AGRICULTURAL EXPERIMENT STATION
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SPRAY PROGRAM FOR THE CONTROL OF LEAF SPOT, CYLETA BEETLE, AND FRUIT FLY OF SOUR CHERRY

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Agricultural Chemistry, Botany, and Entomology[1]

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LEAF SPOT

The following recommendations are based upon the results of three years of spraying trials for leaf spot control. Liquid lime sulphur has consistently given excellent control. Therefore we are recommending liquid lime sulphur with the caution that there is a remote possibility of lime-sulphur burn if certain warm and humid weather conditions should prevail. Such conditions might arise at the time for the third-spray application. Our experiments indicate that wettable sulphur will control leaf spot in warm weather. To avoid the possibility of lime-sulphur burn, therefore, wettable sulphur (6 pounds to 100 gallons of water) may be substituted for lime sulphur in the third spray. A safe mixture to use in the third spray is 1 gallon of lime sulphur and 3 pounds of a micronized wettable sulphur. The bentonite-fused wettable sulphur has given best results.

The new organic product, known as fermate, gives excellent control of leaf spot. It is used at the rate of 1½ pounds of fermate + 1½ pounds of hydrated lime + 1/3 lb. of a casein spreader in 100 gallons of water.

Thorough coverage of all the leaves is necessary.

CHERRRY FRUIT FLY

Recent field tests with a lime-sulphur-lead-arsenate-combination spray gave excellent control of cherry fruit fly. Results are based on four years of experimental tests in fifteen commercial orchards in Lane, Benton, Polk, Linn, and Marion counties.

Two properly-timed cover sprays should suffice to control the fly on all varieties of cherries, unless heavy rains occur during the spraying season. The sprays, however, must be thorough, covering all parts of the trees.[2] The first spray should be applied when the first flies appear in the field. This usually occurs during the last week in May or early in June when Royal Ann cherries show only a trace of color. The exact time of emergence may be determined by "emergence cages." Since the flies begin to lay eggs soon after emergence from the soil, there should be no delay in applying the first spray. A second spray should be

1/ Prepared by S. C. Jones, C. W. Owens, R. H. Robinson, and S. M. Zeller.
2/ It should be understood that this is not a bait spray. For information on the bait spray see your County Agent.

applied at the peak of fly emergence or two weeks after the first spray. If a third spray is necessary, it should be applied about two weeks after the second spray.

Spray Residue Complications. The lead-arsenate-lime-sulphur combination adheres better and resists the washing action of rainfall more than the molasses-lead-arsenate spray mixture. Consequently, larger amounts of lead-arsenate-lime-sulphur residue remain on the fruit at harvest time. Chemical analyses, however, of samples from cannery tests show that the effective washing procedure, usually employed by commercial canneries, removes the residue very effectively from the cherries. If the fruit is to be sold locally for fresh consumption, special care should be taken to wash any visible spots from the cherries before selling. Unless very heavily sprayed, this may be done by rinsing thoroughly for several minutes in fresh water.

Sulphur-spray deposits on cherries do not cause swells or other complications in the commercially-canned product.

SPRAY SCHEDULE FOR LEAF SPOT, SYNETA BEETLE, AND FRUIT FLY

Since it is possible to combine the lead-arsenate spray for both Syneta beetle and fruit fly with the lime sulphur for leaf spot control, the following program is suggested:

Time of Application*	Insect or Disease	Spray Material
1. Petal-fall spray	Leaf spot	2 gals. lime sulphur (32 Baume) to 100 gals. of spray or fermate (1½ lbs. + 1½ lbs. hydrated lime + 1/3 lb. casein spreader)
	Syneta beetle	Lead arsenate 4 lbs. plus hydrated lime 2 lbs. added to leaf spot spray
2. Shuck-fall spray	Leaf spot	Same as 1
	Syneta beetle	Same as 1
3. Two weeks after shuck fall	Leaf spot	Same as 1, or substitute wettable sulphur (6 lbs. in 100 gals. of water) or 1 gal. lime sulphur + 3 lbs. wettable sulphur
	Cherry fruit fly	Add to the leaf spot spray 2½ lbs. lead arsenate
4. Four weeks after shuck fall	Cherry fruit fly	2½ pounds of lead arsenate to 100 gals. of spray
	Leaf spot/+	

* These sprays in no way take the place of dormant and preblossom sprays suggested elsewhere for the control of other pests and diseases.

/+ Under usual weather conditions in western Oregon a 4th leaf-spot spray is not necessary; however, an application of lime sulphur (same as No. 1) late in August will protect against fall infection and considerable amount of winter holdover of the leaf-spot fungus.