

ANNUAL NARRATIVE REPORT

STATE: ARIZONA

COUNTY: YAVAPAI

REPORT OF:

ALVIN ALLEN

FROM: DECEMBER 1, 1957 to

NOVEMBER 30, 1958

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HIGHLIGHTS:

County Situation

Yavapai County has a land area of 5,178,240 acres. Of this area, 5,150,000 acres are devoted to range cattle production. About two hundred and thirty cattlemen utilize this grazing area. There are an estimated 23,000 acres of irrigated land in the county. Some 500 acres of land is dry-farmed in favorable years. There are three major farming areas in the county, Big Chino Valley, Little Chino Valley, and Verde Valley. The latter is about forty miles away and is separated by the Mingus Mountains from the other farming areas. Some 4000-5000 acres of new irrigated land in Big Chino was brought into cultivation, mostly sprinkler irrigated, in 1958. Major crops are alfalfa, corn, and small grains. Pinto beans, once a major crop, are no longer important. Dairying continues to grow in Chino Valley. Two dairies went out of business but two new ones started in Verde Valley in 1958.

This was a wet year for Yavapai County. Rains were heavy in January, February and March, but summer rains were late (August) in starting. However, September and October, usually dry periods were wet. A total of 24.78" rainfall had fallen for the year up to November 13. This was 7.76 inches above normal. Range feed is best since 1941.

Four-H Club Work

Yavapai County had one state winner in the National Awards Contest in 1958. This was in the Electric Program. Nine clubs enrolled 145 members and completed 107. The spring 4-H Fat Stock Show and Sale was again successful. Electric projects showed poor completions in 1958 due to loss of a leader in Seligman. Goals for 1959 call for twelve clubs with 200 members enrolled. By the end of November, 1958 these goals were 99% achieved.

Horticulture

The agent co-authored a new Extension Circular, "Bulbs for Northern Arizona," in 1958. Mr. H. F. Tate, Extension Horticulturist, was the other author.

The agent assisted the Horticultural Specialist in gathering data from two orchard chlorosis control plots, put out one new chlorosis control demonstration; gave four pruning demonstrations which reached 90 people; assisted approximately 100 residents with landscaping problems; advised Prescott residents on control of Pine Bark beetle; assisted a greenhouse grower to solve a chrysanthemum production problem; gave twenty radio talks on care of lawns, shrubs, roses, and planting bulbs; prepared and mailed 185 copies of a circular letter on Frost Injury to fruit trees; distributed fifty copies of a whitewash formula for protecting fruit trees.

Special horticultural projects were:

- a. Peach Borer Control.
- b. Disease Control.
- c. Pruning Fruit Trees and Vineyards.
- d. Floriculture and Home Grounds Beautification.
- e. Fruit Variety Study.
- f. Orchard Management.
- g. Vegetable Variety Trial.
- h. Lettuce.
- i. Miscellaneous.

Livestock

Production of feeder calves on native ranges is our most important single agricultural industry. Both purebred and commercial herds compose the industry.

The agent cooperated with cattlemen in a screw-worm survey, test of screwworm smear, two range hormone implant tests, one livestock tour and demonstration day, test of range cattle marking devices, range re-seeding and brush control, two semen evaluation demonstrations. Projects in this field were:

- a. Range Management.
- b. Insect Control.
- c. Production Testing of Beef Cattle.
- d. Yavapai Calf Sale.
- e. Bull Testing.
- f. Brucellosis campaign.
- g. Stilbestrol Range Tests.
- h. Record Keeping Survey of Ranchers.
- i. Miscellaneous Livestock Work.
- j. Information Program.

Dairy

Commercial dairies in Yavapai County by communities and size are:

Chino Valley	580
Humboldt	55
Cottonwood	90
Bridgeport	80
Camp Verde	<u>180</u>
Total	985

Milk from these dairies go to Prescott Farms Dairy in Prescott (about 10%) and to Carnation Milk Company in Phoenix. Hay costs are currently \$36/ton and concentrates \$70/ton. Two dairies are on D.H.I.A. Projects covered in 1958 were:

- a. Dairy Herd Improvement.
- b. Brucellosis Control.
- c. Dehorning Electrically.
- d. Breeding.
- e. Information Program.

Poultry

Yavapai County is well-suited climate-wise to poultry production. Prices for eggs in 1958 were poor most of the year and profits were equally so. Feed costs remained static for the year. One broiler producer raises 1200 birds per week. He is the only producer. The need for Extension in this field seems to be very little, since commercial service men meet this need. Projects were:

- a. Marketing.
- b. Housing.
- c. Disease.
- d. Information Program.

Agronomy

The agent secured data on two corn insect control projects, one alfalfa variety test, advised potato grower on disease control, put out one weed control plot, conducted one field tour reaching 160 people, supervised one sorghum variety trial, used the radio twenty-five times on agronomy subjects, wrote twenty articles for newspapers, advised farmers by office, field visits, telephone and letters on a

host of crop problems. Projects were:

- a. Alfalfa
 - 1. Variety tests
 - 2. Insect Control
 - 3. Fertilizer tests
 - 4. Weed Control
- b. Pinto Beans
- c. Corn
 - 1. Varieties
 - 2. Insect Control
 - 3. Chino Corn Conference
 - 4. Weed Control
- d. Small Grains
 - 1. Wheat
 - 2. Barley
- e. Potatoes
 - 1. Disease Control
- f. Miscellaneous
- g. Irrigated Permanent Pastures
- h. Information Program

AGRICULTURAL SITUATION:

Yavapai County has a land area of 5,178,240 acres. Of this area, 5,150,000 acres are devoted to range cattle production. About two hundred and thirty cattlemen utilize this grazing area.

There are about 55,000 head of mature cattle in the county according to 1954 census. This compares with 36,000 head in 1950. However, breeding stock was reduced in 1956 by an estimated 10 to 15% due to a severe drouth. The exceptional moisture of 1957 and again in 1958 has brought quick recovery of the range. Rainfall as of November 13, 1958, was 7.86 inches above normal in Prescott. Excellent feed conditions combined with high prices for cattle has placed the cattlemen of this area in a strong financial position. Most contracts for weaner calves were set at 28¢ and 30¢. Later sales were 31¢-33¢ for choice calves. Screwworm infestations were unusually heavy in 1958. The county became a modified-certified Brucellosis free area in Spring of 1958. Cattlemen are becoming more interested in semen evaluation of bulls, buying bulls free of the dwarf factor, using hormone implants, etc.

Sheep numbers have declined steadily in recent years with approximately 7,866 head in the county by 1954 census figures. This compared with 17,000 in 1940 and 10,394 in 1950. The chief reason for this decline has been the lack of skilled herders. Farm flocks are holding their own in numbers at present.

