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COTTON INSECT CONTROL RECOMMENDATIONS

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Pesticide Handbook

COTTON INSECT CONTROL RECOMMENDATIONS — 1955

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Entomology

| IMPORTANT COTTON PESTS | INSECTICIDES | | APPLICATION |
|----------------------------|---|--|--|
| | DUSTS (3)* | SPRAYS (4)* TECH. MATERIAL/ACRE | |
| Boll Weevils and Bollworms | 20% Toxaphene | 2 lbs. Toxaphene | Where weevils are a problem each year, make 3 applications at 7-day intervals beginning at time of squaring. As season advances, make square counts and if infestation rises to 10% (1)*, make additional applications at 5-day intervals until crop matures (8)*. During "light weevil years" or in areas (2)* where weevil damage is usually light, the infestation rate may be moved up to about 25%. When the control program involves frequent applications during mid and late seasons, boll-worm build-up is usually avoided. |
| | 3% BHC—5% DDT | 1/3 lb. BHC plus 1/2 lb. DDT | |
| | 2 1/4% Aldrin—5% DDT | 1/4 to 1/2 lb. Aldrin plus 1/2 lb. DDT | |
| | 2 1/2% Dieldrin—5% DDT | 1/4 to 1/3 lb. Dieldrin plus 1/2 lb. DDT | |
| | 2 1/4% Heptachlor—5% DDT | 1/4 to 1/2 lb. Heptachlor plus 1/2 lb. DDT | |
| | | 1/3 to 1/2 lb. Endrin | |
| Boll Weevils | Any of the above dusts or sprays may be used without DDT in early season applications when bollworms are not present. | | Apply according to infestation as discussed above. Bollworms may develop, especially during late season. |
| Bollworms | 10% DDT | 1 to 1 1/2 lbs. DDT | Check for worms frequently during late season when most corn silks turn brown. When 4 to 5 small worms are found per 100 terminals make 2 to 4 applications at 5-day intervals. |
| | 20% Toxaphene | 2 to 3 lbs. Toxaphene | |
| | | 1/3 to 1/2 lbs. Endrin | |
| Thrips | Any of the dusts or sprays with or without DDT recommended for boll weevil control. | | Silvering and/or distortion of leaves indicates the presence of thrips. In areas where thrips are a consistent problem (certain Piedmont areas) make 2 to 4 applications at 7-day intervals beginning at the 2 or 4-leaf stage. Thrips may move to cotton from grain or winter cover crops. |
| Red Spiders (6)* | 1% Parathion (7)* | 1/5 lb. Parathion (7)* | Make 2 or 3 applications at 5 to 7-day intervals when leaves first begin turning yellow or reddish brown. Coverage of under surfaces of leaves is important. Generally only one application of Demeton required. |
| | 3% Aramite | 1 lb. Aramite | |
| | Sulphur | 1/4 lb. Demeton (7)* | |
| | | 40% TEPP (1/2 pt./acre) (7)* | |
| Aphids | 3% BHC—5% DDT | Above formulations of Parathion or TEPP or Demeton (7)* or 1/3 lb. BHC | Treat when aphids cause extensive "leaf-curling" especially on young plants. Repeat treatment if needed. |
| | 1% Parathion (7)* | | |

1. **Weevil infestation counts:** The percentage infestation is based on the number of squares punctured by weevils out of each 100 squares. For fields of five acres or less, 100 squares is considered an adequate sample. The sample size should be increased proportionately for larger acreages. Select squares at random from the top, middle and bottom parts of the plants at representative points throughout the field. The squares should be selected while criss-crossing the field diagonally. Areas adjacent to woods and other hibernating quarters should be especially included in the area sampled.
2. **Areas with consistently light weevil populations:** Cotton acreages on or near the northern boundary of our cotton belt fall in this grouping. (For example: Davie and the northern portions of Rowan and Iredell Counties).
3. **Amounts of dusts per acre:** Early in the season, when plants are small, 6 to 8 lbs. dust per acre may be adequate. As plants increase in size, dosages should likewise increase. Average mature cotton may be adequately treated with 15-20 lbs. of dust per acre, while extremely rank cotton will require heavier applications. Applications of dust should be increased above those given by at least $\frac{1}{4}$ th when formulations are applied for bollworms or when sulfur is applied for spider mites.
4. **Amounts of spray materials per acre:** The amounts of technical material per acre to apply in spray form will also vary according to the size of the plants as discussed for dusts. For example, about 1 lb. of technical toxaphene per acre gives adequate coverage when plants are small; whereas, as much as 3 lbs. of technical toxaphene per acre may be required for good coverage of rank cotton late in the season.
5. **LOW-GALLONAGE AND HIGH-GALLONAGE SPRAYERS:** Most spray equipment for cotton is the low-gallonage type which requires emulsion concentrates. Wettable powders may be used in high-gallonage equipment (ex: Boyette tobacco sprayers) but will result in clogging and poor application if used in low-gallonage sprayers. With proper nozzles, emulsion concentrates may be used in high-gallonage equipment. Following manufacturers recommendations in mixing spray materials and adjusting rates of application.
6. **RED SPIDERS:** Damage from these pests is usually in localized areas and greatest during hot dry weather. Several species of mites infest cotton in North Carolina, each of which may present a different problem in control. While sulfur will control certain mites it will not control all species. We must have more information on the relative abundance and distribution of the various cotton mites, before specific recommendations can be given.
7. **CAUTION IN HANDLING INSECTICIDES:** All insecticides should be handled only in the manner prescribed by the manufacturer. Extreme caution should be exercised in handling parathion, Aldrin, demeton, heptachlor, TEPP, dieldrin and endrin.

Do not use BHC when cotton is to be followed by peanuts, tobacco or Irish potatoes. When applying BHC or toxaphene, avoid drift to tobacco and keep in mind that indiscriminate drift of all insecticides should be avoided.

For general information see "Precautions on use of Insecticides" in Extension Circular No. 312, "Cotton Insect Control in North Carolina."
8. **DURATION OF CONTROL PROGRAM:** During weevil migration, applications should be continued until all bolls expected to produce cotton are hardened. Such a program is designed to protect tender bolls during this critical period.

