ANNUAL NARRATIVE REPORT

STATE: ARIZONA COUNTY: YAVAPAI

REPORT OF: ALVIN ALLEN

FROM: DECEMBER 1, 1954 to NOVEMBER 30, 1955

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HIGHLIGHTS:

County Situation

Yavapai County covers an area of approximately 8,500 square miles with a range in elevation of 3,000 to 7,000 feet. Most of the area is utilized by about two hundred and thirty cattlemen in the grazing industry. According to the 1950 census we have approximately five hundred and twenty-seven farmers and ranchers. There are as estimated 17,000 acres of irrigated crop land in the county. Practically no dryland farming (except a few acres of fall-planted rye for pasture and cover crop) is attempted. Our low annual rainfall (twelve to seventeen inches) and dry spring weather prohibits dryland farming. We have two main farming areas, Chino and Verde Valleys. These are about fifty miles apart and are separated by the Mingus Mountains. Some new land has been put under pump irrigation, especially in Big Chino Valley, within the last five or six years.

Four-H Club Work

Yavapai County again had three winners of State awards under the National Awards contests. One was a trip to 4-H Club Congress. A new 4-H project, the Electric project, was begun in fall of 1955. Thirteen clubs enrolled a total of one hundred and sixty members and completed one hundred and sixteen. Interest in club work is at a healthy level.

Horticulture

The agent assisted orchardists and gardeners by advising on production and marketing problems through field visits, personal letters, three pruning demonstrations, office visits, and telephone calls. Peach borer was the number one problem in orchards in 1955. Special projects in this field were:

a. Control of Orchard and Garden Insects
b. Disease Control
c. Pruning Fruit Trees and Vineyards
d. Fruit Variety Study
e. Lawns and Landscaping

f. Orchard Management
g. Tomato Variety Tests

Livestock

Production of feeder calves on native ranges is our most important single agricultural industry. Both purebred and commercial breeders make up the industry. Purebred breeders have earned a nationwide reputation for quality of their breeding stock. The agent completed two years of production testing with one cooperator and has interested a second cooperator for 1956. Yavapai Cattle Growers cooperated with the agent in the 4-H beef program and in a brush burning and reseeding demonstration. Projects covered were:

a. Range Management
b. Insect Control
c. Weight-for-Age Program
d. Yavapai Calf Sale
e. Miscellaneous Cattle Projects
f. Drouth Emergency Hay Program
g. Brucellosis Control
h. Hog Production

Dairy

Eight dairies serve Yavapai County at present. One distributing plant in Prescott and a small bottling plant in Cottonwood are the only local-owned distributors in the county. Carnation Milk Company, of Phoenix, has begun taking milk from the Verde Valley. They expect to increase their purchases materially since there is now an all paved road from Camp Verde to Phoenix. Two Yavapai County dairymen are on D. H. I. A. test. Prospects are for two more to join in 1956. Projects covered are:

a. Dairy Herd Improvement
b. Brucellosis and Tuberculosis Control

Poultry

Yavapai County is well-suited climate-wise to poultry laying plants. Prices for eggs strengthened in

last half of 1955 and feed costs lowered slightly. Cage laying plants are expanding slowly. Adequate financing for poultry expansion is not available. The agent assisted in compilation of a survey of poultry market conditions in Prescott. One marketing company owned by growers is still in operation. Projects covered were:

a. Marketing
b. Disease Control
c. Miscellaneous Poultry Work

Agronomy

The agent completed one small-grain variety test and completed report on five years of testing, distributing this to Verde Valley farmers. The agent continued one alfalfa variety test; distributed seed of a new alfalfa variety; assisted in establishment of two safflower tests; assisted with one pinto bean disease control test; supervised three corn variety tests. Corn acreage increased by 200% in Yavapai County in 1955. Projects covered were:

a. Alfalfa
b. Pinto Beans
c. Corn
d. Small Grains
e. Miscellaneous Agronomic Work

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 the 1954 census. This compares to 36,000 head in 1950. Cattlemen are in an economic squeeze due to rising prices of things they buy and falling prices for cattle. The 1955 crop of weaner calves sold at seventeen to eighteen cents for heifers and eighteen to nineteen cents for the bulk of the steers. (A few early sales reported at eighteen cents for heifers and twenty cents for steers). This compared to nineteen to twenty cents per pound for the 1954 weaner steers and seventeen to eighteen cents per pound for heifers. Cull cows moved at seven to eight cents per pound. Cattlemen are using recommended practices in insect control. Their greatest opportunity for improvement lies in breed improvement, culling late breeders, performance testing, and range improvement through cedar eradication, brush burning and re-seeding.

Sheep numbers have declined steadily in recent years with approximately 7,866 head in 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 and irrigated pastures continue to interest more cattlemen as a means of supplementing their feed supply. There was a large increase in corn acreage in Chino Valley in 1955. An early frost on September 19th and 20th reduced yields by an estimated twenty to fifty percent, some fields being harder hit than others.

All of our cropland (with rare and small exceptions) is irrigated, comprising about 17,000 acres as compared to 11,000 acres in 1940. Approximately 7,000 acres are pump irrigated with the remainder watered from small river diversions. Also, 2,500 acres in the Chino Valley has water rights under the Watson Lake Reservoir. This supply varies from year to year.

Major crops are alfalfa, corn, small grains, dry pinto beans, deciduous fruits and truck crops. There is need for more data on fertilizers for pinto beans and corn, blight control of pinto beans, and vegetable potential in

the Chino Valley. Varieties of corn and small grain need more study.

Dairying is not of major importance in the county. There are three commercial dairies in Chino Valley and five in the Verde Valley. One dairy in the Verde Valley was closed in 1955 by order of the County Sanitarian. Carnation Milk Company, Phoenix, expects to pull one thousand gallons of milk per day from the Verde Valley now that the new Black Canyon Highway is completed to Camp Verde. There is one distributor, Prescott Farms Dairy, Prescott, of locally-produced milk in Prescott. Two dairies were on D. H. I. A. test in 1955. Hay prices are currently $40.00 per ton delivered. Marketing of fluid milk is still a serious problem but not as serious as it was in 1953 and 1954.