Cultivated farming as a means of supplementary ranch feed supplies continues to interest more ranchers. The 1958 corn acreage was about the same for the three previous years but yields were down by 5% to 10%. More corn goes into ensilage each year as dairies grow in size. The first killing frost fell on October 22, 1958, at the Airport, compared to October 23 in 1957; October 12, 1956; and September 19, 1955.

Alfalfa is still the leading crop and Chilean, the standard variety, is rapidly being replaced by Ranger and Buffalo. The spotted alfalfa aphid injured one cutting in Verde Valley and none in Chino Valley in 1958.

There are approximately 23,000 acres of irrigated cropland and 500 acres of land that is dryfarmed in some years. (Figures compiled by the County Soil and Water Conservation Needs Inventory Committee in 1958). This compares to 11,000 acres reported in 1940. About 15,500 acres are pump irrigated with 7,500 acres watered from small river diversions. Also, 2,500 acres in Chino Valley has water rights under the Watson Lake Reservoir. This last is an uncertain supply but was adequate in 1958.

Major crops are alfalfa, corn and small grains. The 1958 pinto bean crop was forty-five acres compared to 2000 acres in 1945. Hybrid grain sorghums were grown in 1958 experimentally. Deciduous fruits and truck crops account for small acreages. Varieties of corn and alfalfa need more study and field trials. Plans are underway for the University of Arizona to conduct field tests in Chino Valley in 1959.

Dairying has assumed an important role in Yavapai agriculture. There are approximately nine hundred cows in commercial dairies in the county, with 65% of these in Chino Valley and 35% in Verde Valley. At least two new dairies are planned for Chino Valley in 1959. This increase in dairying has stabilized demand for corn ensilage and for alfalfa hay. Hay prices are currently \$36/ton for dairy quality hay delivered. The net price of 3.8 milk to dairy-men after hauling charges is \$5.30/cwt., compared to \$5.05 in 1957. This area is under the Federal Milk Marketing Order of Central Arizona. There were two herds on D.H.I.A. test in the county in 1958. One dropped in Verde Valley and another joined in Chino Valley.

Poultry production has increased in 1958. Increase in size of flocks accounted for this. Profits in the industry were very low as a rule. Egg prices were depressed until July and again dropped in October, contrary to the usual pattern. There is only one commercial broiler grower in the county. He produces 1200 birds per week, but he reports profits at a low ebb this year. There are an estimated 34,000 layers in commercial flocks in the county. There is very little call from commercial poultrymen for help from Extension.

ORGANIZATION:

A. Extension

There was no Annual Conference for Extension workers in the 1957-58 Extension year due to changing the date from October 1957 to January 1959.

In-Service Training

The agent attended a 4-H club In-Service Training Session in Tucson, January 27-30, 1958.

The agent attended a two-day In-Service Training Conference at Sedona on February 4 and 5. This conference was on orchard management and pruning. Unfortunately, there was so much rain that we could not prune as planned. However, there was opportunity to learn a great deal on orchard management problems from discussion with Mr. Tate and Dr. Roney and contributing ideas from other agents.

The agent spent four days in May In-Service Training at Tucson. This was a three-day soil conference. Most interesting speakers to this agent, were Dr. Stansberry and Dr. Milt Fireman. The agent returned from this conference with a feeling that there is no value in a soils analysis except for total soluble salts. Apparently no one is sure of much of anything where soils are concerned.

Office Administration

The agent ordered new bulletins, renewed the office bulletin supply, procured a new folding machine to speed mailing of circular letters, received a new office work table, typist table and chair.

B. Farm Groups

Farm Bureau

This organization presented the agent with a complimentary membership in Farm Bureau in 1958, and they regularly invite the agent to their County Board meetings. Mr. Ralph Stringfield, Granite Mountain, is their new president for the county. This group approved a \$400 increase in the county Extension budget in 1958.

Yavapai Cattle Growers

This group met eight times in 1958. Their membership is about one hundred and eighty members. Most of their problems have been with cedar eradication, game control, and insect (screwworms) control in 1958. They cooperated with the agent in a survey of screwworm damage in 1958. The agent acts as official weigh master at their annual calf sale. In 1958 they sold 66 steers averaging 432.7 pounds for a record 37.8¢/lb.

The agent cooperated with the group in completing testing of range herds for brucellosis in 1958.

The County Extension office also cooperated with the Yavapai Cattle Growers in mimeographing and mailing notices of the meetings of the group. They cooperated in support of the 4-H Fat Stock Sale.

Yavapai County Fair Commission

The Extension Agent worked closely with this group in revising the Fair Premium Catalog, by planning exhibit space, arranging for judges, assisting in payment of premiums, etc.

Yavapai County A.S.C. Election Board

The agent, as chairman of the Agricultural Stabilization Committee County Election Board, called a meeting on July 25 to select the members of the Agricultural Stabilization Committee Community Election Board. This was done and the County A.S.C. office manager was given names of these members.

Agricultural Stabilization and Conservation Committee

The agent met with the county A.S.C. committee four times in 1958 to discuss the A.C.P. program in the county.

U. S. Fish and Wildlife Service

The agent worked closely with technicians of this agency in a gopher control campaign in the Fall of 1958 in the Verde Valley.

PROGRAM PLANNING:

The agent held no adult program planning meetings on a community basis. However, the agent met with Extension Specialists and planned the county program in each subject matter field.

The agent did plan local 4-H club programs with leaders and club officers.

INFORMATION PROGRAM:

Radio

The agent presented one hundred and forty-three radio programs on two Prescott radio stations in 1958. The program on KNOT is three times weekly at 6:45 a. m. and is five to eight minutes usually. The KYCA program is three times weekly at 6:10 p. m. and is about three minutes. The tapes from the office of the Extension Information Specialist at the University of Arizona are used to sustain these programs wherever applicable. All programs are taped.

Newspapers

The agent wrote fifty-five articles for use in any of the three county newspapers that could use them. These were principally weekly column material. Material from the office of the Extension Information Specialist made up about 15% of this column material. In addition the agent wrote two special features for the Arizona Stockman and two for the Arizona Cattlelog.

Visual Aids

The agent used motion film and film strips and slides at ten meetings to present educational material to 244 people. In addition local 4-H club leaders used slides and films at eight meetings, reaching 120 people. In addition the agent arranged for a live gopher panel display to be used in a gopher control campaign in the Verde Valley. This reached an estimated 3,000 people.

Letters to Farm People

The agent wrote approximately 1100 letters to farm and urban people.

Many of these were from out-of-state people wanting to buy farms and ranches in this area.

State and Federal Bulletins

The agent distributed approximately 3500 State and Federal bulletins to Yavapai County residents in 1958. The new type bulletin display rack in the county office is a big asset in distribution of bulletins.

Circular Letters

The agent prepared 8720 copies of circular letters mailed to farmers and ranchers.

