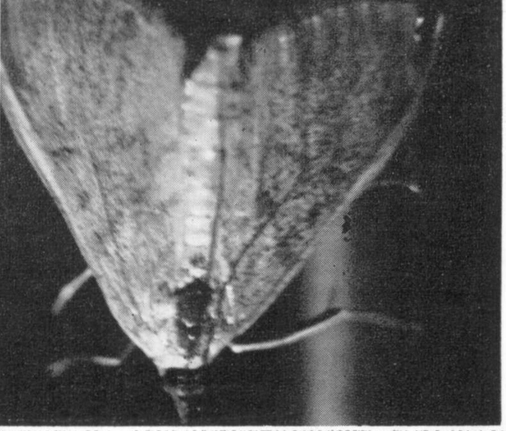

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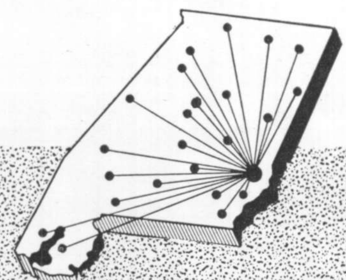

Highlights of AGRICULTURAL RESEARCH

A Quarterly Report of Research Serving All of Alabama

AGRICULTURAL EXPERIMENT STATION SYSTEM *of the* ALABAMA POLYTECHNIC INSTITUTE

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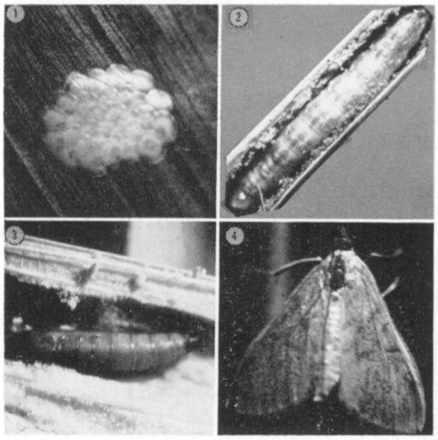


Shown are stages of European corn borer: (1) egg mass on corn leaf; (2) larva; (3) pupa; and (4) moth.

LIFE HISTORY *of European corn borer* IMPORTANT

W. G. EDEN, *Entomologist*

KNOWING THE LIFE history of insects is essential before a control program can be developed. Without knowing when to expect different stages and when crops are likely to be attacked, it would be impossible to control insect pests.

When a new insect is found, learning its life history is the first job of entomologists. This was the case in 1950 when the European corn borer was first reported in Lauderdale and Limestone counties. Since that time, entomologists of the API Agricultural Experiment Station have been studying the pest.

The corn borer has been moving southward since its first appearance and is now known to be in these counties: Blount, Calhoun, Cherokee, Cleburne, Colbert, Cullman, DeKalb, Etowah, Fayette, Franklin, Jackson, Jefferson, Lamar, Lauderdale, Lawrence, Limestone, Madison, Marion, Marshall, Morgan, St. Clair, Tuscaloosa, Walker, and Winston. It has shown itself to be a serious pest of corn, sorghum, and pimentos in the State.

Three Generations

Results of the life history studies at the Sand Mountain Substation, Crossville, show that the borer has three complete generations per year.

The insect passes the winter as a grown larva (worm) in stalks of corn, sorghum, or other plants. The larvae are about 1 in. long, flesh-colored, and are marked with small, round, brown spots. They pupate in old stalks in late April. Pupae are small, brown, and sharp-pointed on the abdominal end. The pupal stage lasts 1 to 2 weeks and moths start emerging in early May.

Female moths are pale yellowish brown with irregular dark bands running in wavy lines across the wings. The males are darker. Wing span of the moths is about 1 in. All forms of the insect are shown in the photos.

Moth Flights

Dates of the three moth flights are shown in the graph. Peak of the first flight occurs in mid-May and is usually over by mid-June. Since an insect generation begins with the egg, moths of the first flight are adults of the third generation of the previous year.

First flight moths lay eggs on early corn. The eggs are laid in groups of 5 to 50, usually on the underside of corn leaves. The small, white flattened eggs overlap in the masses like fish scales. They hatch in about a week. The larvae feed on leaves and in whorls of untasseled corn until nearly half grown. Then they become borers and eat into the stalk and thick portion of the leaf stem where they feed until grown. Pupation occurs in the stalks and the second moth flight begins in late June.