Poultry production in this county is lower by an estimated ten percent than a year ago. However, the egg price situation and egg-feed ratio has improved over 1954. A marketing organization known as Highland Poultry Producers, Inc., Prescott, was formed in July, 1954, by producers and feed dealers. It has not received good producer support and is operating in the black only because of donated labor. Size of poultry flocks is too small for economical units. There are an estimated 15,000 layers in the county in commercial enterprises.

ORGANIZATION:

A. Extension

The agent attended annual conference at Tucson from December 13th to 18th. This conference placed stress on the improvement of the extension agent's public speaking ability. This agent spoke for fifteen minutes on "My Favorite Project and Why." Basis for this talk was the Weight-for-Age program. One of the highlights of the conference was Mr. John Spurlock's inspirational talks. Mr. Spurlock is County Director of Extension in Sacramento County.

Faculty Conference at University

The agent was in Tucson January 17th and 18th for individual conference with faculty members on problems in Yavapai County. The agent met with Mr. Charles Ellwood, Dr. Arden Day, a Dr. Foster and Mr. Howard Baker for one session on experimental work on alfalfa and corn varieties. This session was disappointing in terms of getting satisfactory answers from the Agronomy Department regarding problems in evaluating these tests. However, the session with Mr. Ellwood and Dr. Day on Small Grain Tests was more enlightening.

The agent met with Dr. Butler, Entomology Department, for some assistance on identification of yellow clover aphis. Also, the role of Extension in cooperative Economic Insect Surveys was discussed.

Mr. Albert Lane, Extension Livestock Specialist, and the agent discussed problems in swine production and in the weight-for-age program with beef cattle.

Mr. Harvey Tate, Extension Horticulturist, and the agent planned a rose pruning demonstration and a tomato variety test to be conducted this spring and summer near Prescott.

This two-day session at the University was very profitable for the agent. On the way back he conferred by telephone with Dr. J. N. Roney and Dr. Ivan Shields. Also, he stopped at the college farm at Tempe and located some good young Duroc boars for Yavapai hog growers.

District Agents Meeting

The agent attended an In-Service Training meeting in Prescott on September 1st and 2nd. Topics included corn cultural problems and Planning a Long-Range Livestock Program. The agent discussed weed control in corn. This meeting was very interesting. As an outgrowth of the meeting this agent has mailed a letter to Dr. McAlister, Head of the Agronomy Department, University of Arizona, outlining some suggested research problems in corn culture.

Office Administration

The office file of farm plans and blueprints has not been satisfactory. Therefore, the agent has initiated a new arrangement of filing these plans. The tubular roll is being discarded. All plans are now filed in a flat letter file using well-marked tabs. This should be much more satisfactory.

The agent was successful in requisitioning a new office lighting system in 1955. The University of Arizona paid two-thirds of the cost and the Board of Supervisors appropriated one-third of the cost. This has greatly facilitated office work.

B. Farm Groups

Farm Bureau

The agent met with this group eight times during the year in an advisory capacity.

The agent met with the Board of Directors of Yavapai County Farm Bureau on April 11th at Humboldt. As advisor to their Research Committee, the agent reported on the 1954 Research program in Yavapai County. This project netted $89.55 from the pinto bean project. All of the profit was placed in a research fund for further use in the county.

Yavapai Cattle Growers

This group has about one hundred and ninety members. They met eight times in 1955. Most of their problems have

been with marketing and big game control. The agent worked with the group in planning and conducting their annual calf sale. Sixty-eight weaner steer calves sold for $98.25 per head, or 23.7¢ per pound to the University of Arizona and Arizona Hereford Breeders Association. The agent's office cooperates with this group in keeping membership records and mimeographing notices of meetings. They appointed a three-man committee that did much good in promoting the 4-H calf sale.

Yavapai Poultry Producers Association

The agent worked with this group to plan meetings and show educational films.

Yavapai Dairy Goat Association

This group disbanded in 1955 as an active group. A former member continued to assist with 4-H Club goat projects.

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, etc.

Yavapai County A. S. C. Election Board

The agent served as chairman of this committee in selecting a Community Election Board. Also, the agent performed the same function for Mohave County.

Future Farmers of America

The agent judged an F. F. A. Livestock Show and arranged a Ranch Tour for Peoria Chapter of F. F. A. Also,

he cooperated with local chapters in arranging for purebred registered heifer projects.

Homemakers Clubs

The agent spoke at a bi-county meeting of homemakers to plan their Extension program.

Other Organizations

The agent cooperated with the following agencies: Soil Conservation Service, Agricultural Stabilization and Conservation Committee, Forest Service, Farmers Home Administration, U. S. Weather Bureau and Fish and Wildlife Service.

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PROGRAM PLANNING:

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

INFORMATION PROGRAM

The agent prepared one hundred and fifteen news articles to sustain his weekly column in The Messenger. Also, about twenty of these articles were sent to Verde Independent. The daily newspaper, Prescott Courier, carried approximately fifty farm news items originating in this office or the State Extension Information Specialist's office.

Radio

The agent used the radio only once to acquaint the public with the Extension program. This phase of the County Extension program could be used more often to good advantage perhaps. The one radio station reaches only one rural community.

Circular Letters

Forty-three circular letters on farm and ranch topics (including 4-H) reached farmers and ranchers of Yavapai County from the Extension office in 1955.

State and Federal Bulletins

The agent distributed approximately eighteen hundred bulletins, state and federal, to Yavapai County ranchers and farmers in 1955.

