

VII - MISCELLANEOUS COTTON WORK

A. STATE ACTIVITIES

Cotton Tour Conducted for Growers, Cotton Industry Workers, And Persons Having Interests Related to Cotton

Robert Dennis and Allan Halderman

The fourth annual cotton tour was held September 21 and 22 with an agenda consisting of four separate events. The objective of the tour was to observe work in progress and to consider ways in which growers may produce cotton more efficiently and profitably.

The tour program began with a kick-off meeting with short talks by six Extension Specialists at the University of Arizona Cotton Research Center. The Director of the University of Arizona Agricultural Extension Service served as moderator for this part of the tour program. Each of the talks presented dealt with a different aspect of cotton production or of closely related problems.

Agricultural Extension Service Agents in Maricopa County worked with other agricultural agencies for the second part of the tour and stressed relationships of variety, soil, irrigation, and fertilizer practice in cotton production.

Two stops were featured in Pinal County by Agricultural Extension Service Agents there on the second day. Growers observed a variety test and saw benefits to be gained by the use of dead-level basin-type irrigation as demonstrated on the Fred Enke farm. Pinal Agents also included a stop at a commercial petiole testing laboratory during the third phase of the tour. Speakers there told how data from petiole samples helped growers to know when and how much nitrogen to apply.

The last part of the annual tour was a stop at the University of Arizona Marana Branch Experiment Farm. The agricultural agent in charge in Pima County served as chairman for the field day program. Growers and others who participated in the tour saw tests in progress which will develop information to help Arizona growers improve the efficiency of their cotton production. Growers participated frequently with questions and discussion at all stops on the tour. Over 200 persons took part in the Cotton Tour.

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Cotton Research Center Field Day

Lyman R. Amburgy

The annual Cotton Field Day was held at the Cotton Research Center Wednesday, October 20, 1965. Attendance was very high due to a relatively poor season and a theme for the field day of "what can be done to improve returns next year?"

County Agricultural Extension Agents served as narrators on individual wagons during a tour of the research center. Each experiment was discussed briefly during this tour and then visitors were provided transportation to individual research sites. This enabled them to discuss research in detail and ask questions with Research workers and Extension specialists.

Action at individual sites increased interest and understanding of visitors. Examples of activity at individual sites are as follows:

Large weed-control plots had been established at the ends of the field containing smaller research plots. Different herbicides as well as methods and rates of application were shown.

Cotton breeding plots -- Plant Breeders and Extension Agents had selected a number of plant types within varieties of cotton to show the influence of management on any variety. Plants capable of supporting top yields were compared with those too small to support much yield.

A pink bollworm display was set up which enabled growers to cut cotton bolls in order to locate, identify, and count numbers of pink bollworms per boll. This was a very forceful way to stimulate interest in the pink bollworm problem.

Although final information regarding the 1966 governmental program was unavailable, that information which was available was discussed during the noon day lunch. This information was projected as far as possible in order that growers could become informed as to the possibilities of the program.

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More Measurement Needed

Charles R. Farr

Another objective has been to create an awareness of the need for measurement of production factors. Recommendations for soil, water, and petiole analysis along with some method of periodic inspection of soil moisture have been enlarged upon in broadcasts and letters to create acceptance of test values and their proper application.

A definite organizational approach to measurement was made in July to James R. Carter, research coordinator for the Arizona Cotton Growers Association. The Association had just voted to assume full sponsorship of the Hi-Yield Club and it was suggested the major objective of the club be re-directed toward measurement of efficiency and profits in production while recording practices at gin company offices for group summarization. Better measurement and control of production factors could be encouraged and recorded practices related to improved cotton culture.

Mr. Carter called a meeting of Carl Teeter of Western Cotton Products, Inc., Charles Robertson, David Brueck, Robert Dennis, and Charles Farr together in early September to discuss preliminary approaches to a workable program for the 1966 crop. Those attending were asked to examine suggestions and develop working procedures individually. Charles Robertson has devised suggested standards and a record system for appraisal at a future meeting.

The adoption of this type of program by an organization as influential as the Arizona Cotton Growers Association will be a positive move toward increased production efficiency. Extensive participation will develop interest in measurement and provide the stimulus for improvement.