Other Information Contacts

The agent advised county residents on farm and home problems by means of 1026 office calls and 810 telephone calls. Also, he made 471 farm and home visits. The agent attended 35 adult meetings with 2664 persons attending. The agent attended the Extension Education exhibit at the Arizona State Fair two days in November, 1958.

PROJECT NO. 3 - HORTICULTURE

The 1958 apple crop was good and the peach crop was 85% of normal or better. Apricot crop was again poor due to frost injury in the spring. One large commercial planting of 2000 apple trees and 2000 peaches was made in 1958 on the Fain ranch. The agent was responsible for about twenty orchardists painting their trees with white-wash to assist in preventing winter injury. Repeated sale of orchards has resulted in poor care of many orchards.

A. Control of Orchard and Garden Insects

Peach Borer Control - this pest is the No. 1 insect enemy of peach trees in the Prescott area. The agent distributed twenty copies of U. S. D. A. Bulletin "Peach Borer Control" during the year. He also gave one radio talk and wrote one newspaper article on the subject.

Box Elder Bugs

Several calls reached the agent in April and July requesting information on control of box elder bugs. They are an annoying pest on lawns and come into houses in the early spring and late summer. The agent has recommended 5% chlordane sprays to control them.

Pine Bark Beetles - The Agent received inquiries from about twenty people this year relative to control of bark beetles in pine trees around Prescott. A study of the life cycle of this pest would be worthwhile by the University of Arizona. There is no known satisfactory treatment to date.

Dormant Spray Program

The agent mailed one circular letter on use of polysulphide dormant sprays to forty-five orchardists in December.

False Chinch Bugs

Hordes of these tiny insects invade this area in June and July and Prescott residents besiege the Extension office with calls. These insects do little real damage but do make uncomfortable bed-fellows.

Harlequin Cabbage Bugs - the Verde Valley gardeners reported extensive damage by this pest in 1958. It is usually not very plentiful.

Cypress Bark Beetles - Chino Valley folks reported several cases of what turned out to be cypress bark beetles in arbor-vitae. This was the first time reported to the agent since he came to the county in 1951.

B. Disease Control

Rhizoctonia Rot, or Brown Patch, in blue grass lawns was again severe in Prescott lawns in 1958. The agent answered approximately forty requests for advice on control of this disease by way of office calls and telephone calls. Chemical control measures have not been satisfactory.

Crown Gall

The agent assisted the local plant inspector, C. J. Hatch, and Mr. Norman Fain, Dewey, in intercepting about twenty-five apple trees infested with crown gall. These trees came from Carl May Nursery, Iowa. About half of these trees had definite galls while others had large swellings from which numerous small roots grew. One tree showing the latter symptoms was sent to Dr. Alice Boyle of Plant Pathology Department of University of Arizona. She reported that she was unable to run cultures because the roots were too dry when the specimen reached her. She was of the opinion that this was not the hairy-root form of crown gall. About 10 peach trees in this same shipment were confiscated because of crown gall.

The agent sent Mr. Fain a copy of Dr. Ivan Shield's instructions on use of Agrimycin 100 in treating tree roots on the remainder of his apple and peach trees. He agreed to mark the treated trees for observance in future years.

Chlorosis Control

The agent assisted Mr. H. F. Tate, Extension Horticulturist, and Dr. Paul Bessey, Experimental Station Horticulturist, on July 8 and 9. Demonstration plots testing chelated iron compounds in control of chlorosis were visited in Chino Valley and Verde Valley. One new demonstration plot was started in the Verde Valley at the E. H. Wright, Sr. orchard. This orchard showed no response to any treatments.

The treatments in the W. J. Wells orchard in Chino Valley showed about 75% recovery on apples but less on pears and peaches. Grapes on the John Pruitt, Sr., vineyard, are still showing good response to the 1957 treatment. Peaches show very little effect.

An orchard in Clemenceau, (W. W. Whitehead's) is showing good recovery from chlorosis after four sticks of dynamite per tree were used in peach trees to break up a caliche hard pan. The dynamite was placed in holes four feet from the trunk and about 30 inches to 3 feet deep.

Texas Root Rot

Texas root rot in fruit trees gave some trouble in Yarnell and in Verde Valley in June. Gardens as a whole in the county were very poor this year, possibly because of the low temperature at night. One case of cottony cushion scale on gooseberries was reported from Yarnell in June. This is the first case seen by this agent in Yavapai County in the seven years he has been here.

Delayed Foliation

Many young fruit trees failed to break buds in this year, presumably because of an inadequate chilling last winter. This condition was very noticeable in newly-planted trees in Verde Valley, and also in Thompson Valley.

Slime Molds on Lawn

September was marked by a number of calls from Prescott residents who had a slime mold on their lawns. This was due to the unusually wet weather for September. No real damage was done, but the greens keeper at Antelope Hills Golf Course was rather concerned about the infection on the greens.

Whitewash for Fruit Trees

The agent mailed circular letters to 175 orchardists in March advising them of the need to whitewash tree trunks to prevent sunburn and delay blossoming.

Other Disease Problems

Brown Canker of Roses

This disease caused serious dieback of canes in several Prescott rose gardens in 1958. The agent advised spraying with zineb. Dr. Ivan Shields, Extension Plant Pathologist, trained the agent in diagnosis and control of this disease.

Failure to Bloom (Peonies)

One Prescott resident called the agent's attention to the fact that his peonies began to bloom for him only after he flood-irrigated several times in winter, beginning in February. This is interesting in view of our experience with peonies failing to bloom.

Curly Top

Dr. Ivan Shields, Extension Plant Pathologist, assisted the agent in diagnosing curly-top symptoms in garden bush beans, petunias, peppers, and tomatoes. This has been the worst season of Curly-Top virus in several years.

Dr. Shields also diagnosed a case of canker in a Chinese Elm tree in Prescott.

C. Pruning Fruit Trees and Vineyards

On January 17 about fifty people turned out to watch the agent demonstrate pruning of fruit trees, grapes, and caneberries at Cottonwood.

On January 25 the agent demonstrated orchard pruning at E. T. Potter's orchard, Kirkland Junction. Only about twelve people turned out but interest was good.

The agent conducted two orchard pruning demonstrations in February. The one in Prescott reached twenty people and the one in Chino Valley reached fifteen people. As a result of these demonstrations the agent has had several requests for a whitewash formula to use on trees to prevent sunburn of the trunks.

The agent observed that a planting of everbearing red raspberries in the Eugene Ginn orchard, Chino Valley, seems to thrive. Mr. Ginn reports that these plants bear right up until frost. This information is worth passing on to other Yavapai County residents.

D. Floriculture and Home Grounds Beautification

Phenological Survey

The agent cooperated with the Agricultural Experiment Station at Bozeman, Montana, by arranging cooperators in a phenological survey. This survey of the Western United States will use blooming and maturity dates of the common purple lilac and winter wheat as indicator plants. Cooperators in Humboldt, Chino Valley, Kirkland and Prescott have been secured and their names forwarded to the Experiment Station.