Visual Aids

The agent showed colored slides to thirty people; used an opaque projector to present information to twenty people; used motion pictures to educate two hundred and ninety-six people at six meetings. Subjects covered were 4-H Electric program, home landscaping, garden problems, and building above-ground trench silo.

Letters to Farm People

The agent wrote approximately twelve hundred letters. About one-half of these were from farm people and one-half from urban or suburban people asking for advice on agricultural topics.

Other Information Contacts

The agent advised county residents on farm and home problems by means of eleven hundred and forty office calls and eight hundred and ten telephone calls. Also, he made three hundred farm visits. The agent attended fifty-four adult meetings with six thousand and fifty persons attending.

PROJECT NO. 3 - HORTICULTURE

Nineteen Hundred and Fifty-Five saw one of the coldest springs in many years in Yavapai County. A series of hard frosts with temperatures of 18° to 22°F. during last half of March and again on April 3rd damaged the fruit crop severely. There were eighteen days of freezing weather at Prescott during May with a low of 15°F. on April 3rd. Even May had six days of freezing weather with a low of 25°F. on May 3rd. As a result of late spring low temperatures, it is estimated that 95% of the peaches, 100% of apricots and plums, and 50-60% of the apples and pears were lost.

The county acreage of commercial orchards is on the decline. This land is too valuable for homesites for an orchardist to compete in the bidding. Home orchards are still being planted, however.

A. Control of Orchard and Garden Insects

The peach borer was the number one orchard pest in Yavapai County in 1955. The agent distributed the U.S.D.A. bulletin on the Control of Peach Borer. Codling moth reports were less numerous in 1955, probably because there were so few apples and pears for the insects to infest. Aphids did considerable damage to melon crops in Verde Valley. Parathion sprays and dusts controlled them when applied properly. The agent distributed about one hundred copies of "Fruit Insect Control Hints." The elm scale menace is somewhat lessened because more people are using Volck oil sprays. Spittle bugs caused some concern with home grape plantings in the Verde Valley. A serious infestation of poplar leaf miners defoliated cottonwood trees in the Verde Valley in July. Dr. Roney talked to Verde Garden Club and showed a film on insects.

B. Disease Control

Fire Blight of Apples and Pears

This disease was relatively unimportant in 1955 compared to the epidemic of 1954. Several inquiries reached the agent's office for data on the use of antibiotic sprays to control fire blight. The agent used newspaper articles to keep the public informed on control measures.

Nematode in Verde Valley

Nematodes continue to plague Verde Valley gardeners and orchardists. The agent diagnosed a number of nematode cases. However, while some little use is being made of fumigants, little progress has been reported. The agent distributed thirty bulletins on the subject.

Orchard and Garden Diseases in General

The agent showed colored slides on plant diseases to two groups in two communities. This reached forty people. As a result of these meetings several people wrote Congressmen for copies of the 1953 Yearbook of Agriculture.

C. Pruning Fruit Trees and Vineyards

There are enough new residents coming into the county to warrant continued pruning demonstrations. The agent reached approximately sixty people with two pruning demonstrations in two communities. No demonstration was held at the Barker orchard in 1955. Mr. H. F. Tate, Extension Horticulturist, gave a demonstration on pruning roses in Prescott. This reached twenty-two people.

D. Fruit Variety Study

Yavapai County has a wide variety of elevations and temperature conditions. Also, a great many varieties of fruit trees have been planted, not all of them successfully. Because little is known about the behavior of fruit tree varieties in these varied climatic areas, the agent planned a cooperative study of the fruit varieties. Mr. Tate assisted in planning the project. Forms were sent to fourteen orchardists in ten areas of the county. They were asked to complete the data and send the charts to the county agent. Unfortunately a poorer year for this study could not have been selected. Frost killed most of the fruit set, making the charts rather useless. However, the agent plans to continue this study in 1956.

E. Lawns and Landscaping

This is not an organized project but the agent receives many inquiries relative to planting new lawns and to control of Brown Patch disease in late summer. The agent showed a set of colored slides to Prescott Garden club covering the treatment of lawn diseases. The agent advised homeowners on choice of shrubs and trees for landscaping.

F. 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.

G. Tomato Variety Tests

Tomatoes are grown in almost every home garden in Yavapai County. Growers have tried many varieties but no really accurate data on behavior of tomato varieties at various localities has been available. There was some interest in commercial production in 1955. To answer some questions on tomato varieties, the agent arranged fourteen cooperative tests. Data from seven of these was collected and analyzed. These results are given in detail in the agent's monthly reports. Summarized results are:

1. Most varieties required an average of fourteen days longer than the seed catalog rating on days to maturity in 1955.

2. For Skull Valley (elevation 4275 feet) Burpee's Big Early Hybrid was the top variety. It was followed by Improved Pearson. Kopiah #2145 was third but had such small fruit as to make it undesirable. Burpee's Hybrid, Pritchard, Marglobe Supreme, in addition to Burpee's Big Early Hybrid and Improved Pearson are worthy of further testing.

A ten-acre commercial field of tomatoes was grown from transplants by Neal Hampton, Kirkland. Curly Top Blight

reduced the stand by about 15%. Bulk of the planting was to Rutgers with a smaller planting of Pearson. Both varieties loaded heavily and promised to yield very well. However, an exceptionally early frost on September 19th and 20th followed by several days of cool weather stopped growth of vines and killed tops of the vines. A subsequent period of very warm weather caused renewed growth. As a result, about 80% of the fruits developed severe growth cracks at the stem end. The owner had to stop picking before the yields were good enough to reimburse him for his actual expenses. In a normal year he would have done very well indeed for prices were $3.00 per lug.

PROJECT NO. 4 - LIVESTOCK

A. Range Management

Brush Burning and Range Reseeding

The agent assisted with the three hundred acre brush burning experiment at Perry Henderson's Ranch on June 20th, 21st and 22nd. The brush did not burn well in the mornings until about 10:30 A. M. On the 22nd the fire jumped the north lane and started a fire on Forest Service brush land. The fire burned for about three hours before it was controlled. Approximately thirty-five acres were burned over. This fire spread readily because of the grass between brush clumps.