The second moth flight reaches its peak in mid-July. Eggs from these moths are laid on late corn, sorghums, and pimento peppers. This generation is completed in corn and sorghums, but apparently not on pimentos. The infested pods rot before the larvae are grown and can pupate.

A third moth flight begins in August, overlapping with the second flight (see graph). Peak of the third flight is during the last half of August, but continues until mid-September. Eggs of the third generation are laid on sorghums and pimentos. Corn is too old at that time to be attractive to the moths for egg laying.

Apparently over 95% of the first generation larvae pupate as soon as they are grown. The rest do not change during the summer. About half of the second generation larvae pupate, but none of the third generation do until the following spring.

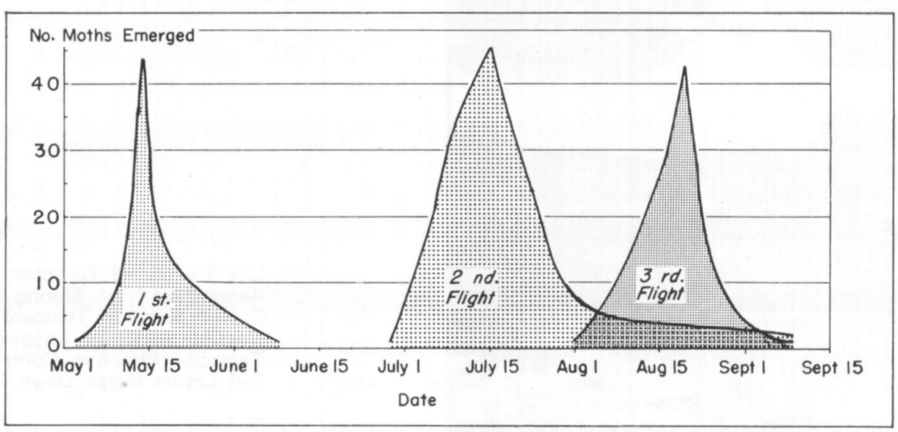
Knowing dates of each moth flight is important for three reasons:

(1) Plowing before first moth emergence in the spring is a good practice for reducing number of first flight moths. Knowing life cycles establishes when plowing must be done.

(2) Susceptible crops can be planted so they will be least attractive at egg laying time.

(3) Insecticidal treatments can be timed so as to get the most kill.

DDT is still recommended for corn borer control. However, 20% toxaphene and 2% endrin dusts have also given good results.



Dates of the three corn borer moth flights are shown here. First flight moths lay eggs on early corn, the second flight on late corn, sorghums, and pimento peppers, and third flight eggs are deposited on sorghums and pimentos.

PASTURE RENOVATION

R. M. PATTERSON *and*
V. S. SEARCY
Department of Agronomy and Soils

ACRES ON ACRES of once productive pastures in Alabama and the South have become overrun with carpetgrass.

Despite its vigorous growth, carpetgrass is a poor pasture plant. It is low in feed value and it chokes out legumes planted with it. For these reasons, carpetgrass is not recommended for improved pastures in the State.

Research

In screening tests of several weedicides, it was observed that Dallisgrass recovered from applications of Dowpon, whereas carpetgrass did not.

Earlier research on pasture renovation by the API Agricultural Experiment Station involved study of mechanical methods of killing the pest grass, fertilizing, and seeding to desirable pasture plants.

In a series of experiments begun at the Tuskegee Experiment Field in 1956 and at the R. L. Moore farm near Auburn in 1957, renovation of pasture by use of chemicals and tillage and their combination was studied. In these experiments Dowpon was applied at rates of 5, 10, and 15 lb. per acre in late July and early August. Some plots were not chemically sprayed but were turned and fallowed. Lime and fertilizer were applied according to soil test.