Photoperiodism in Chrysanthemums

The agent assisted Plagge's Greenhouse, Prescott, in July and August by securing data on growing chrysanthemums on a year around basis. He wrote to U.S.D.A. research workers who have done work on photoperiodism in chrysanthemums. This grower's problems involved how to keep the stock plants vegetative in March and April through October and November.

Clark-McNary Trees

The agent notified Yavapai County farmers and ranchers in March of the seedling trees available now under the Clark-McNary Act, from Colorado State University. Response was very good and application blanks were given to thirty families requesting them.

The agent has written to Mr. C. L. Ferrell, State Forester, Colorado State University, requesting that Arizona

Cypress be included in future years. It is the best evergreen tree for this area.

The agent wrote one article on this subject for the newspapers and broadcast one radio program on it.

Bulb Bulletin Prepared

The agent prepared the manuscript for a new Extension Circular, "Bulbs for Northern Arizona" during March. Mr. Harvey Tate, Extension Horticulturist, is co-author of the publication. Local gardeners in Prescott also advised the agent in preparing the manuscript. About one hundred copies were distributed this year.

New Nursery Starts

The agent visited with Mr. Kenneth Rollins, a nurseryman who has started a new evergreen nursery in Chino Valley. He is an experienced nurseryman and he is very optimistic about the chance of growing evergreen "liners" in Chino Valley. He reports rapid growth of evergreen plants in that area.

E. Orchard Management

We are greatly in need of an Arizona publication covering this field of horticulture. Yavapai residents come to the County Extension Office with many problems on orchard management. The agent visited orchards to give first-hand information to the owners. Also, he used newspaper articles, bulletins and telephone and office contacts to distribute information.

F. Vegetables

The melon crop in Chino Valley was still in full swing but entering its last days by the last of September. The first frost arrived October 23, ending the season.

One grower feels that the green Klondike was his best watermelon variety. He reported that the striped Klondikes cracked badly with the continued wet weather in September. However, yields were excellent with both varieties, as was quality. Crenshaw melons were exceptionally sweet and they sold well. They do tend to sunburn rather badly but this doesn't appear to affect interior quality.

A trend toward more roadside stands to market vegetables and fruit was noted in Chino Valley in 1958. Melons, cukes, pumpkins, okra, beans and a lot of sweet corn were marketed in this manner. Also, grapes, apples and peaches were sold this way.

G. Miscellaneous

Plant Identification

The agent identified ten species of plants for local residents and sent other specimens to Dr. Charles Mason, Curator of the Herbarium, University of Arizona, for identification. The agent has requested a "bi-noc" type of microscope for office use in identifying plants and insects.

PROJECT NO. 4 - LIVESTOCK

Range Conditions

Yavapai ranges are going into the winter in the best condition in several years. Some cattlemen say this has been the best feed year since 1941. This in spite of rains that started three weeks and more later than usual. Grass north of Prescott appeared to head out about three inches shorter than normal, perhaps because of the lateness of the rains.

A. Range Management

Stilbestrol Implants on the Range

Mr. Albert Lane, Extension Livestock Specialist for the University of Arizona, gave a very interesting talk to some thirty cattlemen on January 9. Response was excellent and comments very favorable. Two cattlemen told the agent since the meeting that they planned to implant their range calves with stilbestrol this year as a result of listening to Mr. Lane's comments.

The agent assisted Dr. Carl Roubicek, Animal Scientist for University of Arizona, and Mr. Albert Lane, Extension Livestock Specialist in December, 1957 and May and October, 1958. They were working on a research project, requiring ear implants of stilbestrol (18 mg.) on 1957 calf crop. These calves had previously been implanted in May of 1957. Object of this research project is to determine the usefulness of stilbestrol implants on range steer calves. Each animal was weighed individually. Cooperating in this project is D. K. and D. W. Wingfield, Rimrock ranchers.

John Hays, Peeples Valley rancher, cooperated with the agent in a study of range implanting of Angus steers on meadow pasture. These 656-pound steers were implanted June 12, 1958. When weighed back 138 days later they had gained 49.8 pounds more than their untreated mates. They were sold for 25¢/pound, netting Mr. Hays \$10.65 per head more than the untreated steers.

Mr. Hays has also implanted his 1958 calf crop with a 12 mg. implant this fall. He will shortly re-implant with another 12 mg. pellet before he sends these steer calves to desert pastures.

Brush Control

The agent cooperated with other agencies (S.C.S., A.R.S. and Forest Service) and a Dewey rancher, Perry Henderson, in a brush control test on May 17. Neace Aviation Company supplied a plane and pilot to apply 2,45-T spray diluted with diesel oil. Turbinella Oak and Mansanita are the major species to be controlled. This spraying was made on brush that burned off in 1956. Mr. Ervin Schmutz, of the University of Arizona's Range Management Department, heads up this project.

Mr. Henderson burned about 640 acres of oak brush in June, 1958, and reseeded by airplane to Lehman's and Weeping Lovegrass. This was very successful.

Range Gains of Cattle

The agent also wrote an article for Arizona Stockman on range gains made by the Bard Ranch cattle this past season. Weights (final) were provided by the ranch manager. Initial weights were taken by the agent as the cattle were weighed in October, 1957.

Kochia Test Plantings

The agent secured thirty-four pounds of seed of Kochia from the County Agent at Redfield, South Dakota, for test planting in Yavapai County. Four pounds went to Roy Moore, who ranches west of Congress Junction on desert ranges. He broadcasted part of this seed on the desert floor in and harrowed it in. The remainder of the seed he will hold until next January since that is probably a better time to plant Kochia.

Dr. A. J. Mackey, Middle Verde, has about thirty pounds of seed which he and his neighbors will try both on dryland and irrigated pasture. This, too, was made in two plantings to find the best time to plant. Some plants came up but should do better with January seeding.

Kochia, also called Mexican fireweed, is an annual weed in alfalfa and wheat fields in South Dakota. Tests by the University of South Dakota show it to closely parallel alfalfa both in palatability and protein content. Under dryland conditions it yields $1\frac{1}{2}$ to $2\frac{1}{2}$ tons of hay per acre. In appearance it resembles Russian thistle except that it is more upright. Seed is obtained from threshing and cleaning alfalfa in South Dakota.

B. Insect Control

Screwworm Survey

The agent mailed a questionnaire relative to the screwworm problem to 325 cattlemen in August. Ninety questionnaires were returned reporting 2900 cases of screwworms in cattle, 158 in horses, 6 in sheep, 37 in dogs and 24 in hogs or other animals. This represented perhaps only 15-20% of the actual cases since the report did not cover September and October which were both heavy screwworm times.

This material was submitted in a report in September to State and Federal Veterinarians who requested this information.