The local Women's Rod and Gun Club passed a resolution asking that the burn be delayed until fall to protect mesting quail and songbirds. However, while many quail were seen in the area there were no young ones and it is believed that they were not nesting yet. There were very few songbirds in the area.

On June 23rd the area was reseeded to lovegrass, blue grama, sideoats grama and sand dropseed by airplane. Some seeding with ground machinery was also done on an experimental basis. Perry Henderson reported in November that an excellent stand of grasses was obtained. He says that this new grass reached eighteen inches in height and set a full crop of seed. This experiment appears to be a very promising one.

This burning and reseeding project is supervised by Dr. Robert R. Humphrey, Range Management Department, University of Arizona. The agent secured financial backing of the Yavapai Cattle Growers to the extent of $100 to buy grass seed.

B. Insect Control

Grubs Menace Yavapai Ranges

The agent received a call in August for help regarding heavy losses of range grasses on the Double "O" Ranch, southeof Seligman. The agent called in Dr. J. N. Roney, Extension Entomologist, to assist. Field examination showed that great numbers of small white grubs about

one inch long were destroying the grass root system. Dr. Roney collected specimens to send to Washington, D. C., for positive identification. He believes the grub to be one of the May beetle larvae. Mr. Robert Hutchinson, Assistant Extension Information Specialist, secured several good photographs of the grubs and their handiwork. Dr. Roney is of the opinion that the grubs became a serious problem because of the unusual rains in June, July, and August. There was evidence that some bird, presumably Mexican Ravens or crows, were destroying many of the grubs. Signs of this were overturned clumps of grass, empty holes where the grubs were pulled out, peck marks, etc. It is probable that control measures with the grubs would not be practical. About 800-1000 acres are destroyed on the Double O Ranch. The damage is scattered over about 10,000 acres in spots varying from three to eight acres.

C. Weight-for-Age Program

The agent assisted in weighing and grading a group of heifers and steers at Thunderbird Ranch, Skull Valley, on October 3rd. These cattle were weighed and graded as part of a weight-for-age program on November 7, 1954. They were sold by T. W. Liese to David Jenner, Thunderbird Ranch. They had been on native range and irrigated pasture from November until April. Then they were on irrigated pasture up until they were weighed and graded on October 3rd. From this data it is apparent that the heifers were a losing proposition because they gained so much less than the steers. If the steers were worth 20¢ per pound as weaners, the heifers were worth only 13.5¢ per pound based on comparative profits from total gains of the two groups. This is probably due to the fact that the heifers and steers were allowed to run together all during the period. The steers averaged a gain of 235.5 pounds each for the 331 days. The heifers averaged a gain of 179.1 pounds each for the same period.

The agent arranged for a lightweight eartag to be tried on T. W. Liese's calves in 1955. It was hoped that they would simplify the problem of identification of calves under the weight-for-age program. However, at least 60% of the calves lost this tag. The tag did not tear out but it slipped out of the hog rings. A dye recommended for this purpose will be tried on both cows and calves in 1956.

The agent has interested another small rancher in trying the weight-for-age program next year. Mr. Liese has completed two years under the program and is still very much interested.

Livestock Scale Survey

The agent began a survey of ranches in Yavapai County about last of December and first of January to determine which ranchers have livestock scales on their own ranch. Response to this survey has been exceptionally good. This office mailed one hundred and seventy-three self-addressed, franked postal cards for this survey. Cards returned to date number one hundred and twenty, or 69.3% returned. These are divided into sixty-three ranches that have scales and fifty-seven that do not. This survey should be very useful in initiating the weight-for-age program on cow ranches in Yavapai County.

D. Yavapai Calf Sale

Sixty-eight weaner steer calves were weighed in at Roy Hays' Peeples Valley Ranch October 1st. These calves came from herds scattered over most of Yavapai County. They averaged four hundred and fourteen pounds per head. Johnny Whisenant, Phoenix Auctioneer, and Tom Adams, his boss, sold these steers after spirited bidding for $98.25 per head, or 23.7¢ per pound. With the going price for steer calves set at nineteen to twenty cents per pound, as reported for the bulk of county sales, these steers brought a premium of 3.7¢ per pound. Successful bidders were the University of Arizona and Arizona Hereford Breeders' Association. They bought these steers for use in feeding experiment at the University.

It isn't difficult to understand why these steers were good feeder experiment prospects. They represent a cross section of the steer calves sold in this area. Every rancher who sends a steer to this sale tries to send one of his best animals as a matter of pride in his own cattle. With the sale of these cattle to the University, every rancher who has a steer in this sale can follow progress of his animals through the feedlot period.

The award for best feeder steer went to Ray Cowden, Seligman; second place went to Jim Cochran, Camp Verde; third to Yolo Ranch, Camp Wood; fourth to Pierce Rhodes, Cornville. Jim Coughlin, Yavapai Cattle Growers' President, presented the awards. Ralph Hooker presented the Westernaire Trophy to Ray Cowden for the top steer award. A crowd estimated at two thousand persons participated in the barbecue and witnessed the sale of steers. One cannot help but appreciate the enthusiasm with which the various committees pitched in to make the barbecue and sale a success.

E. Miscellaneous Cattle Projects

Twin Calves to University

The agent assisted with arrangements resulting in sale of a set of twin heifer calves to University of Arizona for research work. The University of Arizona paid $75 each for the two calves to Nick Perkins, Chino Valley. It was believed that they were identical twins. However, it later developed that they were not.

Horizontal Silos

The agent talked to Chino Farm Bureau members on construction of horizontal trench silos on May 3rd. He used an opaque projector to illustrate several types of construction and discussed the advantages and disadvantages of each type. There is considerable interest in this type of silo in Yavapai County.

