ten county and regional associations to strengthen their state association in 1930 and 1931. The organization of such associations was one of the important goals of the extension service project outlined in 1929.

Colonies of bees managed by demonstrations in 1930 by the state extension entomologist produced twice as much honey as similar colonies in the same apiaries managed in the ordinary way. In 1931, demonstration colonies produced

Cutworms in the Elkhorn valley each year and in central Nebraska in the spring of 1932, corn root worms in southwestern Nebraska, army worms in eastern Nebraska, and termites in one large town were all serious enough to require campaign measures for control. Hundreds of inquiries regarding other insect pests have been answered with letters, telephone calls, bulletins, and personal attention of the county and state extension agents.

Eleven hundred farmers have helped with the poison-

three times as much honey as average colonies in the same apiaries. 1931 was a poor honey year and all yields were light.

In addition to the practical demonstrations of management, the extension entomologist held five meetings at each demonstration apiary. He discussed and demonstrated the building up of strong colonies, summer management, requeening, taking off honey, preparing bees for winter, and the marketing of honey.

The demonstration apiaries were established in six counties in 1930, and increased to 19 demonstration apiaries in 14 counties in 1931. Because of the grasshopper menace in 1932, no extension service help was available to the beekeepers in 1932. The project will be continued in 1933.

COMMUNITY ORGANIZATION

When a committee gets together to make plans for a public gathering, they realize that they will need "a speaker to make a talk". Thousands of requests have come to the extension service in the last ten years for a "speaker". In the first part of the ten-year period, most of the requests were for someone who could discuss farm organization and cooperative marketing. Then farm people were interested in community organizations, and in recent years the favorite topic has been indoor and outdoor games and recreation.

At the start of the ten-year period, farm prices were low. Prices came up some and then dropped to lower levels than for many years. At no time in the ten-year period could Nebraska farmers exchange their products to an advantage for things they needed and wanted. It was, therefore, essential that the talks and the community meetings and the games maintain the morale of Nebraska farm people. All of the



FIG. 20.—It does a fellow good to go to at least one picnic every summer.

work of the community organization specialists emphasized the advantages that do exist in life on the farms of the middle west.

During the ten years, 1922 to 1931, 392,948 people heard the 3,137 talks made by the community organization specialist. This is an average of more than one talk per working day, which means that from two to six talks were made some days while other days were spent in travel, preparation of talks, community recreation work, and the writing of community program material.

SEVENTY-EIGHT STANDARD COMMUNITIES IN NEBRASKA

The first Nebraska Standard Communities organized in 1924. In order to obtain a charter, each group set up among their goals the sponsoring of two 4-H clubs, one rural club, two farm extension projects, and seven community meetings per year.

Seventy-eight of these standard communities have been organized since 1924 and are still functioning. About 250 other communities have followed some of the requirements of the standard organizations, and have used the written programs prepared by the extension service. When the folks in a neighborhood meet together in the school house or church even a few times a year, and enjoy it, they make living in that community more worthwhile. They forget their differences and build up their neighborhood as a unit.

Indoor and outdoor games followed naturally after the organization of communities and the use of programs full of dialogues, talks, music, and debates. In 1930, over 900 delegates attended 17 county recreational institutes to learn the games and how to teach them to others. These community leaders supervised the games in 1,215 community meetings during the next few months after the institutes.

The talks, community organization work, and recreation activities summarized here have developed a more cooperative spirit and reduced farm organization prejudices, developed farm leadership, and emphasized the advantages of the farm as a place to live.

MARKET ORGANIZATION

From 1900 to 1920 farm marketing through cooperative organizations was most marked by farmers' elevators. These organizations performed a very definite service in narrowing the profit margin in the handling of grain, and in educating farmers in the possibilities of cooperative endeavor. These organizations were supplemented by a few farmer-owned stores and livestock shipping associations.

The business slump of 1920 laid heavy emphasis on the fact that raw materials furnished by the farmer were not holding a fair balance with other industrial goods. In an attempt to overcome this unbalanced condition, farm producers in Nebraska have made great strides in the past ten years, in the use of cooperative enterprise as a marketing agent.

Producers own livestock commission associations in the three main markets for Nebraska livestock—Sioux City, Omaha, and St. Joseph. The farmers' elevators have invaded the terminal markets with their own associations, there being three such organizations serving the farmers of Nebraska. Cooperative creameries or butter factories are distributed through all the state, their greatest growth having come within the last ten years. A few cheese factories have been formed under this same plan. At the present time the whole milk producers are completing their organization in the milk sheds of Lincoln and Omaha, and other smaller centers are investigating the possibilities.

During the past decade the poultry producers have been investigating, trying to find a way to assist themselves in their selling. Their most conspicuous success has been the turkey marketing association in the North Platte Valley of western Nebraska. All certified seed potatoes are sold through a cooperative sales organization which has been a pioneer in this field, and is a model for other seed potato organizations.

The past ten years have marked the rise of the cooperative oil station. Cooperatively operated, they are found in practically every county of the state, and in the field of cooperative buying and distribution they have been a marked success.

The extension service has extended pre-organization help in the way of surveys. Where desired by the organizers, the service has aided in a study of the business territory, and has been just as careful to discourage as to encourage an organization if the facts should point that way. The extension service has further assisted the cooperative organizations in articles of incorporation, by-laws, plans of operation, book-keeping, and publicity.