This work, it is hoped, may later be followed up by release of sterile male screwworm flies in the county by the U.S.D.A.

The agent obtained two quarts of an experimental "smear" for testing by cattlemen. One quart went to J. J. Coughlin in Peeples Valley who reported in early October that he was very pleased with this smear, which contains a systemic insecticide, Korlan. The other bottle went to Mr. Harold James, who ranches eleven miles north of Prescott. Reports from these ranchers are not yet complete but will be included in the December 1958 report.

Cattle Grubs

The agent prepared and mailed 250 copies of a circular letter to ranchers describing the use of the systemic insecticides, Dow ET-57 and Bayer 21/199. There has been considerable interest in use of these insecticides by cattlemen to control grubs and screwworms and lice.

C. Production Testing of Beef Cattle

Also, the agent and Mr. Ted Liese, local rancher, worked on plans for continuation of the beef cattle performance testing on Liese's ranch. The new plastic eartags for marking the calves were not available until this Fall because of changes the manufacturer has found necessary in design of the eartag punch. However, the agent has drilled 1/4" holes in the aluminum sales tags. The small end of the regular

flat-type eartag will be run through the 1/4" hole in the sale tag. This will leave a double check on the identity of the calves. Also, the NASCO people sent the agent one of their new vinyl plastic neckbands which Mr. Liese is trying on one of the cows. The vinyl bands are much more pliable than the polyethylene bands which were not satisfactory. Data to complete this project is not yet available at this writing.

D. Yavapai Calf Sale

The Annual Yavapai Calf Sale was held September 27 in Peeples Valley. The agent was official weighmaster again this year. Sixty-seven calves, averaging 432.9 pounds were sold at auction for \$164.25 per head. This was about \$37.77 per cwt., believed to be a record price for this sale. They went to the Rafter 99 Cattle Company of Bakersfield, California. Top weight was 643 pounds and lowest was 320 pounds. Repeated rain showers occurred during the day.

E. Range Bull Testing

The agent assisted the Extension Livestock Specialist, Albert Lane, and Dr. George Nelms, of University of Arizona, in conducting two bull semen testing demonstrations in April. Response was very good at the Sechrist meeting and only fair at the Las Vegas Ranch meeting. The agent passed out survey sheets to ranchers to find out who might be interested in this program. To date only four of these were returned indicating interest. The agent will follow up on this program in the late fall. Recently interest has revived and one rancher has promised to ask the Cattle Growers to take definite action.

F. Brucellosis Campaign

The agent met with the Board of Directors of Yavapai Cattle Growers on March 1st to report on progress of the Brucellosis Campaign. One purebred herd had not

tested and the Cattle Growers voted to write the rancher and the Livestock Sanitary Board requesting a quick test of the herd. The herd was tested later in March.

Yavapai County was declared a Modified-Certified brucellosis-free area in April 1958. The agent worked with Cattle Growers, local and federal veterinarians to achieve this.

Leptospirosis

The local veterinarian's office asked for the agent's help in identifying plants eaten by cattle on the Cowden Livestock Ranch, at New Water. Blood tests showed 118 head positive for Leptospirosis out of 240 head tested. However, the veterinarian feels that the tests for Lepto are not yet reliable and that a feed condition caused the four losses.

G. Chino Field Tour

The agent was co-chairman of a tour of Chino Valley farms on September 4, 1958. Mr. Albert Lane, Extension Livestock Specialist for the University of Arizona, gave two livestock demonstrations reaching 160 people. One demonstration showed where the various meat cuts came from on beef animal. Mr. Lane used adhesive tape to show this very effectively. Also, he demonstrated the use of a stilbestrol ear implant, which interested ranchers very much.

H. Hormones, Feed Additives and Tranquilizers

Interest among cattlemen in the use of these drugs is at an all-time high. Therefore, the agent mailed 240 copies of a circular letter on Dynafac, Anti-biotics, etc. to cattlemen.

Also, the agent prepared and mailed 250 copies of a circular letter giving the latest independent research findings on the use of tranquilizers in cattle feed and as injections.

Data for both letters was supplied by Mr. Albert Lane, Extension Livestock Specialist.

I. Miscellaneous Livestock Work

Need for Good Boars

The agent assisted one hog producer in December with locating a good young registered boar. With the increased hog production in the county there is a need for more good boars. This is especially true with the trend toward cross-breeding programs. The agent mailed a list of hog breeders in Arizona to Yavapai County hog producers to assist them in locating breeding stock. Also, the agent mailed copies of a ditto on cross-breeding systems for swine to all hog producers in the county. This was supplied by Mr. Albert Lane, Extension Livestock Specialist.

F. F. A. Stock Show

The agent judged a class of ten fat steers at the Annual Stock Show of the Cottonwood F. F. A. chapter on May 24. This year the agent convinced the chapter advisor of the need for oral reasons on the official placings. This adds to the educational value of the program.

Miscellaneous Livestock Work

The agent advised ranchers and farmers on stock water analysis, irrigated permanent pastures, bloat prevention, poison weeds on ranges. He also presented two radio programs, giving livestock market reports. Also, the agent visited a local pony farm. This business is growing in Arizona.

Director Charles U. Pickrell, Agricultural Extension Service head at University of Arizona, was honored speaker at the luncheon meeting of the Cattle Growers. Mr. Pickrell was made a life member of the group on the occasion of his retirement as Director of the Extension Service on July 1, 1958.

PROJECT NO. 5 - DAIRY

The Situation

Dairying has assumed an important role in Yavapai agriculture. There are approximately nine hundred cows in commercial dairies in the county, with 65% of these in Chino Valley and 35% in Verde Valley. At least two new dairies are planned for Chino Valley in 1959. This increase in dairying has stabilized demand for corn ensilage and for alfalfa hay. Hay prices are currently \$36/ton for dairy quality hay delivered. The net price of 3.8 milk to dairy-men after hauling charges is \$5.30/cwt., compared to \$5.05 in 1957. This area is under the Federal Milk Marketing Order of Central Arizona. There were two herds on D.H.I.A. test in the county in 1958. One dropped in Verde Valley and another joined in Chino Valley.

The high cost of replacement cows is a severe blow to dairymen who are increasing their herd size or who are new at dairying and are trying to locate springer heifers to buy. Boise, Idaho, cattle brokers are quoting Holstein springers at \$285 to \$325 plus \$25 freight delivered to Verde Valley. Phoenix brokers are quoting prices of \$325 per head.

A. Dairy Herd Improvement

The last herd on D.H.I.A. in the Verde Valley discontinued testing this summer. He does not raise his own replacements and felt that testing was an expense he could not afford.

In Chino Valley one herd was on test all year and another started in November. The agent is trying to get another herd ready to go on test soon.