F. Drouth Emergency Hay Program

The agent assisted eight ranchers to process claims for reimbursement of 50% of hauling costs on hay purchased under the drouth emergency hay program. There are still eight unprocessed certificates because ranchers have not applied for reimbursement. Processed claims account for one hundred and sixty-five tons of hay under this program, at a cost to the Federal Government of $463.55.

G. Brucellosis Control

Yavapai County is to complete testing of beef and dairy cattle for both Tuberculosis and Bangs by January 1, 1956. The agent met with local, state and federal veterinarians to outline a testing program. The agent's office mailed circular letters with enclosed postcard for reply to one hundred and eighty farms and ranches. Testing has proceeded well with about 95% of it completed.

H. Hog Production

The agent assisted six farmers with plans for farrowing crates in 1955. Also, he helped to locate good boars and worked on plans for a boar ring which did not seem to appeal to farmers. They prefer to have their own boar.

Hog numbers have increased and will probably remain higher than in the past because of plentiful corn supply in Chino Valley. However, fat hog prices are lowest in fourteen years and this will prevent expansion in the near future.

PROJECT NO. 5 - DAIRY

A. Dairy Herd Improvement

Dairies now cooperating in the D. H. I. A. program are Montezuma Dairy, Camp Verde, and Jerome Dairy, Cottonwood. Mr. C. V. Gage, of Flagstaff, is still the D. H. I. A. Supervisor.

The agent will try to organize another testing association in Chino Valley in January, 1956. He has contacted Mr. C. O. Morgan, who moved to Chino to begin dairying in 1955, regarding D. H. I. A. testing. Mr. Morgan has expressed interest. Also, the agent has interested Q. Rezzonico, Chino Valley, in the program. The agent will arrange a meeting in January, 1956, to see if these two dairymen and two other small dairies would like to organize an association.

B. Brucellosis and Tuberculosis Control

Yavapai County has until January 1, 1956, to complete an area test for tuberculosis and brucellosis. This work is better than 95% complete at this writing.

The agent met with local, state, and federal veterinarians on April 12, 1955, and planned the county-wide program. The county extension office mailed circular letters and self-addressed, franked postcards to our county mailing list. This letter explained the program and asked interested persons to return the postcard to the County Extension Office stating number of cattle to be tested. By May 31st, a total of one hundred and seventy-eight owners had asked for the test on seven hundred and six dairy cattle, eight hundred and twenty-eight beef cattle and two dairy goats. Subsequent requests brought the total to about one hundred and eighty-five owners. These names were all turned over to Dr. J. C. Fletcher, local veterinarian, who did the testing. The tuberculosis program was not as complete as the brucellosis program. This was due to necessity of having to return after three days to read the tuberculosis test. This made it economically impractical to read the test on family cows that were any distance from the veterinarian.

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF ARIZONA
P. O. BOX 388
PRESCOTT

UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE
U. S. DEPARTMENT OF AGRICULTURE
AND YAVAPAI COUNTY COOPERATING

AGRICULTURAL EXTENSION SERVICE
HOME DEMONSTRATION WORK
COUNTY AGENT WORK

April 29, 1955

Dear Friend:

Yavapai County must be reaccrediated for Tuberculosis by January 1, 1956 and this means that every dairy-type animal and every purebred beef animal must be tested by that time.

It is very important that these cattle be tested for Brucellosis (Bangs Disease or Undulant Fever) at the same time and it is to your advantage both economically and from the family health standpoint to have the tests run.

These tests cost you nothing and will be done at State and Federal expense by an Accredited Veterinarian.

Should you have a reactor to the Tuberculosis test, the State Government will pay you Indemnity on the animals at the general rate of $15.00 for Grade and $30.00 for Purebred animals. The Federal government will match these Indemnity payments. Should there be a Brucellosis reactor, there is no provision for State Indemnity but the Federal Government will pay up to $25.00 for Grades and up to $50.00 for Purebreds in addition to the salvage received. Your animal will be appraised by the Veterinarian at market price and Indemnity will be paid on the difference between what the animal sells for and the appraisal value, up to the figures given above.

You may have your dairy calves between ages of 6 and 8 months vaccinated for Brucellosis at the same time your other animals are tested. This service, also, is free except for actual cost of the vaccine.

If you have any dairy-type cattle or any Purebred Beef animals on your place, or if you own any in Yavapai County, please let me know how many you have and where they are located so that the testing may be accomplished by the above stated date. For your convenience a postcard (no postage needed) is enclosed. Please send this to me at an early date. You will be notified of the date for testing herds in your area.

Sincerely yours,

Alvin Allen

Alvin Allen
COUNTY AGRICULTURAL AGENT

AA:P

750 c.

PROJECT NO. 6 - POULTRY

A. Marketing

The 1955 season saw prices rise in July from a distressing low in early spring. This favorable price picture was further aided by slight drops in feed costs during the last quarter of 1955.

Highlands Poultry Products, Inc.

The agent met in an advisory capacity with stockholders of the grower-owned Highlands Poultry Products, Inc. on January 8th and 15th. The group heard a report on the financial condition of the corporation which showed a loss of about $1800 in five months' operation. This was to be expected in any new company during the first six months. However, there was not full agreement among growers. Some voted to dissolve the company because they felt it could not succeed with the small volume it was handling. This group of growers felt that the charge of eight cents per dozen for processing and marketing was too much. Those who had sacrificed most in trying to put the organization on its feet, were in favor of continuing operations for another ninety days and elected a new Board of Directors. This move was adopted by the stockholders.

A profit and loss statement for this marketing company showed a net profit of $627.18 for the first four months of 1955. This encouraged the stockholders to continue the organization.