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B. COUNTY ACTIVITIES

Cotton Quality Determined by Production Practices

Carmy Page

Micronaire may be an important guide in pointing out production practices that determine quality. This in turn affects the market for cotton as micronaire is used as a factor in buying cotton. It is an item given further importance as it was added to the items considered in establishing the government loan price for cotton after the fall ginning period started this year. Edwin J. "Jim" O'Neal, Extension Cotton Marketing Specialist, New Mexico State University, in cooperation with Paymaster Oil Mill Company summarized information on micronaire from 1964 classing cards from the Paymaster Gins at Elfrida and San Simon and the Kansas Settlement and Stewart Gins. This information was prepared in loose leaf notebooks with a copy for each gin concerned and one copy for the County Agent.

Meetings to discuss the information were scheduled at Willcox, October 18 and San Simon, October 19. Mr. O'Neal and W. S. Jackson, Extension Associate Agronomist-Cotton, discussed the information they had on Cochise County cotton. They described production practices which delay maturity such as excessive use of nitrogen fertilizer. Excessive use of irrigation water, particularly late irrigation was given as another item which

definitely affects micronaire. In tracing low "mike" cotton back to the growers, a number of items were found to affect "mike" which also seem to directly affect yield.

Farmer interest in the meetings was very good. The study is new and farmers were warned that further study is necessary to determine the value of "mike" as a guide for improving cultural practices of individual growers.

The Bowie Gin and the Valley Growers Gin, Elfrida, are now participating in the program. This will provide information from all gins in the county on this study of micronaire in 1965.

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More Than 200 Farmers Attend 12th Annual Farmer's Day

John Sears

Over 200 farmers, cattle feeders, dairymen and commercial people attended the all-day farmer's day meeting held at the Elks Lodge, Safford, Arizona on February 22, 1965.

This was the 12th Annual Farmer's Day meeting to be held in Graham County and they have all been well attended.

Everything on the program was requested by the farmers themselves. Local merchants furnished door prizes and a mid-afternoon snack of soft drinks and doughnuts.

The morning session was devoted to dairy problems with emphasis on feeding and keeping records.

In the afternoon, "King Cotton" took over.

The results of variety tests were given by the agent, Dr. Feaster and Dr. Fisher.

Dr. Davison, Plant Pathologist, emphasized the importance of crop rotations in controlling plant diseases.

Dr. J. N. Roney gave the latest recommendations for controlling the cotton bollworm.

Dr. Wene was unable to be present but Mr. H. E. Woodruff, District Entomology, read his research report on the pink bollworm control.

Dr. Lyman Amburgey gave a report on petiole testing of cotton for fertilizing and future plans for this type of testing.

Fred Arle, USDA Weed Specialist, gave a complete report on the chemical weed control of cotton and particularly Treflan the new chemical for the control of grasses in cotton.

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Cotton Insect Problems Met Head On

John Sears

More than eighty farmers and other interested people attended two cotton insect tours held in the county on July 23. The first meeting started at the Lone Star Store at 7:30 a.m. and the second at 1:00 p.m. leaving from the Eden Store at Eden.

Dr. J. N. Roney, Extension Entomologist, showed how to check a field for cotton insect damage and how to evaluate damage done. He also identified harmful and beneficial cotton insects. Six 4-H'ers with entomology projects and their leaders were on the tour.

The agent asked farmers themselves to make sweeps, pull off bolls and check damage themselves under the guidance of Dr. Roney.

On September 1, 1965 a heavy infestation of pink bollworms were found on the Carasco Farm at Solomon. This is a 30-acre field of long staple cotton. Farmers in the area became concerned and the agent quickly organized a field day. About 25 interested farmers were there. Dr. J. N. Roney, Extension Entomologist, looked over the situation and explained the life cycle of the pink bollworm and examined damage done.

The farmers headed up by Scott Pace suggested building cages and putting them in this field to see if moths were still emerging. The Farm Bureau agreed to build 12 cages. The first day 44 moths emerged in 12 cages, 6" x 6" and daily counts continued to show heavy emergence.

Dr. Roney outlined a further program of spraying part of the field to see if late chemical control would pay off. Later these cages will be placed on plowed and unplowed soil in this field to determine the worth of plowing to control the worms. Dr. Wene, University of Arizona Research Entomologist and the local State Agriculture and Horticulture Department inspectors are cooperating on this test.

Pink bollworms can be found in most fields in Graham County but the Carasco field was the only one suffering economic damage.