TABLE 1. DRY FORAGE YIELDS FROM RENOVATED PASTURE, 1957 GRAZING SEASON, TUSKEGEE EXPERIMENT FIELD

Method of renovation	Dry forage per acre, lb.*	
	White clover	Carpetgrass
Chemical	3,780	1,370
Fallow	3,273	1,322
Seeded only	722	4,739
None	63	4,598
	Dallisgrass	Bahiagrass
Chemical	1,623	432
Fallow	1,000	868
Seeded only	1,522	0
None	310	----

* White clover and carpetgrass are averages of all plots. Dallisgrass and Bahiagrass are averages of plots seeded to them.

White clover with either Dallisgrass or Pensacola Bahiagrass was seeded in mid-September with a grain drill equipped with a small seed attachment.

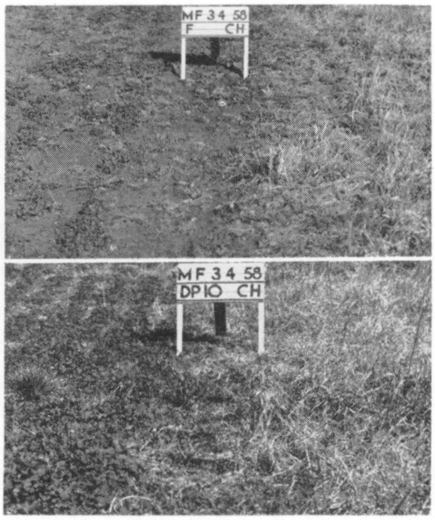
Results

Excellent stands of white clover were obtained when planted on a chemically killed sod that was not plowed or disked. The stands and early growth were slightly better when highest rate of chemical was used. However, there were no important differences in white clover yields resulting from the three rates of Dowpon.

At the Tuskegee Field in 1956, stands of white clover on the prepared plots were reduced by a damping-off organism. Full stands finally developed when the weather became cooler and hard seed germinated. At the Moore farm severe heaving occurred on the prepared plots in the winter of 1957-58, depleting the stand. Neither damping-off nor heaving occurred on unplowed plots treated with Dowpon. The stand and development of white clover in early March on a prepared seedbed, untreated check, and a chemically treated sod are shown in the photos.

The best white clover yields were obtained on the chemically treated plots, where the clover was seeded on dead carpetgrass sod, Table 1. Although growth on fallowed plots was late because of damping-off, good yields were obtained. White clover seeded on an untreated sod was not successful. Yields of Dallisgrass were not reduced by chemical treatment. Bahiagrass was better established and more productive when planted on a fallowed seedbed.

The carpetgrass and Dallisgrass stands resulting from the several renovation treatments are listed below. These stands are given as the percentage of vegetation at the end of first growing season at the Tuskegee Field test started in 1956. It should be noted that where carpetgrass was controlled, the Dallisgrass increased. It is also



Growth of white clover at R. L. Moore farm near Auburn, March 1958, after seeding in September, 1957, on a fallowed seedbed (upper left), unprepared check (upper and lower right), and on sod killed with 10 lb. of Dowpon per acre (lower left).

Method	*% Carpetgrass*	*% Dallisgrass*
Chemical	26	57
Fallow	21	41
Seeded only	68	26
None	80	17

pointed out that some Dallisgrass was present before the treatments were applied, since the sward on the untreated plots contained 17% Dallisgrass.

The percentage of carpetgrass and Bahiagrass at the end of the first growing season are as follows:

Method	*% Carpetgrass*	*% Bahiagrass*
Chemical	22	35
Fallow	16	49
Seeded only	79	0
None	80	---

No Bahiagrass was established when carpetgrass was not controlled.

This report should not be considered a recommendation for use of Dowpon on pastures, since this chemical has not been cleared under the provisions of the Federal Food, Drug, and Cosmetic Act for this purpose.

Further study is being conducted to determine the length of beneficial effects from chemical pasture renovation.

Summary

(1) Dowpon at rates of 5, 10, and 15 lb. per acre was as good or better than land preparation for establishing white clover in carpetgrass pasture.

(2) Dowpon at the 3 rates did not kill established Dallisgrass.

(3) Pensacola Bahiagrass was established best on a prepared seedbed.

STORING GRAIN *can* BOOST PROFITS

MORRIS WHITE *and* J. H. YEAGER
Department of Agricultural Economics

DON'T WRITE OFF farm grain storage. It might be the key to more profits for Alabama grain producers.