B. Cattle Health

Prussic Acid Poisoning of Cattle

Adolph Mongini, Verde Valley dairyman at Bridgeport, suffered a double loss in late July. First, he estimated that grasshoppers caused about \$3000 of damage to his permanent pasture, Second, on Monday afternoon July 21, he found nine head of fine Holstein heifers, valued conservatively at \$2000, dead in one of his permanent pastures. A conference with County and Federal veterinarians and the County Agent's office gave a verdict of death by Prussic Poisoning caused by eating Johnson Grass. This was the first such loss in 24 years for Mongini. Johnson grass will produce prussic acid poisoning at any time the plant is stressed by drouth or frost, followed by regrowth of the plants. Prussic acid kills cattle or sheep very rapidly and treatment is usually not practical because of the rapidity of death.

Sumner Jordan, also of Bridgeport, reported to the agent that he almost lost a cow from the same thing that killed Mongini's nine heifers.

Brucellosis Control

The agent worked closely with dairymen and local veterinarians to get all dairy cattle in the county tested for brucellosis. Only one herd (in Chino Valley) still had any reactors (two) on the last test. Disinfecting of corrals is now being done on this dairy.

C. Artificial Breeding

The agent tried to work with a private inseminator and Chino dairymen to get an artificial insemination program going in 1958. However, not enough dairymen would sign to give him enough cows to make the program worthwhile. Efforts along this line will continue in 1959 since some dairymen definitely favor the program.

D. Milk Barns and Equipment

The agent mailed forty copies of a circular letter on walk-up parlors versus stanchion barns to dairymen. This was a report on a California study of the two systems. Information was supplied by Mr. C. L. Pelissier, Extension Dairyman for California.

E. Feeding Value of Alfalfa Hay

The agent prepared and mailed forty-five copies of a circular letter to dairymen in the county. This letter reported trials of feeding alfalfa hay of different protein values to dairy cows. Data was supplied by Mr. Otis Lough, County Agent (Dairy) for Maricopa County.

F. Miscellaneous

The agent attended a meeting of Yavapai County's Dairy League membership at Clarkdale on February 13. He showed the film "Triple Threat" on brucellosis.

The Dairy League is working on plans to control expansion of number of dairy herds and size of present herds. However, this is only in the talking stage.

L. L. Foley's dairy at Humboldt has been sold to Chesley Cook, of Pinal County. Also, a new herd has been moved into the Sosebee Dairy set-up below Camp Verde. The John Whitlatch Dairy has sold out at Cottonwood. Jack Dees and his son-in-law, Russell Bendure, are working on plans for a dairy on the Dr. Edwards farm across the Verde River north of Cottonwood. The Blackburn Dairy in Chino Valley has been sold to Mr. O. P. Wilhoit, a dairyman from Central Arizona.

G. Information Program

The agent prepared and mailed two circular letters with eighty-five copies; gave seven radio broadcasts on dairy subjects and wrote five dairy news articles. We need more research findings and faster! What about feeding aureomycin to stop foot rot? Pellet feeding? etc.

PROJECT NO. 6 - POULTRY

The Situation

This project was of minor importance in 1958. Most of our commercial poultrymen are efficient in their management and there are only a few backyard flocks that require attention of the agent.

Egg prices are about the same as in 1957 at present. However, prices failed to recover from their usual spring slump (February through April) as quickly as usual. Normally, prices rise in June but it was July before they rose in 1958. Also, prices sagged in October of 1958, almost an unheard of situation. In November of 1958, poultrymen must sell 10.2 dozen eggs to buy 100 pounds of feed. (Grade AA Medium eggs at 50¢/dozen wholesale, uncandled, and feed at \$5.10/cwt.). This is the same as 1957.

A. Marketing

The Arizona Egg Company has enlarged its Prescott office to include grading and candling service. The Buchanan Egg Company (formerly Highland Poultry Products, Inc.) in Prescott, is still in operation but is badly under capitalized. These two companies handle about 75% of the marketing of poultry production in the Prescott market area. Verde Valley producers market in Flagstaff and one large grower markets through Arizona Egg Company.

B. Housing

The agent advised two producers on poultry housing problems in 1958 and distributed fifteen copies of the new Extension Circular, "Poultry Housing and Equipment."

C. Disease

No major outbreaks of disease occurred in Yavapai County flocks in 1958. However, cannibalism was a serious problem in some flocks.

PROJECT NO. 7 - AGRONOMY

A. Alfalfa

1. Variety Test

The agent collected data on the alfalfa variety test on the Morris Schwartz farm, Chino Valley, in 1958. The figures to date are summarized herewith as of November 14, 1958. There may be a light clipping in November that has not yet been recorded. This will change the figures slightly since the Chilean is not dormant but the Ranger is rapidly going dormant.

Ranger - 3.9 acres

1st cutting - June 2, 1958
393 Bales @ 56 lbs. = 22,008 lbs. or 5,641 lbs./acre
Irrigated June 20, 1958

2nd cutting - July 7, 1958
251 Bales @ 62 lbs. = 15,562 lbs. or 3,987 lbs./acre

3rd cutting - August 10, 1958
175 Bales @ 72 lbs. = 12,600 lbs. or 3,230 lbs./acre

4th cutting - September 25, 1958
168 Bales @ 72 lbs. = 12,096 lbs. or 3,101 lbs./acre

Totals 62,266 lbs. or 15,965 lbs./acre

Chilean - 8.3 acres

1st cutting - June 2, 1958
425 Bales @ 56 lbs. = 23,800 lbs. or 2,867 lbs./acre

2nd cutting - July 7, 1958
401 Bales @ 62 lbs. = 24,862 lbs. or 2,995 lbs./acre

3rd cutting - August 10, 1958
223 Bales @ 72 lbs. = 16,056 lbs. or 1,934 lbs./acre

4th cutting - September 25, 1958
325 Bales @ 72 lbs. = 23,400 lbs. or 2,819 lbs./acre

Totals 88,118 lbs. or 10,616 lbs./acre

2. Insect Control

The spotted alfalfa aphid damaged one cutting of alfalfa hay in Verde Valley in 1958 and some farmers dusted once. However, no dusting was needed in Chino Valley.

3. Weed Control

Tansy Mustard Plagues Farmers

Heavy January and February rains encouraged a severe infestation of tansy mustard in alfalfa fields in 1958. The first cutting was almost worthless on many farms in Dewey and Chino Valley. No practical means of control is yet known.

B. Pinto Beans

There were only 45 acres of this crop planted in Chino Valley in 1958. This compares to about 2,000 acres in 1945. A combination of low prices and disease (bacterial blight) caused this acreage decline.

1. Inoculation of Seed

The agent arranged for a cooperative testing of seed inoculation, but at the last moment the grower forgot to inoculate the seed. He has agreed to try this in 1959.

2. Chemical Weed Control

The agent also arranged with one bean grower to test pre-emergence sprays to control weeds with Alanap and Vegedex. However, this grower decided not to plant beans after all.

