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CONTACTS CONTROL SUCKERS EARLY

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Contact-type sucker-control chemicals are ideal to use to control suckers until the upper leaves develop enough for a systemic-acting chemical such as maleic hydrazide to be applied. Spraying with contact solutions should begin as soon as most plants have the desired number of harvestable leaves. This could be before any floral parts appear.

As a general rule the first spraying with a contact solution should be at a 4 percent strength (two gallons of chemical with 48 gallons of water). The second application should be about a 5 percent strength (2.5 gallons of chemical with 47.5 gallons of water).

The degree of sucker kill on tobacco plants with contact-type solutions is directly related to the mix rate of chemical and water. Therefore, it is extremely important to mix a specific amount of contact chemical with a specific amount of water.

This requirement is different from that with other chemicals. For example, with chemicals used to control insects, weeds, grasses, and diseases the amount of water used is not critical other than to use enough to uniformly distribute the chemical.

Proper Strength: The suggested rate of most of the contact-type products currently on the market is two gallons in 48 gallons of water. This makes a four percent solution.

The mixture should be strong enough to kill both of the tiny suckers at each leaf axil when the solution wets suckers less than one inch long.

Higher than the suggested amounts of water will weaken the mixtures so that good control is not obtained.

Higher than suggested amounts of chemicals will strengthen the mixture and may cause leaf burn.

Sucker control date (table) show the great differences observed in sucker growth at final harvest when three different rates of a contact-type solution were applied.

Suckers appeared to be under control for several weeks, but as the harvest season progressed suckers made rapid growth, especially where the 2 and 3 percent solutions were applied.

Sucker growth with three different Concentrations of a contact solution*

Contact + Water (gallons)	Percent contact	Suckers per acre	
		No.	Pounds
1 + 49	2	29,900	6,256
1.5 + 48.5	3	15,600	4,794
2 + 48	4	7,800	1,950

*__Normal suggested rate of two gallons of contact chemical in 48 gallons of water.__

Contact solutions control sucker buds by destroying cell membranes. As a consequence the sucker bud dries out to the point of being killed.

If the cells are not destroyed, the contact solution does not restrict cell division as MH does. That is why the contact can be applied in the button stage when upper leaves are expanding by cell division.

In fields with irregular flowering, two or three applications of contact solution before a systemic-acting chemical application are recommended.

The number of sprayings may be reduced where application is by hand rather than mechanical sprayers. Application of contact solutions by hand methods at the top of the plant provides a very high degree of sucker control.

The amount of solution applied should be enough for complete rundown to the soil line but not so much as to accumulate at the soil line and damage the stalk.

Weak contact solutions, those that are less than 4 percent, often control only one of the two sucker buds found in each leaf axil.

Often it appears that acceptable sucker control is achieved with weak contact solutions; however, experience has shown the suckers grow rapidly and become too large for the second application of the contact to provide control.

Then the sucker growth on vigorous growing tobacco cannot be controlled with the suggested rates of systemic-acting chemicals.

A rule of thumb to use is to apply a contact solution that chemically tops 5 to 10 percent of the small, late plants in a field. If no plants are chemically topped during the first application, the solution was too weak to provide maximum sucker control.

Data collected in on-farm sucker control tests show that sucker control with contact solutions is improved by applying a 5 percent concentration rather than a 4 percent solution for the second application.

The 4 and 5 percent concentrations of contact solutions are guidelines to follow. If plant growth is tender, good sucker control may be obtained with slightly reduced concentrations. If plant growth is tough, an increase in concentration is suggested to obtain good sucker control.

There is concern among growers about leaf drop with strong contact solutions. This is not likely to be a problem unless the crop has an excessive amount of nitrogen available and the season is unusually wet for several days after application.

Mechanical Sprayers: When application is made with mechanical sprayers, 50 gallons per acre of the contact mixture should be applied at the button stage using three nozzles mounted about one foot directly over the row of tobacco.

Application should be with a relatively low pressure (20 psi, not to exceed 25 psi) giving a large droplet size delivered from a triple nozzle arrangement for mechanical spraying. Plants should be standing straight up. Application during hot afternoons should be avoided.

The low pressure will provide coarse spray droplets needed to avoid forcing the spray into leaves. That could damage leaves. As the pump pressure increases from 20 psi, the probability of leaf injury increases, so watch this carefully.

First Contact Application:The first application of a contact should be made when the number of leaves intended for harvest are formed. Make sure all solutions remain mixed because the active ingredients (fatty alcohols) are lighter than water. They tend to float and must be agitated to prevent separation. AVOID THE USE OF COLD WATER BECAUSE IT DOES NOT LEND ITSELF TO A UNIFORM EMULSION.

Second Contact Application: It has become a standard practice to apply a second application of contact three to five days after the first application. The second application is used to kill suckers that may have been missed with the first application.

Systemic Chemical: Because contact solutions are not likely to kill all of the sucker buds, an application of a systemic-acid chemical should be made about a week after the last application of the contact.

Advantages: The use of a contact chemical allows earlier topping, which increases yields. Therefore, it fills the sucker control gap between early topping and the time the upper leaves are large enough not to be damaged by a systemic-acting chemical.

A major advantage of contact solutions, especially if two or three applications are made, is that the period for the systemic-acting chemical to control suckers after topping is reduced.

Systemic-acting chemicals tend to give out and when tobacco remains in the field for as many weeks as it should, sucker growth can be reinitiated. For example, MH normally will restrict sucker growth for about six weeks.

The use of a contact allows the system-acting chemicals applied later to provide full season control (unless there's too much nitrogen from tobacco fertilizers, carryover from high rates of nitrogen used on a previous rotation crop, or residual nitrogen from a legume is available).