A producer must decide if he will (1) sell grain at harvest, (2) store and sell later, or (3) store and feed to livestock. Each alternative has its place under different farm conditions.

Many things influence the profitableness of the decision made. A changing agriculture plays an important part in the decisions and their outcome. Markets for cash grain are developing in certain areas of the State. At the same time, livestock and poultry production have increased.

Some points that influence the profits from selling grain at harvest and from storing and selling later will be considered. This does not say that the other alternative is not desirable. Many farmers can get a higher than market price for their grain by selling it in the form of livestock or livestock products. However, since this takes into account another enterprise, it will not be considered here.

Factors to Consider

What factors should be considered in deciding whether to sell at harvest or store and sell later? The seasonal price pattern for grain stored is one of the most important. Although local prices may vary, average prices received by Alabama farmers for certain grains have followed rather set or definite patterns. For example, the peak in prices received by Alabama farmers for oats and wheat came in December or January in 7 of the last 10 years. The lowest prices received for oats and wheat were in July or August for 9 of the last 10 years. June prices were lower than May prices every year for both oats and wheat. Also prices in July were lower than in June in 8 of the 10 years for oats and 9 of the 10 for wheat. The prices shown in the graph are monthly averages for the 10-year period, 1948-57.

There was little change in the average price farmers received for oats between November and April. The rise in average price from the low point in July to the November to April level was about 15%. This would amount to 15 cents per bu. if oats were selling for $1 per bu. in July. For wheat, the change from low to high price amounted to 11%, or 21 cents per bu. if wheat were selling at $1.90 per bu. in July.

The average price farmers received for corn increased continuously from the low in November to the peak in August. During September, October, and November the price dropped a total of 19%. This means that when corn was selling for $1.50 per bu. in August, the November price was about $1.20. If, during the past 10 years Alabama farmers had stored corn in November and sold the following June, they would have realized an average of 19%, or 26 cents per bu., more due to price changes.

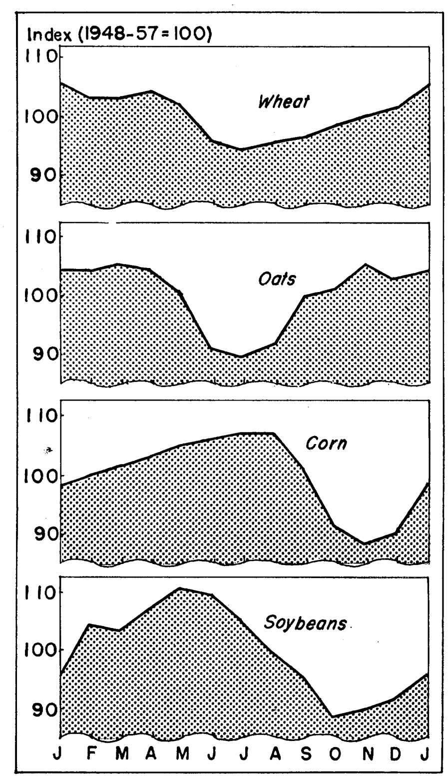
Soybean Price Range

Prices for soybeans fluctuated through a wider range than did prices for wheat, oats, and corn. The average price increase was 23% from October, the principal harvest month, to the following May. Anyone storing soybeans in October and selling the following spring would have received, on the average, approximately a 20% increase in price.

All storage costs must be weighed against the expected increase in seasonal price to determine profitableness of storing grains. These costs include depreciation, interest, repairs, taxes and insurance on storage facilities and equipment, losses due to shrinkage and change in quality, and cost of labor in moving the grain into and out of storage.

Other Considerations

Failure to control insects and rodents may mean loss in both weight and quality. Furthermore, condition of grain when placed in storage and protection afforded by the storage facility are important considerations. Farmers who borrow funds to finance grain production are often faced with repayment at harvest time. This too must be considered in grain storage decisions. Also, if there are other uses for storage facilities, they must be considered as a cost. If new grain storage facilities are added, it is important to fully utilize them. A planned program of use should be followed.



Index of seasonal variation in average prices received by Alabama farmers is shown for wheat, oats, corn, and soybeans, 1948-57.