C. Corn

1. Insect Control

a. Corn Rootworm

Dr. Paul Gerhardt, Entomologist at the University of Arizona's Mesa Station, assisted the agent in a study of corn rootworm control in Chino Valley in 1958.

On May 14, 1958, Dr. Gerhardt and Mr. Gilbert Bisjak, farmer, banded in 10% Aldrin, 10% Toxaphene, and 10% Dieldrin in vermiculite. The insecticide was mixed with the soil as it fell around the corn seed at the rate of 8-10 pounds/acre. Six rows were left as a check. However, field examination when the adult beetles were thick during the summer, showed no infestation of rootworm in the control area. Thus, the tests yielded no conclusive data.

One field of corn within one mile of the test area was not treated at time of planting. About ten acres were badly damaged by corn rootworm.

The agent cooperated with two farmers in a study of damage to silks by adult beetles of the corn rootworm. The agent tagged ears during heavy beetle attacks. However, it was later found when Dr. Gerhardt and the agent checked these fields that there was no way of knowing how much damage was done to silks after the tagging was done.

Next year it is planned to repeat this study and by improving the technique some valuable data may be gained. If it can be demonstrated that the beetles cause significant damage by preventing pollination, spraying of the adults may be practical.

2. Weed Control

The agent established two weed control plots on the Sherwood farm, Chino Valley, on May 16. These plots both used Amino triazole spray to control a perennial weed, Russian Knapweed. The plots will be watched next spring to see results, if any. As of late summer only the terminal growth was dying, but there was indication that the plants were severely stunted. May spraying will be tried in 1959.

Also, the agent's attention was called to a serious weed that is getting started on the County Hospital's vacant ground. This weed, White Top or Hoary Cress, is not a common pest in the county and should be controlled before it gains a foothold. The agent contacted Mr. Don Bell,

Hospital Supervisor, who promised to get to work on this pest immediately.

The agent ordered a supply of the new circular on control of Johnson grass with Dalapon and petroleum oils. These were mailed to six farmers.

The agent has had requests in March for more information on Sorghum Aluum and perennial sweet sudan. These seeds are now listed as noxious weeds but in spite of this twenty-five pounds of Sorghum Aluum entered the county through the mail in March. However, these two grasses are not a problem here in Yavapai County since we do not grow sorghums for seed increase. Trial of this plant in Williamson Valley was not successful.

D. Small Grains

Ramona Wheat was planted in 1958 in Chino and Big Chino but did not do well. Part of this was due to poor irrigation management.

Some hard red winter wheat, Cheyenne, was planted as late as March 18. It did not produce enough to replace the seed.

The agent advises planting Wichita Winter wheat in the fall in this area.

E. Potatoes

a. Disease Control

The Kennebec potatoes grown by Gil Bisjak and Charles Bartlett in Chino Valley in 1958 scabbed much worse than in 1957 for some unknown reason. The Russet potatoes seemed to be more resistant to deep scab.

Early Blight caused some reduction in yield in this field. Dr. Shields, Extension Pathologist, feels that

the unusually wet summer contributed to this condition.

F. Peanuts

1. Inoculation Study

Mrs. John N. Edge, Camp Verde, cooperated in a study of peanut seed inoculation. There was no apparent advantage to inoculation in this soil.

2. Variety Trial

Mrs. Edge also tried a planting of peanut varieties to see which would be the best for her area. Results are not available as yet but will be included in the December, 1958, report.

G. Sorghum

1. Variety Trials

The agent arranged for seed and advised a cooperator on planting of a ten-acre sorghum variety test planting. These were all Hybrid varieties except one. These sorghums were all planted June 1 and 2, 1958, on the Joseph Thibodeau Farm. Bird damage was extensive on some varieties but appeared to be least on NK 230 and NK 140. No yield data was taken because of the bird damage which would have made comparisons very inaccurate. Mr. Thibodeau feels that he prefers NK 135, NK 230, DeKalb's D 50A, RD 501 and RS 590. He has agreed to give these varieties another test in 1959.

One test planting (which the agent helped to arrange) of hybrid sorghum seed increase for Advance Seed Company was made on the Gil Bisjak farm, Chino. However, apparently the male-sterile variety was poorly pollinated by the pollinating variety. The crop has not been harvested to date so no yield data is available.

H. Irrigated Permanent Pastures

1. Fertilizer Trial

The agent cooperated with Mr. L. P. Hamilton, Plant Materials Center of University of Arizona, and Mr. E. S. Humphrey, manager of Bard Ranch, Kirkland, in a test of nitrogen fertilizer rates on Blue Panicum pasture.

The entire field received 100 pounds of 45% N (Urea) per acre immediately after each grazing period. Three irrigations were given between samplings. The agent made clippings from a one square yard quadrat area just ahead of grazing. One border received a double application (90 pounds N/acre). The agent made clippings from five points in each border on July 2 and again on August 10. These clippings were air-dried and sent to Mr. Hamilton for weighing and analyzing. Results are as follows:

Yields in Lbs./Acre From Two Cuttings (Air Dry Basis)

	<u>90 Lbs. N/Acre</u>	<u>45 Lbs. N/Acre</u>
Plot A	5,106 Lbs.	3,806 Lbs.
Plot B	5,085 Lbs.	3,349 Lbs.
Plot C	5,213 Lbs.	3,433 Lbs.
Plot D	4,392 Lbs.	3,624 Lbs.
Plot E	4,030 Lbs.	3,422 Lbs.
Average	4,764 Lbs.	3,526 Lbs.

This test showed a yield advantage of 1,238 pounds per acre in favor of the heavier nitrogen application. This was done at an additional cost of approximately \$12.50 per acre including cost of fertilizer plus application. It is estimated that 27 pounds of dry matter will produce 1½ pounds of beef gain. Therefore the 1,238 pounds of additional dry forage has a value of 68.77 pounds of beef. With yearling steers valued at 25¢/pound this is a value of \$17.19 per acre for the two cuttings. The additional 90 pounds of nitrogen per acre for the two cuttings showed a net profit of \$4.69/acre. If cattle had been worth only 20¢/pound, however, the additional fertilizer would still have paid \$1.25/acre profit above the lower fertilizer treatment.

I. Rodent Control

The agent spearheaded a drive to control pocket gophers in late fall of 1958. He met with officers of the Camp Verde and Lower Oak Creek Soil Conservation Districts and the U. S. Fish and Wildlife Mammal Control Agent in late October. At this meeting the initial plans were made. In November the project got underway with the agent and farmers setting up a live gopher panel display in Camp Verde and later in Cottonwood.

In addition, the agent outlined a "Get-Out-The-Gophers" contest for school age boys and girls. The S. C. D. agreed to provide cash awards of \$25, \$15, and \$10 plus ten prizes of \$5 each. The Extension office mimeographed 700 copies of the contest rules for distribution in early December.

