

spreading over Canada's prairie crop lands. Concentrated technical grades were flown to formulators in Winnipeg, Burlington, and Montreal. Air shipments were then arranged for moving the formulated product to the western provinces. There much of the malathion field application was done by air.

The sucking aphid thrives in hot humid weather. Within a few weeks it spread over 300,000 acres in Manitoba and Saskatchewan and later into Alberta. Late seeded barley was hardest hit. Canadian supplies of malathion were rapidly depleted and hence the rush orders for air shipments.

Extension workers say seed treatment in some areas of South Carolina has been used to control seed corn maggot on beans, cotton, and corn and sand wireworm on cotton and corn. A Clemson Agricultural College survey disclosed that lindane was used on seed to plant approximately 25,000 acres of cotton and corn during 1954. South Carolina's campaign to control roaches will increase the consumption of materials like chlordan and dieldrin, they say.

Old Line Products Still Move in Large Volume in South; Systemics, Mixtures Gain Ground

DECLINING FARM INCOME hasn't hurt sales of agricultural chemicals in the South to any great extent. Most of the pesticide consumption is still out of necessity; the volume used has been determined more by acreages planted, and by the severity of insect infestations, than by farm income. Reduced income causes farmers to delay their purchases, hoping they will not need any pesticides. Some farmers are forced to buy materials at the last minute at higher prices, with the risk that materials will not be available. If the downward trend in income continues, it is bound to reflect on sales eventually.

Consignment selling continued through this season. Several basic producers are withdrawing from the DDT and BHC market because of low profits caused by price cutting and consignment selling. It just isn't feasible for a manufacturer of basic materials to take all the risks for the formulators, dealers, and farmers in the application of insecticides. This may have been possible when profit margins were high, but on the slim margin of today's business, such practice is economic suicide.

DDT and BHC Still Popular

Sales of BHC and DDT in the Southwest this year have been good—better

than some producers expected. But profit margins are still slim because of low prices. One manufacturer who specializes only in these materials says his volume of business has increased substantially over the past two years.

Farmers in the Southeast are still using large quantities of BHC and DDT. Newer products are coming in, but at somewhat higher prices. A growing appreciation of the need for insecticides has in general sustained DDT and BHC markets. Although new materials are being used extensively, their consumption is in addition to the older materials, rather than as substitutes. DDT, BHC, aldrin, and dieldrin are still being used almost as much as ever on cotton in the Midsouth.

DDT has lost ground in the control of houseflies and fleas to newer materials like malathion.

Georgia reports indicate some loss of DDT and BHC markets to dieldrin, endrin, parathion, and heptachlor. BHC is losing a considerable amount of its tonnage on cotton in the South Carolina tobacco area. It adversely affects flue-cured tobacco grown on land formerly planted with BHC-treated cotton. (Endrin is gaining ground this season as a tobacco insecticide due to outbreaks of the cabbage looper.)

Systemics Gain Ground

In Georgia and Tennessee, systemic insecticides have reached a more important position commercially. Materials like dematon are being used considerably in the Midsouth for control of spider mite and aphid on cotton. The State Plant Board of Mississippi has found that some of the systemics hold great promise for the control of insects on ornamentals. They predict a bright future for insecticides of this type.

Systemics are definitely being used more extensively in Florida, especially on ornamentals. Some authorities in Florida believe that systemics are also being used widely in the control of mites on clovers. To the best of their knowledge, the application of systemics to vegetable crops is still in the experimental stage.

Application of systemics in South Carolina has definitely reached the development stage. Agricultural workers say dematon as a spray looks promising for the control of red spiders. If dry weather comes, and if spider mite populations increase appreciably on cotton, these factors will boost consumption of systemics. The experiment station at Clemson reports excellent test results with systemics in the seed treatment of cotton. A survey conducted by county agents, experiment station entomologists, the extension cotton committee, and com-

A North Carolina tobacco farmer tried D-D, Shell's soil fumigant, to control nematodes. At left is untreated plot. Plot at right shows effects of D-D. Inserts are roots from untreated and treated areas



mercial workers indicates a strong demand for systemics in future years—when approval is given and when supplies are available.

Pesticide Mixtures Move Up

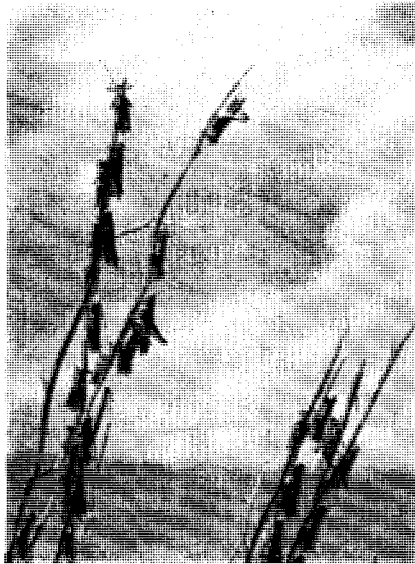
A large increase in the use of pesticide-fertilizer mixtures has been reported from Georgia, a small gain in Tennessee, and practically no increase in Florida. Mississippi is consuming only a small quantity of mixtures; the Mississippi State Plant Board is now preparing regulations for labeling of these products. Board officials expect to be registering such mixtures in the near future.