ATTIC VENTILATION can make you more comfortable in a cooler house during the hot days ahead.

Results of research at the API Agricultural Experiment Station show that high ceiling and air temperatures can be lowered by insulating and removing the hot air trapped in the attic. These control measures are especially important since attic air, sometimes higher than 125°, heats the ceilings of rooms below. Thus, they become heating panels that raise the air temperature within the rooms.

Enjoy COOLER SUMMER TEMPERATURES *from* ATTIC VENTILATION

WALTER GRUB,
Associate Agricultural Engineer

Shown here are three of the battery of various attic types under test at Auburn to determine best system for lowering house temperatures.

Methods

Various types of attic ventilation systems were installed in a series of identical test roofs to check their effects on ceiling surface temperatures. These systems were gable end louvers, a ridge louver, a flue, and a fan. A fifth roof was completely closed and used as a check. The fan, which produced one air change per minute, was the most effective system for lowering the ceiling surface temperature. The ridge louver and flue was second and the gable end louvers were third. The completely closed attic had the hottest ceiling surface. When insulation was applied to the upper ceiling surface, the temperature differential between systems decreased. However, the effectiveness of the various attic space ventilation systems remained in the same order.

Changes Made

Following the first summer tests, the roofs were modified. Fans of different sizes were installed in four roofs, and the fifth roof remained closed. The fans were rated to produce 1, 2, 3½, and 5½ air changes per minute of attic air. The last 2 rates were selected to correspond with summer room ventilation systems of ⅔ and 1 air change per minute for a one story house with 8-ft. ceilings. Insulation was applied to areas of the ceilings of each test roof at thicknesses of 1 and 2 in.

Results

Results of these studies show that the greater the rate of ventilation, the lower the ceiling surface temperature. The greatest reduction of ceiling surface temperatures, however, was between the unventilated attic and the attic with one air change per minute. The greater ventilation rates produced a cooler ceiling, but the reduction of temperature was not in proportion to the increased rate of air movement. The data also showed that cooler ceiling surface was obtained with the heaviest rate of insulation. However, the greatest percentage of temperature reduction was between no insulation and the 1-in. application.

Conclusions

As a result of these studies and observations, the following conclusions can be drawn:

(1) An attic exhaust fan will aid in maintaining lower ceiling surface and room air temperatures during the summer months.

(2) The attic exhaust system should move air at the rate of one air change per minute, and should be operated during those hours that attic air temperature exceeds outside air temperature.

(3) The system should operate independently of a room ventilation system.

(4) Insulation placed on the upper surface of the ceiling will hold the ceiling at a lower temperature making the room temperature cooler.

(5) At least 2 in. of insulation is needed for summer and winter temperature control.

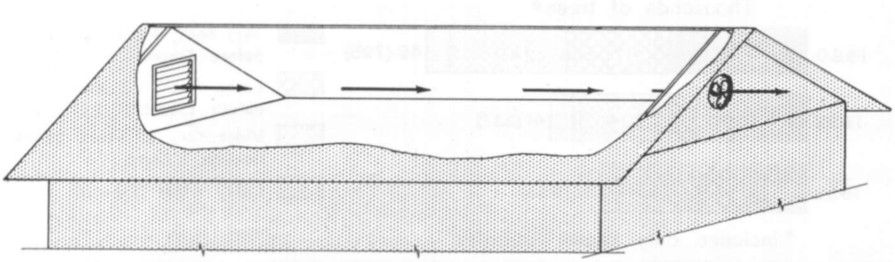


Diagram illustrates attic ventilation system. Arrows show air movement pulled by fan through louvers.

MARKET *facilities* LAGGING *behind* *peach* PRODUCTION?

M. J. DANNER *and* MELVIN W. SMITH
Department of Agricultural Economics

GROWING PAINS may be in the offing for Alabama's peach industry. Increasing production and shifts in varieties grown are creating new marketing problems that will be felt in the next 3 years.

The extent of production changes is shown by results of a recent study by the API Agricultural Experiment Station in Chilton and Blount counties, the State's major peach-producing areas. In 1957 these counties had almost a million trees in commercial orchards. Most were in Chilton County.