Prescott Egg Market Survey

The agent assisted Mr. Theo Ellis, Extension Economist, in preparation of a report on a 1954 survey conducted by Thomas Stubblefield, former Extension Economist. This study was conducted in Prescott to collect data on the Prescott market for eggs and poultry. The attached summary sheet from the report is self-explanatory.

B. Disease Control

Avian Tuberculosis

The agent showed a colored motion picture called "Vicious Circle" to the Yavapai County Poultry Producers Association. The film does an excellent job of explaining the problem of avian tuberculosis control.

No serious outbreaks of disease in Yavapai County poultry flocks occufred in 1955.

C. Miscellaneous Poultry Work

Culling Demonstration

The agent answered a request from a small poultryman near Prescott for a poultry culling demonstration. The poultryman had a few friends invited to watch the demonstration. They expressed sincere appreciation for the demonstration, feeling that they could now do their own culling.

Annual Poultry Association Meet

The Yavapai County Poultry Association met on June 25th for their annual meeting and banquet at Mile-Hi Restaurant, Prescott. The group elected the following officers for the new year:

President - George Buchanan
Vice President - Luther Folden
Secretary-Treasurer - Elsie Gledhill
Directors - Ray Gledhill, Vic Kiessling, Mary Harvey, Ed Young, Bill Thompson.

The agent visited poultrymen in the field to discuss local problems. Also, several inquiries from newcomers to the county asking about the possibilities for poultry in the county reached the agent's office.

SUMMARY AND CONCLUSIONS

Consumers in the Prescott area are willing to pay the additional price in order to get eggs of excellent quality and large size. Approximately half the eggs handled by retail stores were "AA large." Excellent quality is of more importance than large size. Eighty-two percent of all eggs handled were "AA" quality while 59 percent were large size.

Egg size is an inherited characteristic and varies directly with the size of the hen. The egg producer should select a strain of layers that has large body size and produces large eggs at a high rate.

Egg quality like egg size is an inherited characteristic and layers should be selected on the basis of quality as well as size of eggs produced. However, no matter how good the hen may be, improper management can ruin eggs in a very short time. Proper management is a "must" in egg production.

There is room for expansion of egg production in the Prescott area. Arizona produces slightly over half the eggs that it consumes. According to reports of the USDA Agricultural Marketing Service, the egg-feed ratio in the state is highly favorable from a historical viewpoint, and feed costs are approximately 60 percent of the total cost of producing eggs.

There is also a possibility of expansion in poultry meat production. The recent establishment of a large modern processing plant in Phoenix assures an outlet for a considerable volume of birds. At present this plant depends almost entirely on out-of-state sources for its supply. Although the broiler-feed and turkey-feed ratios are not as favorable as the egg-feed ratio, production of these meats has possibilities.

The demand for fat hens is relatively limited and specialized production is not feasible. The supply should originate in the laying flocks by the elimination of layers with unsatisfactory egg production records.

Profit per unit of product in poultry production is small. A producer should have and utilize a relatively large production capacity in his plant to insure a satisfactory annual income from the enterprise. The larger the capacity handled the smaller the cost per unit of product since fixed costs are distributed over a larger number of units.

The producer should keep accurate records of costs, production, and returns to locate inefficiencies in his program in order that they might be remedied and thus increase profits.

PROJECT NO. 7 - AGRONOMY

A. Alfalfa

1. Variety Test

Sam Benedict, Camp Verde, provided the following bale counts on the 3rd and 4th cuttings of the alfalfa variety test on his farm:

Variety	Cutting Aug. 15	Cutting Oct.6 (?)	Total Bales/acre	Rank
Chilean (West)	19	13	40.7	
Cal-Verde	19	10	40.8	3
Buffalo	17	8	36.5	4
Ranger	16	7	31	5
African	21	17	53.4	1
Chilean (East)	24	19	48	2

Data for the first two cuttings was not taken due to an oversight on the owner's part. He says that there is some indication that Chilean 21-5 does not maintain its stand as long as Chilean Common. Ranger is showing some stand thinning for some reason.

2. Insect Control

The spotted alfalfa aphid, formerly called the yellow clover aphid, was the number one pest of alfalfa in 1955. The agent found this aphid in the O. A. and S. J. Benedict farm, Camp Verde, in early January.

Dr. J. N. Roney, Extension Entomologist, University of Arizona, assisted the agent on March 28th with a survey of alfalfa fields. We examined eleven fields in the Verde Valley and found fifty-seven acres heavily infested with spotted alfalfa aphis. The owners of thirty-seven acres of this are taking steps to control the aphis with .3 pound of gamma isomer Benzens Hexachloride in eight gallons of water per acre. The agent and Dr. Roney found seven other fields that were lightly infested. The agent visited farms in the Verde Valley on three days in March to keep watch on the progress of the aphis infestation.

The agent assisted more than a dozen farmers in April with plans for control of the spotted alfalfa aphis. An estimated four hundred acres in Verde Valley, seventy

acres at Date Creek, and eighty acres on the Agua Fria east of Mayer have been hard hit by this pest. Spraying with .3 pound of gamma isomer BHC in seven gallons of water per acre gave only 90 to 95% control and rapid buildup appeared likely. However, dusting with twelve pounds of 5% Malathion dust, using a Johnson, tractor-mounted duster, gave 100% control. The agent checked fifteen fields for farmers and advised three on calibration of spray rigs. The agent mailed seven hundred and fifty copies of a circular letter (attached) to farmers and ranchers advising on control of the aphis.

Dr. J. N. Roney, Extension Entomologist, talked to farmers on aphis control in alfalfa on May 19th. A field meeting in Chino Valley at farm of Gil and Hank Bisjak was well attended. A night meeting at Camp Verde was also held. Dr. Roney used colored slides to assist farmers in identifying the aphis as well as its natural enemies. Farmers of both areas expressed appreciation for Dr. Roney's informative talks. The agent assisted twenty-five farmers in May with field inspections to advise them on control of spotted alfalfa aphid in alfalfa.