The Soil Conservation Districts are also providing gopher traps at cost to anyone who wants them.

The U. S. Fish and Wildlife agent will give two gopher control demonstrations in December.

The agent and the Assistant Extension Information Specialist, Robert McKnight, took special pictures for use in four newspaper articles plugging gopher control in the Verde Valley.

J. Miscellaneous Agronomic Work

Green Feed Machine

The agent closely examined one of two "Green Feed Machine" now owned locally, and obtained research data on this from Louisiana State University for two local people.

This machine is a self-contained unit for controlling the temperature and humidity at the optimum level for sprouting oats. Trays of seed oats, or other grain, (five pounds per tray) are grown in a nutrient solution, being harvested every six days. The resulting thick "turf" of green oat plants six to 8 inches high, are held together by the matted roots. This mass of green material is removed and fed to livestock, who eat roots and all. Claims made by the manufacturer are fantastic but the county agent will watch closely to see how this novel idea performs for local owners. Sales have been

very slow, and the idea seems to be a too-expensive method of producing green feed.

Big Chino Development

The Wineglass Ranch in Big Chino Valley planted about 3,000 acres of wheat, 2,400 acres of corn, 600 acres of oats, and 500 acres of sorghums. They have drilled 24 wells, two of them dry. They reported that one well will produce an estimated 4,600 gallons minimum and another 5,500 gallons minimum. Their sprinkler system was 60 days late in arriving and they did not get enough crop to return their seed.

The agent would like to start a program of ground water measurements in that area for future information. Mr. Allan Halderman, Extension Irrigation Specialist, and the agent made a start on this in November, 1958.

The agent advised seedsmen on varieties of what wheat to use for this area. The winter wheat crop planting was completed March 20th on this ranch. It did not mature, of course.

Chino Valley Field Day

The agent was co-chairman of a Field Day Tour in Chino Valley on September 4. This tour was jointly sponsored by the Chino S. C. D., Farm Bureau, Cattle Growers, and Extension.

The agent handled all publicity, served as co-chairman, conducted discussion at three of the tour stops, and wrote follow-up letters of appreciation to those cooperating.

One hundred and sixty people, including many businessmen from Prescott, attended the tour. Two Chino School buses assisted in transportation. Nine stops were made including: Thibodeau farm - Hybrid Sorghum Variety Test; Powles Farm - Ditch-Lining Demonstration; Bolling

Farm - Severe Land Levelling; Schwartz Farm - Alfalfa Variety Test; Bisjak Farm - Potato Fields; Sherwood Dairy; Del Rio Tanks - Tall Wheatgrass Pastures; Del Rio Farm - Demonstration of Cattle Stilbestrol Implants; Cuts of Beef Cattle; Beef Breeds and Free Lunch to all!

Assisting were Mr. Albert Lane, Extension Livestock Specialist; Dr. Lee Stith, Sorghum Specialist; George Clark, Extension Agronomist; Dr. Baltenspergen.

The public address equipment loaned by the University of Arizona was defective.

Verde Valley Grasshopper Outbreak

A plague of grasshoppers invaded the Verde Valley around Bridgeport and Cottonwood in July. Apparently the hordes of hoppers covered only an area of about 400-500 acres, but they did severe damage to alfalfa fields, permanent pasture, gardens, ornamental shrubs and shade trees. Residents of the area met July 25 at U.V.X. Dairy to confer with the county agent on organization of a community spraying program to control the hoppers. Since no federal or state financial help was possible, united action of the residents was not forthcoming. Some of the farmers ordered dusts or sprays to begin treatment and one dairyman bought a duster. The agent wrote a news column for the Verde Independent on this subject.

Research Plans

The agent visited Chino Valley farms in October with agronomists from the University of Arizona. Plans for a research program with forage crops were discussed. This program is greatly needed in the county.

K. Information Program

Yavapai Field Crops

The county agent revised the 1955 issue of "Yavapai Field Crops," a mimeographed publication to help new farmers in the county become better acquainted with recommended field crop practices at different elevations. This is an eighteen-page bulletin that has been widely distributed in the county. Other government agencies have asked for enough copies of it to give each of their personnel a copy.

Cost of Production

The agent mimeographed fifty copies of a Cost of Production study done by the S. C. S. in 1958. This material is very useful to give to newcomers who want to buy farms.

Corn Storage

The agent prepared and mailed to farmers seventy copies of a circular letter on storage of high moisture corn.

The agent advised farmers and ranchers on alfalfa varieties, alfalfa marketing, source of crop seeds, weed control, use of gypsum on Chino soils, cost of raising grain hay, ant control, Farm Bureau program, permanent pasture mixes, green feed machines, soil testing, planting spring oats, price of ensilage and alfalfa hay, range grasses and raising timothy hay.

In 1958 the agent prepared six circular letters and bulletins with 1145 copies. He gave twenty-five radio talks on agronomy subjects and wrote fifteen articles for newspaper use. He conducted one field tour reaching 160 people. He conducted five result demonstrations.

OUTLOOK AND RECOMMENDATIONS:

Land prices have risen to an all-time high in the county. One farm in Chino Valley under pump irrigation recently sold for \$600 per acre. Turn over of land in farms and even small acreages has been rapid in 1958. All of this has a bearing on the Extension program. New farmers, often with no irrigation experience, are moving into our communities. They are calling on Extension for help.

Outlook for markets of hay, silage, and grain is good. Range cattle prices are high and will probably be almost as high in fall of 1959. Range feed is ample.

Subdivision continues to reduce the number of acres of farm land in Verde Valley and may begin to do so in Chino Valley in 1959-1960.

Trends

Dairying continues to increase in Chino Valley at a slow, rather steady rate. This strengthens demand for good hay and ensilage. Alfalfa continues to be our most important crop.

Cotton (8 acres) moved into the Verde Valley area for the first time in 1958 and will increase slightly in 1959. Sugar beet seed did well there as a crop in 1958. The number of farmers in the Verde Valley is decreasing as land is subdivided.

More hogs are being used to harvest corn and sorghum grains on Yavapai County farms. Prices have been good in 1958 but promise to sag deeply in 1959.

The size of both dairy herds and poultry flocks continues to increase as the need for greater volume arises from lower profits per unit. There is a definite trend toward production of replacement dairy heifers as a major farm enterprise. Five Camp Verde farmers have started this practice in the last two years.

Recommendations

The adult Extension Program in 1959 in Yavapai County should stress:

1. One major project for livestock Range Management.
2. Organization of County Extension Council.
3. Nematode Control in Verde Valley and Peach Borer Control in Prescott.
4. Insect Control of Corn.
5. Expansion of D. H. I. A.
6. Variety tests of sweet corn.
7. Landscaping of Homes.
8. County Agricultural Survey by Communities.
9. Weed Control.