The change has been to early ripening varieties to take advantage of high prices that prevail early in the season. Alabama's peach-growing areas are well adapted to early varieties.

Elberta Leads

Elberta is still the leading variety in the State with 14% of all trees. Close behind with 12% is Dixired, which ripens 6 weeks ahead of Elberta. Other leading varieties (in order of number of trees) are Coronet, Redcap, Halehaven, Redhaven, Cardinal, Keystone, Southland, and Hiland. All ripen before Elberta.

Results from the 1957 survey showed that 7 out of 10 leading varieties ripened 3½ weeks or more ahead of Elberta and all were yellow fleshed. This compares with the 1946 figures of 3 out of top 10 varieties earlier than Elberta. And 6 of the top 10 were white fleshed.

Non-bearing trees accounted for 63% of all trees in 1957 (see table). In the past 3 years, the most important plantings have been early ripening varieties. For example, more than 15% of the non-bearing trees were Dixired. Elberta, Redcap, and Coronet each had about 10% of the 1 to 3-year-old plantings.

DISTRIBUTION OF PEACH TREES IN COMMERCIAL ORCHARDS BY VARIETY AND BEARING AGE, CHILTON AND BLOUNT COUNTIES, 1957

Variety	Thousands of trees	Per cent nonbearing
Elberta	131.1	43
Dixired	108.7	77
Coronet	60.1	87
Redcap	58.6	86
Halehaven	53.8	40
Redhaven	51.0	68
Cardinal	50.9	88
Keystone	47.7	99
Southland	33.9	57
Hiland	29.1	77
Shipper's Late Red	28.5	43
Early Red Fre	27.2	33
Dixigem	16.4	57
Golden Jubilee	16.3	15
Rio Oso Gem	14.3	37
Mayflower	8.8	63
Others	67.2	46
Not indicated	99.3	56
	902.9	63

The expected number of bearing trees in 1958, 1959, and 1960 is shown by ripening periods in the chart. In 1958 the number of trees of bearing age will be 40% greater than in 1957. In 1959 an increase of 75% in number of bearing trees over 1957 is indicated. The number of bearing trees in 1960 is expected to more than double that of 1957.

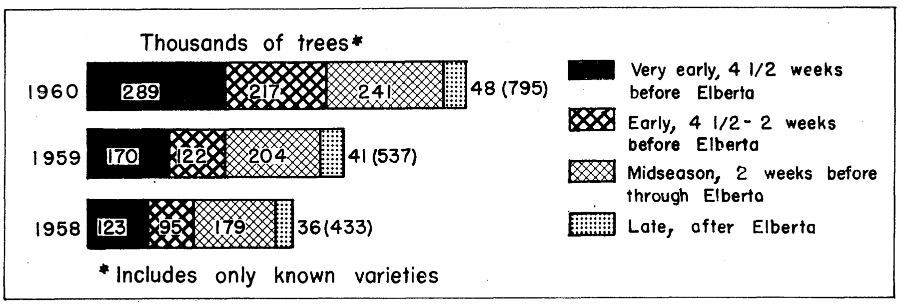
For all 3 years the most important variety is expected to be the Elberta. Yet, the earlier ripening varieties are likely to more than double in number of bearing trees from 1958 to 1960. These projections, of course, are subject to great influence from such physical factors as weather.

What about markets for the increased production in the next few years? Will present facilities be able to handle production when new plantings begin bearing? To answer these questions, present facilities in both counties were studied along with plans for expansion or for new packing sheds.

The capacity of peach packing sheds in Chilton County in 1958 should be sufficient to handle the increased production. With normal conditions, packing sheds are likely to handle between 450,000 to 500,000 bu. An additional increase of 250,000 bu. could be realized in 1959 if conditions are normal. This would require additional packing facilities or comparable increases in the capacities of present sheds. A normal crop in 1960 would increase production by 857,000 bu. over 1959. Such an increase would require the equivalent of at least three large packing sheds in addition to present facilities.

Growers in Blount County plan to construct a cooperative packing shed for the 1958 season. One large packing shed in this county should be adequate to handle the crop through 1960 on the basis of results from this study.

