INCREASED PROFITS THROUGH EARLY COTTON INSECT CONTROL

Early-season dusting of cotton increases yields and profits by killing insects before they have a chance to damage the cotton, by reducing mid- and late-season insect infestation, by increasing early fruiting, and by reducing shedding of bolls. Two or three dustings applied just after chopping prevent insect damage to the cotton plant at this early stage of growth and permit it to set a heavy crop of bolls during the favorable early-summer growing season before the onset of dry weather. When dusting is delayed until after insect infestation has become heavy and the crop has been damaged, plants will not attain maximum development and, therefore, will not set a full crop of bolls, and yields are reduced accordingly. Early dusting usually costs no more, and complete coverage is easier at this time when the cotton plants are small.

Early-season control can be achieved on individual farms or fields, but control is more effective when every field in the community is dusted. Community-wide dusting kills more insects and prevents reinfestation of dusted fields from near-by undusted cotton. The benefits of community-wide dusting are illustrated by the results of an experiment conducted in Wharton County, Texas in 1948, where yields in communities which practiced early-season dusting were as much as 199 pounds of lint higher than in comparable undusted communities. This increased yield of almost 200 pounds of lint meant a return of about $75 more per acre in the early-dusted areas.

In the experiment four communities were selected in such a manner that a near-by community with similar soil types, proximity to woods or other weevil hibernation quarters, initial insect infestations, and potential production could be used as a check to measure results in the dusted areas. Three of the communities were in an area subject to heavy boll weevil damage nearly every year. One of the communities was in an area subject primarily to fleahopper damage. Sixty-nine farms, with 6,214 acres of cotton, were included in the four communities; while 31 farms, with 1,447 acres of cotton, were included in the four undusted check communities. Small-size communities were selected in order that complete control of the experiment could be maintained. They were selected in Wharton County because it has many small cotton-growing communities, more or less surrounded by timber or brush which afford boll weevil hibernation quarters, and because conditions in these communities were similar to those in many other cotton-growing areas.

Initial insect counts to determine the percentage of infestation were made prior to the first dusting, and subsequent counts were made at weekly intervals throughout the season. The initial insect counts, however, were not used as guides for the time of dusting but only for comparative purposes. Two early-season dust applications were made, covering all cotton fields in the communities and using a mixture containing 20 percent toxaphene plus 40 percent sulphur in the boll weevil-infested communities and 10 percent toxaphene plus 40 percent sulphur in the fleahopper-infested communities. Dusts were applied by ground machines, except in one community where airplanes were used exclusively. The first application was made after the cotton began to form squares and before the squares were one-third grown. The sec-
ond application was made 8 to 10 days later. Infestation counts were made to determine the need for a third dusting, and only 4 of 111 fields needed the third application. These were the only applications of dust made throughout the season. No dust was applied to the check communities.

This early-season dusting gave excellent boll weevil control, as shown by the fact that the average percentage of infestation in the dusted communities was only 28 percent by the fifth week following the second dusting, as compared with 52 percent in the undusted communities, and averaged only 9 percent infestation for the season, compared with 35 percent in the undusted areas. One community had exceptionally good results, with the percentage infestation by the fifth week only 9 percent and a seasonal average infestation of 5 percent. Similar results were achieved in control of fleahoppers in the one community where this was the most troublesome insect.

The value of community cooperation in insect control is emphasized by the results in one community bordered on two sides by fields of undusted cotton. Weevil infestation in this community, especially in fields adjacent to the undusted cotton, increased toward the end of the fruiting season, reaching 59 percent by the fifth week after the second dusting, and averaged 16 percent for the season. However, even in this community the early-dusted fields showed substantially better insect control than the near-by undusted fields, where infestation in the fifth week was 74 percent and averaged 35 percent for the season.

Average cotton yields were 448 pounds of lint per acre in the dusted communities, compared with 310 pounds in the undusted communities—an average gain of 138 pounds per acre. Yields in one community averaged nearly 200 pounds per acre more than those in the comparable undusted community. One of the principal reasons for the increased yields in the communities practicing early-season dusting was the earlier fruiting and reduced shedding of early squares, which resulted in a heavier and earlier crop of bolls than in the fields of undusted cotton. Three weeks after the second dusting more than twice as many blooms were counted in the dusted fields than in the undusted. The seasonal average bloom count was 7,700 blooms per acre on the dusted cotton and 4,300 on the undusted. Furthermore, as a result of the early-season insect control, the dusted cotton matured about three weeks earlier, permitting earlier harvesting and reducing the risk of damage from early fall storms.

These results obtained on a community-wide basis illustrate the importance of early-season dusting in controlling cotton insects and increasing profits from cotton production. Although effective control can be achieved on individual farms, the results in Wharton County emphasize the value of community cooperation in insect control. Re-infestation from undusted fields is reduced or eliminated, and more complete insect control is achieved with community-wide dusting.

**FARM MANAGEMENT**

Late Blight Hits Tomatoes

Late blight, a serious fungus disease, has attacked tomatoes in Kosse, Bremond, New Baden, and Yoakum areas, and growers in these and other areas are warned to be on the lookout for this disease. Cloudy, cool, damp weather is ideal for the development and spreading of blight, while warm, dry weather tends to stop spreading of the disease; and plants are able to outgrow the effects of the blight, according to Dr. A. A. Dunlap, head of the Texas A. & M. College Department of Plant Pathology and Physiology.

Symptoms of the disease are twisted, broken, or cracked stems with dark colored areas and, in the later stages, dark colored lesions on the fruit. However, the plants may appear healthy and vigorous for a week or more after the blight spores have invaded the field.