FARM MANAGEMENT

Farmers have kept books and studied them, and have kept records of what it cost to produce corn, wheat, and oats, and to operate cornpickers, tractors, and combines. School children have worked problems in farm account keeping. The extension service have sent out monthly statements of future price trends and issued annual outlook reports.

The table shows the number of the several kinds of records completed each year.

*Cost and financial records completed in Nebraska by years,
1922 to 1931*

	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31
Farm Account Books.....	3	25	27	34	77	217	326	537	839	819
Corn Enterprise Costs.....	37	52	42	51	110	92	165	148	227	265
Oats Enterprise Costs.....	24	34	7	3	26	31	27	30	.....	.....
Wheat Enterprise Costs.....	12	10	15	4	9	187	147	122	146	151
Mechanical Corn Picker Costs.....	.....	.....	.....	.....	.....	.....	.....	.....	27	32
Tractor Costs.....	2	.....	.....	.....	27	.....	.....	27	35	18
Combine Costs.....	.....	.....	.....	.....	84	.....	123	.....	.....	.....

The farm accounting project works about like this. Through his county farm bureau, a farmer gets an account book, which has been printed by the extension service to fit Nebraska conditions, at a county meeting or school. He fills in his inventory record and learns how to enter sales and expenses in the book. During the year, he, or his wife or boy or girl, keeps track of all the products sold and the income and all the purchases and the cost. At the close of the year, he checks in his book with the extension agents, and starts a new one while the extension service summarizes his old book and analyzes his year's business for him. The extension agents return the book by mail as soon as possible and the summary and analysis a little later by personal visit. Farmers who have kept books say this final visit is the most worthwhile of all the year's work. They seem to enjoy having a man who has studied a lot of records go over their own to point out the strong and weak parts of the year's business.

FARM ACCOUNT BOOKS USED AS GUIDES

Many farmers have concentrated their efforts where the records showed them they were making the most money. Others have profited by their mistakes. One man who had kept account books for ten years said he sold machinery as soon as it was no longer essential on his farm, and he thought

over the purchase of new machinery carefully because he realized it added to his overhead costs. Another man realized how important it was for him to market his soil crops through livestock. Another realized he was trying to make a living on too small a farm. A beginner once said, "Our book is right up to date all the time. That ought to show what we think about farm account keeping."

Boys and girls taking bookkeeping in rural schools now do a practical problem in the same farm account book that the farmers use. The problem takes them several weeks. They learn to use every page and division in the book. High school students preparing to be rural school teachers study the same problems and book. Last year 7,200 books were sent out for use in the schools.

OBTAINED COST FIGURES ON CROPS

The figures obtained on how much it costs to grow corn, wheat, and oats, and how much it costs to operate corn-pickers, tractors, and combines have served as a guide to farmers and their organizations. Needless to say, the farmers who kept the records were keenly interested in improving their own methods both during the projects and after they were completed.

ECONOMIC SITUATION STATEMENTS

Since January, 1926, the department of rural economics and the extension service have prepared and distributed a monthly economic situation statement giving a summary of existing conditions and a statement of price trends for the next 30 days. Nearly 6,000 farmers and business men have been on the mailing list to get this publication free of charge. The department and extension service have also issued an annual "Outlook Statement". These statements lost most of their rosy tints and bright spots at least two years before the depression struck Nebraska, and have not brightened up much since that time.

CROPS AND SOILS

Crops and soils extension work of the past ten years is more completely summarized in Extension Circular 26. The statements below give only a few results of this phase of the agricultural extension program.

Barley acreage increased 400 per cent between 1927 and 1931, due to the introduction of smooth bearded barleys which outyielded oats and made a satisfactory feed for livestock, particularly in the late summer months and in years when the corn crop was short.

Two hundred eight farm demonstrations proved that smooth, dimple dented corn outyields rough, deep dented corn an average of five bushels per acre in Nebraska. This fact had been established by the experiment station at Lincoln between 1905 and 1909, but was not generally accepted by farmers until the farm demonstrations were conducted from 1921 to 1927 by the state and county extension agents.

Special crops trains and smut control campaigns put on by the county and state extension agents reduced the percentage of smutty wheat from almost 40 down to 12½ in six years. In 1925 and 1926, farmers were taking an average dock of three cents per bushel on smutty wheat at the terminal market, and also suffered an equal if not greater loss in reduced yield per acre in their own fields, due to smut. The estimated loss from smut in wheat in Nebraska in 1925 and 1926 was two million dollars a year.

"More Legumes" campaigns in counties with county agents increased the acreage of sweet clover 131 per cent in one year. Farmers in neighboring counties without county agents increased their sweet clover acreage only 59 per cent that year.

Alfalfa wilt was first called to the attention of the experiment station by farmers and county agents of the Platte Valley. Prospects for a new strain of alfalfa which will be winter hardy and fairly wilt resistant are exceedingly bright at the present time. Such an alfalfa will mean millions of dollars to the state.

Farm demonstrations by extension agents have shown the possibilities of killing bad perennial weeds with chemicals. Now that little money is available to buy chemicals, the county agents and farmers are trying out demonstrations of killing the weeds by continual cultivation and fallow for two seasons.

Distributed in furtherance of cooperative agricultural extension work. Acts of May 8, 1914, and June 30, 1914. Extension Service of The University of Nebraska Agricultural College and U. S. Department of Agriculture cooperating. W. H. Brokaw, Director of Agricultural Extension Service.

(3-33-8M)