The large increases in production in 1958, 1959, and 1960 will result in a considerable increase in the volume of cull peaches placed on local markets, principally by packing sheds. These culls will compete with field-run peaches and at more highly competitive prices. This will tend to keep local market prices depressed. It means, also that cull peaches probably will be sufficient for local market needs, which up to now have been supplied primarily with field-run peaches. Supplies of cull peaches are likely to be large enough to offset any increase in demand by 1960 due to population growth, shifts in industry, or general price increases.



Expected number of bearing peach trees in Chilton and Blount counties in 1958, 1959, and 1960 is shown by ripening periods.

TERRACLOR
effective control *for* SOUTHERN BLIGHT

URBAN L. DIENER
Associate Plant Pathologist

Southern blight infection results in rapid rot of tomato stem identified by white fuzzy fungal growth shown above. The small mustard-seed size bodies on stem can remain alive in the soil for many years thereby spreading the disease to succeeding crops.

SOUTHERN BLIGHT, a major disease of annual horticultural and field crops, has destroyed as much as 60% of pimento pepper and tomato crops in areas of Alabama.

This disease, caused by the soil-borne fungus *Sclerotium rolfsii,* shows early symptoms of discoloration and water-soaking of the stem at the soil line. Foliage symptoms consist of leaf yellowing, defoliation, and usually sudden permanent wilt. Infection results in a rapid rot of the stem evidenced by a white mat of fuzzy fungal growth (see photo) and an abundance of sclerotial bodies the size, color, and shape of mustard seed. These sclerotia remain alive in the soil for many years.

Materials and Methods

Experiments on control using chemicals were conducted by the API Agricultural Experiment Station in 1953, 1954, and 1956 at the Southeast Alabama Horticulture Field near Ashford, the Chilton Area Horticulture Substation near Clanton, and the North Alabama Horticulture Substation near Cullman. Plots consisted of 10 to 15, 25, and 65 to 100 plants, respectively, for the 3 years. Treatments were repeated 4 to 7 times. The active fungicidal ingredient in Terraclor, formerly known as Mathieson Fungicide No. 275 and PCNB, is pentachloronitrobenzene.

This chemical was applied in 1953 and 1954 as a 20% dust. It was mixed with the upper 2-3 in. of soil in the furrow at the rate of 720 lb. per acre. In 1954 a solution was prepared containing 7 lb. of 75% wettable powder in 100 gal. of water. This material was applied to the soil around the base of plants at a rate of 1 pt. per plant from 3 to 6 weeks after planting. In 1956 a less concentrated solution was prepared containing 2-3 lb. of 75% wettable powder in 100 gal. of water. This was applied as setting water around the pepper transplants at the rate of ⅓ qt. per plant. Other materials that were tested at least 1 year were Shell CBP applied as a preplanting drench, Dithane 20 and Stauffer N521 applied as preplanting soil amendments, ethylene dibromide applied as a preplanting fumigant, and captan applied as a soil amendment at planting time or as a drench several weeks after planting.

Results

Terraclor reduced disease losses in all experiments, whereas all other treatments were inconsistent. The best method of application was the water solutions of the chemical applied to the base of the plants, the area of primary infection. A high concentration of the chemical in setting water at one location in 1954 was toxic, but lower dosage rates of Terraclor were found to be safe for pepper transplants in greenhouse studies during 1955. In 1956, field data at these lower safe dosage levels proved the effectiveness of this soil fungicide and method of application. This method was also the most economical since it required no extra labor.

THREE-YEAR RESULTS OF CONTROLLING SOUTHERN BLIGHT BY SOIL AND WATER APPLICATIONS OF TERRACLOR

Treatment method	Percentage of diseased plants			
	Tomatoes		Peppers	
	Ashford	Cullman	Clanton	Cullman
1953				
Soil	52.0	29.5		17.3
Water				
Check	79.0	44.3		37.0
1954				
Soil	10.2	11.5		17.0
Water	5.5	15.4		23.4
Check	42.2	39.0		27.5
1956				
Water			9.9	7.0
Check			40.2	14.4

Observations and studies of the relation of previous crops to disease incidence indicated that rotations with non-susceptible crops as well as soil fungicides could reduce disease losses in pimento pepper and tomato plantings. Severe damage from the disease occurred when the previous year's crop was sweetpotatoes, pole beans, watermelons, tomatoes, or peppers. Rotations of a cover crop like vetch followed by corn and another vetch crop appeared to reduce the disease most effectively for a short rotation.