For control of blight, Dr. Dunlap recommends a spray or dust of a copper fungicide, such as Bordeaux mixture, copper lime dust, or basic copper sulphate, and application
should be made at the first sign of the disease or when the disease is known to be in the community. Inasmuch as infection of new areas frequently occurs when plants are shipped in from infected sections, growers can reduce the danger of blight infection in their fields by growing their own plants.

Late blight is a relatively new disease in Texas, and growers are urged to carry out effective control measures to insure profitable production.

Make Plans Now for Grain Storage

With a wheat crop estimated to be the second largest in history and with growing conditions favorable for the production of a large grain sorghum crop, the problem of finding storage space for this year's grain crops is expected to be difficult. Late reports indicate that last year's crops still occupy one-third or more of all elevator capacity. Although much of this old crop may be moved out before the 1949 harvest begins, an acute shortage of storage space is anticipated. Government and commercial storage facilities probably will not be sufficient to handle the bumper crop; therefore, individual farmers will do well to investigate the possibility of providing storage on their farms. It is essential that Government-approved storage facilities be used, if the crop is placed under the Government loan program.

Some suggestions for building farm storage bins are given by W. S. Allen, extension agricultural buildings engineer of Texas A. & M. College. Mr. Allen says that the grain storage building must be "weather tight and strongly built to qualify for a crop loan." The building constructed should be designed to meet the individual farmer's needs, and the cost per bushel of storage space will depend on the size building erected. According to Mr. Allen, a small, 500-bushel bin probably will cost around 50 to 60 cents per bushel of storage space, while larger bins—the 40,000-bushel size—may be built for 15 to 20 cents per bushel of storage.

Dairymen Urged to Use DDT with Caution

Dairymen are warned not to use DDT for insect control on their dairy cows or in the milk room or dairy barns. This warning, issued by G. G. Gibson, extension dairy husbandman of A. & M. College of Texas, is based on a recent discovery that small quantities of DDT sometimes can be detected in the milk supply when this chemical is used to spray dairy cows, dairy barns, or milk rooms. James Deer, assistant extension entomologist of Texas A. & M., adds that there are no recorded cases of illness caused by milk containing minute quantities of DDT, but food specialists believe that it is wise to avoid any possible source of contamination of such an important food as milk. Methoxychlor or pyrenthrum should be used on dairy cows and around the milk room and dairy barn.

Despite the restriction on the use of DDT, a vigorous fly-control program should be continued. DDT is still very effective around the farm and can be used advantageously where it does not come in close contact with the dairy cows or the milking equipment. Furthermore, according to Mr. Gibson, a proper clean-up program and the adoption of strict sanitation practices are even better than the chemical sprays for controlling flies. Prompt removal of garbage, manure, and trash eliminates breeding areas and reduces the need for chemical sprays. When clean-up cannot be done daily, the material should be treated with borax—one ounce per bushel of material. This will give temporary control of the breeding areas until they can be eliminated from the farmyard.

Safety Pays

A few simple safety rules, properly enforced, will pay big dividends on the farm, according to Dr. Dewitt Hunt, safety specialist at Oklahoma A. & M. College. His suggested list of safety rules for southwestern farmers includes the following: (1) prohibit smoking in and around the barn—careless smokers have destroyed many barns; (2) light the lanterns before entering the barn and provide convenient hooks or wires from
which to hang them—this prevents their being overturned; (3) protect buildings with lightning rods and be sure the ground connections are effective; (4) store gasoline and kerosene outside the barn; and (5) keep ground around the barn free from needless litter or trash—a small fire started in this trash might easily set fire to the barn.

Potato Silage

Potato silage containing 20 percent or more dry hay is a more palatable, nutritious dairy feed than silage made from potatoes alone, according to results obtained by the United States Department of Agriculture at its Beltsville, Maryland, Experiment Station. This combination silage was eaten with more relish and was more effective in maintaining milk production than silage made from potatoes only or from potatoes and very little hay.

Building Plans Available

Detailed plans for building farm houses, barns, implement sheds, garages, poultry houses, and many other farm buildings and equipment are found in the 1949 Model Catalogue, compiled by W. S. Allen, extension buildings engineer of Texas A. & M., and available through county and home demonstration agents. Farmers and ranchers planning to build or remodel buildings or equipment will find it profitable to study the time- and money-saving suggestions in this catalogue before starting construction.

FARM PRICES

Outlook for 1949

The demand for most farm products is expected to continue fairly strong throughout the remainder of 1949 but at a lower level than in 1948, according to a recent report of the Department of Agriculture. Prices received by farmers and total cash receipts from farming in 1949 are expected to average about 10 percent below the 1948 record. The Department points out that inflationary pressures in most segments of the economy have eased in the last few months, and prices of farm products have already declined substantially from the record levels in 1948. Smaller, but probably significant, declines have also occurred in prices of industrial commodities, and there has been a slight drop in the overall volume of industrial commodities and take-home pay of industrial workers.

CROP PRODUCTION

Decline in Crop Production Forecast for Europe

The export market for grains produced by southwestern farmers may be slightly stronger than anticipated earlier if forecasts of smaller crops in Europe prove to be accurate. According to the United States Department of Agriculture, some decline in crop production in 1949 is indicated on the basis of planted acreage in most important European grain-producing countries and the condition of crops at mid-April. It is estimated that the combined production of all crops will be somewhat below the favorable harvest of 1948 and the pre-war average but considerably above the unusually small output of 1947.

PUBLICATIONS

New Mexico Agricultural Experiment Station, State College:


Oklahoma Agricultural Experiment Station, Stillwater:

Sheep Management for Oklahoma Farms, Circular No. C-130, by Hilton M. Briggs.

Texas Agricultural Experiment Station, College Station:


Crop Variety Tests at the Blackland Experiment Station, Progress Report 1147, by J. W. Collier, W. O. Trogdon, and J. R. Johnston.