South Carolina has pioneered in the use of insecticide-fertilizer mixtures. Clemson College specialists point out that since 1948, when insecticides were first used to control the sand wireworm, there has been considerable expansion in the use of insecticide-fertilizer mixtures. Combined totals of annual surveys show that more than a half million acres of crop land have been treated. Usage reached a high point last year when more than 100,000 acres were treated.

However, all soil insect control has not been by means of insecticide-fertilizer mixtures. Large amounts of granular insecticides have been applied, especially for control of the white-fringed beetle—as part of federal-state programs directed by the Crop Pest Commission at Clemson College. Insecticide dusts, and sprays are also popular in South Carolina. Parathion, for example, is being used on tobacco plant beds as a dust, spray, and drench to control white grubs.

South Carolina farmers, since 1948, have used insecticide-fertilizer mixtures on about 100,000 acres of corn to control sand wireworm, southern corn rootworm, and seed corn maggot; on more than 5000 acres of Irish potatoes to control wireworms; on 1000 acres of sweet potatoes to control wireworms and elongate flea beetles; on 1000 acres of snap beans to control seed corn maggot; and on 1200 acres of pastures to control white grubs. Unknown acreages of cotton have been treated for sand wireworm.

Mixtures have been especially effective in the coastal area in the control of mole crickets. College entomologists say the use of mixtures on lawns to control white grubs is increasing; ground moles apparently tend to go to other areas when the white grubs are killed. Little, if any, of the insecticide-fertilizer mixtures have been used to control the Japanese beetle, an insect now invading the state. But experts believe the larvae of this insect, a white grub that damages sods, can be controlled with mixtures. The greatest recent increase in South Carolina is taking place with the application of mixtures, particularly those containing al-



Nearly 2 million acres of grasshopper-infested rangeland in Texas, Oklahoma, and New Mexico were sprayed in cooperative project between Government and ranchers

drin, heptachlor, and chlordan, on sweet potatoes.

Florida Experiment Station entomologists and plant pathologists have for the most part discouraged the practice of mixing pesticides with fertilizers. The industry itself has been reluctant to mix pesticides with fertilizers. Hence, the use of such combinations has remained at a low level. It is possible that the simultaneous but separate application of pesticides and fertilizers is being practiced to some extent, but certainly not on a large scale. Georgia officials report very little progress in simultaneous but separate applications; Tennessee authorities say some progress is being made in this direction. South Carolina workers have research projects under way, using separate applications, in the control of billbugs and lesser cornstalk borers, and in the control of plant pathogens affecting cotton and beans. Application of pesticides as seed treatments

is frequently practiced at the same time fertilizer is being applied, they say, which also includes fungicides and insecticides.

Marketing Practices Essentially Unchanged

Little or no change has taken place in the pattern of marketing pesticides throughout the South, although there has been some increase in the amount of promotional effort by certain producers of exclusive products. Due to the Miller Bill, farmers have become more aware of toxicity problems. They seem to want to do the right thing, but just don't know how to go about it for lack of sufficient information.

Producers and distributors in the Southeast are tending toward better business practices. Many who have not used sound practices in the past have been forced out of business; others are realizing that unless they make some money they will soon be on the way out. There is still room for improvement. However, price cutting is still prevalent in the Rio Grande Valley of Texas, except in some isolated spots.

Weed killer sales are possibly ahead of the past two years in the Southeast, although there was very little, if any, increase in chemical weed control of cotton. Lack of interest in chemical weed control has been prompted by three dry growing seasons and by a reduction in cotton acreage.

Early use of insecticides in the Southeast was equal to or slightly ahead of the past two years, due primarily to a cool spring which favored thrips on cotton. Boll weevils are not as numerous as they were three years ago, although populations may eventually run higher this season than last. If weevil populations continue to climb, cotton poison usage may equal or surpass that of last year in spite of reduced acreages. Some industry leaders say this year will go down in history as slightly better in pesticide sales than in the past two years, so far as the Southeast is concerned.

Grasshoppers, Corn Borers Give Trouble In Midwest; Armyworms Lighter

THE INSECTICIDE BUSINESS was generally better in the Midwest this season than it was last year. Infestations of grasshoppers, centering in Missouri and Kansas, and of European corn borer in the Corn Belt were the most serious outbreaks. Sales in Minnesota compared favorably with those of two years ago, but the area was spared the severe outbreak of armyworms which it suffered last year. Wet weather in the Red River Valley in North Dakota and Minnesota

and poor price prospects, especially for potatoes, were blamed by one formulator for poor business in that area. However, almost all reports from other parts of the Midwest mentioned improved sales, at least volumewise.

Price cutting and consignment continue to be the subject of much complaint. Neither practice seems to be lessening. There is some indication that consignment is getting worse. One formulator states that all the major com-