We will emphasize clean-up, plow-up, shredding stalks, double discing, both ways covering bolls to 2" depth, planting to cover crop and irrigating as the best means of control.

The cages at the Experiment Farm have given some excellent information and these cages in the field will give some more much needed information.

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Farm Progress Round-up

Charles R. Farr

This machinery field day was held six miles west of Chandler on Trimble Farms to feature new machinery methods of increasing tillage efficiency. This activity used the attraction of "machinery in motion" as a vehicle for an educational program.

Both the Soil Conservation Service and the Salt River Project's new Agriculture Division were invited to discuss soil and water management on the program. This was a first step in combining activities of several organizations in one activity aimed at helping the farmer with his farming problems. The advantage of several groups concentrating on farming efficiency can accomplish far more than individual activities at cross-purposes. Agent Foerman cooperated with Agent Farr in planning with the idea that all cropping systems be included.

Dealers were asked to supply one to three combinations of equipment which would illustrate increased efficiency and possible savings in operational cost. Equipment valued over \$200,000 was demonstrated showing improvements through new design, new methods, or combination of operations. Farmers stated that to have these comparisons in the same field was an advantage and allowed them to see units in action not previously viewed.

The intention of this quickly organized field day was to run a trial activity and set a precedent to help organization of a completely coordinated field day in 1966. Additional groups like seed dealers and agricultural chemical companies should be involved to contribute to the total picture of an efficient farm operation.

This 1965 Round-up was favorably accepted and manufacturers are currently inquiring about plans for 1966.

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"Cotton Monitor" Gives Needed Emphasis

Charles R. Farr

This weekly report during most of the 1965 cotton irrigation period was initiated to highlight climatic influences on cotton. It is subtitled,

"Weather Trends and Cotton Management." This guide can help both irrigation and general management of the cotton crop.

Even though the author has realized the need for some years, the confusion of cotton growers in the fall of 1964 accentuated the need. The report can, when properly developed, guide farmers and eliminate some of the guessing which may lead to unnecessary expenditures as they search for the production factor which leads to poor yields. Many farmers were saying in the winter of 1964 that they must have missed detecting insect injury, however, this was not true in many cases. Fields with excellent insect control in these same low yielding areas also yielded poorly so other factors were responsible.

In 1966 Cotton Monitor recommendations will be much more specific. Microclimatology is a newer study with most research having been done in the last 15 years, so one of the needs this year was to find acceptable sources of evapotranspiration rates. During this past season maximum daily temperatures and pan evaporation figures were used to focus on changes in weather and the cotton water requirements. As stated in an early Cotton Monitor the farmer is so involved by the many large and small decisions daily that he needs a packaged weekly record of weather to relate trends to past years and the farmer's experience with cotton plants.

This year's attempt was to supply the record and create a specific awareness of climatic effects while pointing out dangers of over-irrigation. The harm of under-irrigation may be more dramatic and dangerous but the general vagueness of vegetative growth from improper irrigation timing needs more exposure. For this reason the Cotton Monitor will supply records and prescribe practices more specifically in 1966.

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Insect Identification Demonstration Acquaints Cotton
Growers with Insect Damage to Seedling Cotton

Sam Stedman

A meeting was held at Southside Gin in Coolidge in conjunction with their Annual Growers meeting. A sampling device for collecting insects on seedling cotton was demonstrated. Growers had the opportunity to view adults and immature insects through a microscope and correlate the insects to the damage on seedling plants. Insects such as lygus bug adults and nymphs, thrips, black fleahoppers as well as many predators and parasites were observed and identified.

Dr. James H. Roney, Extension Entomologist, was on hand to answer questions and discuss chemical control.

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Insect Sampler Provides New Method of "Damage Count"
on Seedling Cotton for County Growers

Sam Stedman

A device used by research workers for collecting insects was put to a practical use.

The device is made of an ice cream carton and a funnel. Small cotton plants are placed in the containers and a repelling chemical added which causes insects such as thrips, mites, black and green fleahoppers as well as predators and parasites to fall down into a vial of alcohol attached to the funnel at the base of the ice cream carton. Small immature insects as well as adults can be collected in the vials of alcohol and counted and identified. This method provides a more accurate insect count for growers, thus allowing them to treat accordingly. Identification can be made of all insects collected. Beneficial insect counts as well as harmful insect counts can also be evaluated. Many growers took advantage of this new method of early insect counts.

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