Ladybird beetles controlled infestations on an estimated one hundred and fifty acres in Verde Valley in 1955. Heavy buildup of aphis in Chino fields was noted in October and November. New alfalfa fields have been dusted but are being reinfested by older, untreated fields. November field visits in Verde Valley showed very minor aphis infestation (not enough to require control).

B. Pinto Beans

Yields of pinto beans in Chino Valley in 1955 averaged about five sacks per acre. This low yield was due to very severe late outbreaks of bacterial bean blight which defoliated plants over entire fields in a very short period. Also, corn earworms accounted for some damage. Only about four hundred and fifty acres of beans were grown in 1955. The price support level was $5.88 per cwt. The open market price was $6.50 per cwt. in Phoenix. Some growers are holding for better price but others sold for as low as $6.00 per cwt.

1. Disease Control

The agent assisted Dr. Robert B. Marlatt in planting a bean variety test on Bisjak Brothers' farm in Chino Valley on June 9th. Five strains of pinto beans were planted

in small replicated plots. Dr. Marlatt inspected the plots on June 23rd and made notes. Purpose of the test was to find a strain of pinto beans that are resistant to bacterial blight. Two strains showed very little seed borne blight infection. These included one from G. D. Taylor, Dolores, Colorado and J. Larson, Solvang, Calif.

Bacterial bean blight was later than usual in appearing in bean fields. A survey of fields on August 31st showed the blight had just begun to gain ground.

2. Insect Control

The agent assisted Dr. H. N. Roney with a survey of Pinto Bean fields in Chino Valley on August 31st. Mexican Bean Beetles were causing some damage but were not in sufficient numbers to warrant control measures.

C. Corn

The 1955 corn acreage in Yavapai County was estimated at six thousand acres, an increase of at least 200% over the ten-year average. The season was marked by six days of below freezing weather in early May and all crops were retarded by two or three weeks by continued cold spring weather. To add to farmers' troubles an unexpected early frost caused damage to cornfields estimated at 50%. Killing frosts occurred September 19th and 20th. Hardest hit were late plantings and the longer season varieties. Some fields in the upper part of the valley showed very little injury except in the lowest spots. Injury was greater in the north end of the valley. Gil Bisjak was cutting ensilage yielding about twenty-seven to twenty-eight tons per acre before the frost. Yields dropped to twenty-two to twenty-three tons three days after the frost. The tops of the corn was frosted down one-third to one-half of the stalk. The unusually cool nights in July and August slowed corn growth this year.

About fifty percent of the corn acreage in the higher valleys of Yavapai County was ensiled this year. This was necessary because of the early frost (September 20). Undoubtedly more corn would have been ensiled had there been facilities for ensiling it and had there been livestock operations to consume it.

1. Corn Variety Tests

The agent cooperated in planting and harvesting of three corn variety tests in 1955. However, data is not yet available on two of these tests. These will be reported in the monthly report for December.

The agent assisted Mr. H. Mount, Chino farmer, to make a yield comparison on two varieties of corn on the Mount farm. Funk's G-711 was compared with Porter-Walco 90. This test showed a decided advantage for the latter variety. Assuming a thirty percent moisture content (possibly it was higher for the Funk's G-711), the Porter Walco 90 yielded eighty-four bushels per acre compared to forty-seven bushels per acre for the Funk's G-711. This test was run on fields that were obviously low in fertility.

Corn Field Meeting

The agent conducted a field meeting on corn problems in Chino Valley on August 3rd. Mr. J. E. Middleton and Mr. Lyman Amburgey, Extension Specialists in Irrigation and in Soils, assisted. Two days in the field prior to the meeting were necessary to prepare for the meeting. Attendance was disappointing since several farmers were trying to get their hay in between showers. The specialists demonstrated how water penetration is necessary to good corn yields. They used a soil tube to show poor penetration on steeper slopes or where too large heads of water were run for too short a time. They discussed irrigation methods and fertilizer requirements of corn. The agent talked varieties and planting rates, as well as insect control.

D. Small Grains

1. Variety Test

The agent planted a small grain variety test on S. J. Benedict farm, Camp Verde, on January 27, 1955. This test was replicated four times. It was planted with a grain drill in three-row swaths, twelve inches between rows, and the rows the same length as the border width. Varieties planted were:

Wheat	Oats	Barley
Awned Onas	Taggart	Trebi
Onas 53	Ventura	Arivat
Baart 38	Palestine	Atlas 46

Results of this test and tests run for four consecutive years indicate that the following grain varieties are superior for Verde Valley: Wheat - Awned Onas and Baart 38; Oats - Palestine and Ventura; Barley - Trebi, Arivat, and Atlas 46. (See attached report).

E. Miscellaneous Agronomic Work

Gopher Control Demonstrated

The agent arranged for a demonstration on gopher control in Chino Valley on December 21st. Mr. Louis Cox and Mr. William Rogers, U. S. Fish and Wildlife Service conducted the demonstration. They had a glass front mock-up with two live gophers to show how the rodent burrows. They showed how to mix poison carrot bait and how to place it in the gopher runway. As a result of the demonstration, five farmers agreed to take part in a community drive to poison gophers. Mr. Cox trained a small crew to poison gophers and each farmer paid their wages while they were at work on his farm.

The agent talked to fifty Third Grade pupils at Washington School on February 11th in Prescott. With the aid of equipment supplied by Mr. E. S. Turville, former County Agent, the agent demonstrated how water "falls" through some soils faster than others, depending on the texture of the soils. Also the pupils made up a set of mud pies from clay, sand, or silt to observe differences in cracking patterns associated with each type of soil texture. While this was a difficult subject to present to third graders, the visual demonstrations helped and interest of pupils was good. This talk was given at the request of Mrs. Minor, the teacher.