Summary

Terraclor, applied as a solution of 2-3 lb. of 75% wettable powder in 100 gal. of water at the base of plants at a rate of ⅓ qt. per plant was the most effective control of southern blight of tomatoes and peppers. It was also satisfactory as a 20% dust mixed in the upper layers of the soil. Rotations with non-susceptible crops also will reduce the incidence of disease.

BORON *fed layers* KEEPS DOWN FLIES

J. G. GOODMAN, *Associate Poultry Husbandman*

BORON FED LAYERS in small quantities will reduce fly population in poultry manure, a major problem in cage layer operation.

In the summer of 1957 at the API Agricultural Experiment Station, boron in the form of a crude product containing sodium borate, "Polybor-3" (disodium octaborate tetrahydrate) was fed to caged layers to control fly development in the manure.

Methods Used

Single comb White Leghorn pullets of laying age kept in separate cages in an open-shed type house were fed laying rations containing 5%, 2%, 1%, ½%, ¼%, ⅛%, and 1/16% Polybor-3 to control flies in manure. Daily notations of fly development, egg production, and feed consumption were made. Thirty-lb. lard cans (15 in. diameter) were used to trap emerging flies. The traps were placed over the manure of individual hens and left for 2 weeks.

Results

Birds fed 5% and 2% Polybor-3 reduced their feed intake and in a few weeks were dead. Those given 1% and ½% stopped laying within 30 days. Hens fed rations with ¼%, ⅛%, or 1/16% for 125 days had 52%, 57%, and 61% egg production, respectively. Excellent control was obtained in manure from pullets fed low levels of this boron material. Average adult flies per trap were: 5 for ¼%, 7 for ⅛%, and 8 for 1/16%; there were 188 for no treatment. Many fly larvae were noted in the manure of these low levels of Polybor-3, but were dead in a few days. The pupae cases also developed in some instances but when examined the pupae were dead.

Boron Accumulation

Polybor-3 is 20% boron. Reports show that boron is accumulated in the bodies of animals. How much and where stored was the second objective of this test. Hens fed ¼% Polybor-3 in the ration were used as the test group. The amount of boron in eggs and tissues was increased over those having no Polybor-3 in the ration. (See table).

Conclusions

Polybor-3 fed to laying hens in small amounts will greatly reduce fly development in manure under cages. The addition of boron materials to feed does increase boron content of eggs and edible parts of the chicken. The boron content of eggs from hens getting ¼% Polybor-3 did not have as much boron as many other foods. For example: dried apricots 38.0 p.p.m., carrots 41.6 p.p.m., turnips 30.6 p.p.m., while the yolk and albumen from hens fed Polybor-3 for 125 days was 36.0 p.p.m. and 39.5 p.p.m.

BORON CONTENT OF EGGS AND FOWL TISSUES

Item	Control group	¼% Polybor-3
	p.p.m.	*p.p.m.*
Yolk	5.4	36.0
Albumen	17.5	39.5
Breast meat	7.5	30.0
Liver	1.7	62.4
Fat	1.8	45.1
Kidney	3.1	45.1
Feathers	----	97.5

New and Timely PUBLICATIONS

Listed here are timely and new publications reporting research by the Agricultural Experiment Station.

Circular 122. Factors Affecting Apple Yields reports results of a study of 34 apple orchards in 15 Alabama counties.

Circular 123. High Temperature Drying of Southern Hardwoods reports results of experiments on drying hardwoods at temperatures above 212°F.

Circular 124. Alabama's Changing Peach Industry covers peach production and marketing in Chilton and Blount counties.

Progress Report 70. Use of Salt to Control Intake of Protein Supplement Self-Fed to Wintered Beef Cows.

Grain Sorghum Variety Report gives recommended varieties for Alabama and presents results of the variety tests.

Free copies may be obtained from your county agent or by writing the API Agricultural Experiment Station, Auburn, Alabama.

HIGHLIGHTS of AGRICULTURAL RESEARCH

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