

Apple Spray Program

1966

FOR DISEASE AND INSECT CONTROL IN COMMERCIAL ORCHARDS

(Remember that Parathion, Guthion, Demeton, Delnav are extremely poisonous! Always read label!)

NAME & TIME OF SPRAY APPLICATION	AMOUNTS OF FUNGICIDES AND INSECTICIDES TO USE PER 100 GALLONS OF SPRAY, NOTES ON THEIR USE AND MAJOR DISEASES AND INSECTS TO CONTROL.
LATE DORMANT Before visible growth starts	Use: Superior type oil 2 gal. plus dinitro paste 1 qt. OR oil 2 gal. plus dinitro powder 1 lb. Very important spray for aphid eggs, mite eggs and scales. If this spray is omitted, mite and aphid control must be started in the PINK SPRAY.
DELAYED DORMANT When buds show ¼ to ½ inch new growth	Use: Lime-sulfur 2 gal. OR dodine 65% 12 oz. OR sulfur 3 lb. + ferbam 76% 8 oz. + dichlone 50% 4 oz. OR sulfur 3 lb. + ferbam 76% 8 oz. + dodine 65% 8 oz. Diseases: Scab, mildew, quince rust and cedar-apple rust. Dodine (Cyprex) is very effective against scab; ferbam against rusts; sulfur against mildew.
PRE-PINK When center buds first show pink	Use: Same materials as in DELAYED-DORMANT SPRAY. Repeat 1 week later if necessary to maintain protection against scab.
PINK Just before bloom	Fungicide: Dodine 65% 12 oz. OR sulfur 3 lb. + ferbam 76% 8 oz. + dichlone 50% 4 oz. OR sulfur 3 lb. + ferbam 76% 8 oz. + dodine 65% 8 oz. OR captan 50% WP 2 lb. Insecticide: Parathion 15% WP 1½ lb. OR malathion 25% WP 4 lb. OR Guthion 25% WP 1½ lb. OR carbaryl (Sevin) 50% WP 2 lb. OR Delnav ½ lb. active ingredient. Use any fungicide with any insecticide. Sevin doesn't control mites. Diseases: Scab, rusts, mildew, leaf spot. Insects: Aphid, leaf roller, mite, Oriental fruit moth.
BLOOM Omit if PETAL FALL will occur within 12 days after the PINK	Fungicide: Dodine 65% 8 oz. + ferbam 76% 8 oz. OR captan 50% 2 lb. Don't spray in peak of bloom. INSECTICIDE: USE NO INSECTICIDE DURING BLOOM. Diseases: Scab, mildew, quince rust and cedar-apple rust. On Rome Beauty add 3 lb. sulfur for mildew control. For fireblight control: Streptomycin at 60 to 100 parts per million in sprays at 5-day intervals from the start to the end of bloom.
PETAL-FALL When most of petals have dropped	Fungicide: Dodine 65% 8 oz. OR captan 50% 2 lb. OR captan 50% 2 lb. + ferbam 76% 8 oz. OR sulfur 3 lb. + ferbam 76% 8 oz. + dichlone 50% 4 oz. OR sulfur 3 lb. + ferbam 76% 8 oz. + dodine 65% 8 oz. OR folpet 50% 2 lb. Dodine is only for scab; ferbam for rusts and leaf spot; sulfur for mildew and scab; captan or folpet for scab and fruit rots. Insecticide: Lead arsenate 3 lb. OR Guthion 25% WP 1½ lb. For good fruit finish on Golden Delicious use only captan or folpet plus Guthion or lead arsenate. Don't use lead arsenate in more than 4 applications. Diseases: Scab, powdery mildew, rusts, leaf spot, black rot, Brooks spot. Insects: Codling moth, leaf roller, Oriental fruit moth.
FIRST COVER 8 to 10 days after PETAL-FALL	Fungicide: Same as in PETAL-FALL. Insecticide: Parathion 15% WP 1½ lbs. OR malathion 25% WP 4 lb. OR Guthion 25% WP 1½ lb. OR Delnav ½ lb. active ingredient. Diseases: Same as in PETAL-FALL. Insects: Same as PETAL-FALL plus apple seed chalcid.
SECOND COVER 12 to 14 days later	Note: Diseases to control during the remainder of the season include scab, fruit spot, black rot, Botryosphaeria rot, bitter rot, blotch, black pox, sooty blotch and fly-speck. Note: Insects to control during the remainder of the season include aphid, codling moth, leaf roller, mite and Oriental fruit moth. Fungicide: Captan 50% 2 lb. OR folpet 50% 2 lb. Insecticide: Parathion 15% WP 1½ lb. OR malathion 25% 4 lb. OR Guthion 25% WP 1½ lb. OR carbaryl (Sevin) 50% 2 lb. OR lead arsenate 3 lb. OR Delnav ½ lb. active ingredient.
THIRD COVER 2 weeks later	Fungicide: Same as in SECOND COVER Insecticide: Same as in SECOND COVER. To prevent mite build-up in July and August use one of the following miticides: Kelthane emulsion concentrate 18.5% 1 qt. OR demeton (Systox) 25% 1 qt. OR Tedian 25% WP 1 lb. OR Delnav ½ lb. active ingredient.
FOURTH COVER 2 weeks later	Fungicide: Same as in SECOND COVER Insecticide: Same as in FIRST COVER
FIFTH COVER 2 weeks later	Fungicide: Same as in SECOND COVER OR substitute captan 50% 1 lb. + zineb 65% 1 lb. for captan 50% 2 lb. Insecticide: Same as in SECOND COVER
SIXTH COVER 2 weeks later	Fungicide: Same as in FIFTH COVER Insecticide: Same as in FOURTH COVER Don't use lead arsenate within 30 days of harvest. This applies to apples of all varieties.
SEVENTH COVER 2 weeks later	Fungicide: Same as in FIFTH COVER Insecticide: Parathion 15% 1½ lb. OR malathion 25% 4 lb. OR Guthion 25% 1½ lb. OR carbaryl (Sevin) 50% 2 lb. OR Delnav ½ lb. active ingredient.

Another spray after the Seventh Cover may be required. Keep Red Delicious or Golden Delicious trees sprayed until a month of harvest and Stayman or Rome Beauty until 6 weeks of harvest with same materials as used in Seventh Cover. Time limitation in days to harvest: Delnav—7, Guthion—15, malathion—3, parathion—14, carbaryl (Sevin)—1, demeton—21, Kelthane—7, Tedian—only 4 times per season.

Prepared by: C. N. Clayton, Professor of Plant Pathology
George F. Turnipseed, Research Assistant Professor of Entomology
John Falter, Extension Entomologist

Published by: N. C. Agricultural Extension Service

North Carolina State University at Raleigh and the U. S. Department of Agriculture, Cooperating. State College Station, Raleigh, N. C., George Hyatt, Jr., Director. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.

January 1966

Leaflet No. 111