Safflower Tests Planted

The agent assisted Dr. Dave Rubis, U.S.D.A., in arranging a planting of Safflower varieties. Dr. Rubis planted these on Gil Bisjak's farm at Chino on September 15th. Also the agent arranged for a test planting to be made on October 11th in Camp Verde on H. C. Gambee's farm.

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF ARIZONA
P. O. BOX 388
PRESCOTT

UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE
U. S. DEPARTMENT OF AGRICULTURE
AND YAVAPAI COUNTY COOPERATING

AGRICULTURAL EXTENSION SERVICE
HOME DEMONSTRATION WORK
COUNTY AGENT WORK

April 29, 1955

Dear Friend:

The Yellow Clover Aphid has begun to be a serious pest of alfalfa in Yavapai County. Infested fields have been found in the Verde Valley and in the Date Creek and Kirkland Creek country. Generally speaking, when the aphids begin to secrete honeydew in large amounts control measures are necessary. If you have doubts about when to spray or dust your field, please contact this office.

Recommended Chemicals for Control

Material	Days to Cutting	Rate per acre
B. H. C. Spray	30 days minimum	.3 to .4 lbs of gamma isomer Benzene Hexachloride in 8 gals. of water.
Malathion Dust	7 - 10 days	10 lbs. of 5% Dust (ground equipment)
Malathion Spray	7 - 10 days	1 pint of 57% emulsion in 6 gals. of water

It may be necessary to repeat control treatment between cuttings if infestation is severe. Use cone type nozzles if spray is applied. The failure of most treatments reported are due to poor application of the material. Complete coverage of the plants is very necessary.

For further details on control of Yellow Clover Aphid in alfalfa contact this office.

Sincerely yours,

Alvin Allen

Alvin Allen
COUNTY AGRICULTURAL AGENT

AA:P
750 c.

COOPERATIVE EXTENSION WORK
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AGRICULTURAL EXTENSION SERVICE
HOME DEMONSTRATION WORK
COUNTY AGENT WORK

July 30, 1955

MEMO TO: ALL VERDE VALLEY FARMERS

SUBJECT: SMALL GRAIN VARIETIES FOR VERDE VALLEY

Four years of test work with small grain varieties in the Camp Verde area have been completed. We are indebted to O. A. and S. J. Benedict and Gil Harris for their cooperation in growing test plots on their farms. A review of the results is given in the following tables for your study:

Table I - Barley Varieties (yield in lbs./acre)

	1953	1954	1955	Aver.	Rank
Arivat	4044	2348	3490	3294	2
Atlas 46	4110	2066	2690	2955	4
Booneville	3185				
Glacier	3783				
Harlan	3156				
Moravian		1573			
New Mex. Winter	3535	1902		2718	
Tenn. Winter	3856	2254		3036	3
Trebi	4363	2019	3635	3339	1

Recommended: Trebi, Arivat, or Atlas 46.

Table II - Wheat Varieties (yield in lbs./acre)

	1952*	1953	1954	1955	Aver.	Rank
Awned Onas	3898	4119	2422	2792	3308	1
Comanche	3026	1880				
Cheyenne	2404					
Nebred	2015					
Onas 53			2519	2409	2464	2
Pawnee	2824					
Tenmarq	2762					
Turkey Red	2023		1671			
Wichita	3353	2335	1574		2420	4
Baart 38		2902	1768	2618	2426	3
Kubanka		2072				
Henry			2252			

*Note - Fall planting

Recommended: Wichita or Turkey Red for fall planting. Awned Onas or Onas 53.

SMALL GRAIN VARIETIES FOR VERDE VALLEY (Continued)

Table III - Oat Varieties (yield in lbs./acre)

	1953	1954	1955	Aver.	Rank
Bridger	544				
Colo. 37	512				
Palestine	2130	2552	1675	2119	1
Taggart	1806	2041	1291	1713	3
Ventura	2355	2373	1570	2099	2
Markton		1480			

Recommended: Palestine or Ventura.

Table IV - Comparison of spring wheat, oats, barley as cash grain crops when wheat sells for $3.75/cwt., oats $3.75/cwt. and barley $2.60/cwt.

Gross Value of Crop per Acre

	1953	1954	1955	Average*
Barley	$108.47	$85.74	$85.07	$ 83.09
Wheat	131.62	88.87	97.50	108.22
Oats	78.64	87.08	56.70	74.14

*Note based on average yield for 3 years of recommended varieties.

Sincerely yours,

Alvin Allen

Alvin Allen
COUNTY AGRICULTURAL AGENT

AA: P

c. 160

OUTLOOK AND RECOMMENDATIONS

This county has a rather unstable type of agriculture in Chino Valley because of (1) small size of farms, (2) rolling topography, (3) scarcity of water supply for irrigation in upper Chino. At present, poor prices of farm products, except alfalfa, has added to the farmers' troubles. Lower Chino farms will probably continue in operation but may turn to more specialty crops such as vegetables. Farm land in Verde Valley is gradually decreasing because of inroads of residential subdivisions.

Trends

The 1956 corn crop will probably be 15% less than 1955 due to disappointment of farmers over the 1955 frost injury to corn. Livestock numbers on farms could increase slightly if hog prices improve. D. H. I. A. testing of dairy cattle should increase in 1956. The number of dairies in Verde Valley might also increase in 1956 if Carnation Milk Company continues to buy more milk from that area. Poultry plants will continue slow expansion of size but no increase in numbers of poultrymen is likely.

Recommendations

The Extension program for Yavapai County for 1955 should stress:

1. One major project for livestock, performance testing of beef cattle.
2. Variety tests of alfalfa, corn and vegetables.
3. Fruit variety study.
4. Bacterial Bean Blight Control.
5. Exploration of vegetable potential of Chino Valley.
6. Gopher Control.
7. Nematode Control in Verde Valley.
8. Expansion of D. H. I. A.