Insect Control for Commercial Holly

K. G. Swenson, Entomology Department, and R. W. Every, Extension Entomologist, Oregon State University, Corvallis

Control of insect pests is necessary for successful commercial production of holly. Feeding by the holly leaf miner and holly bud moth causes damage to leaves. Scale insects excrete "honeydew" on which a black, sooty fungus develops. Damage by any of these insects makes holly unmarketable.

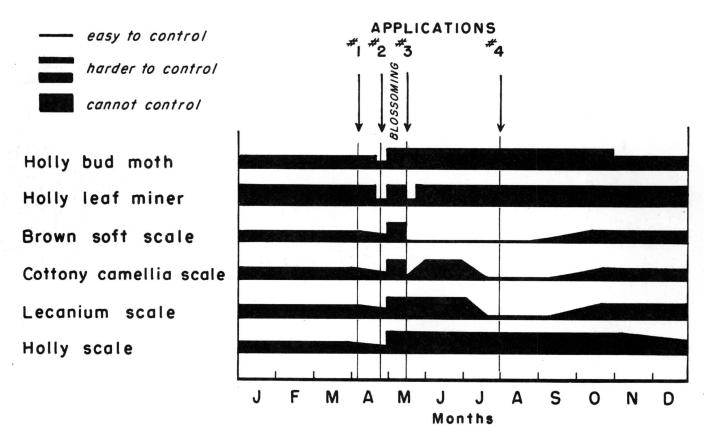
The spray schedule indicates when to apply control measures. Most orchards will not require all of the applications. Familiarity with pest problems in his orchard and area will enable the grower to select the most efficient and economical spray program for his needs.

Bees are important in the pollination of holly. Diaz-

inon and carbaryl (Sevin) are both very poisonous to bees and should not be applied during the blossoming period. Avoid drift of these insecticides onto bee colonies that may be adjacent to the orchard. If spray drift is likely to be a problem, advise the beekeeper so that he may move his bees. Mow or beat down orchard cover crops or weeds in bloom before applying sprays.

The insecticides suggested in this fact sheet are among those less dangerous to the spray applicator, but all insecticides should be handled carefully. Read and follow the manufacturer's precautions appearing on the label.

Spray Schedule for Holly Insects



The arrows on the chart indicate times to apply insecticidal sprays to holly (see page 2).



This is one of a series of *Fact Sheets* reporting Cooperative Extension work in agriculture and home economics, Gene M. Lear, director. Printed and distributed in furtherance of Acts of Congress of May 8 and June 30, 1914. Oregon State University, Oregon counties, and U. S. Department of Agriculture cooperating.

Application times refer to the Willamette Valley. The best times for treatment in other areas may vary.

Application time # 1. Last week of March or first week of April.

Apply a spray only if holly scale is a problem, but this application will give some control of other scale insects and holly bud moth.

Apply $2\frac{1}{2}$ to 3% oil spray prepared from a light-medium or summer-type oil.

Application time # 2. The last week in April.

A spray applied at this time will control holly bud moth and partially control holly leaf miner. Holly bud moth eggs are hatching and holly leaf miner adults are emerging from pupae to lay eggs in leaves. Annual application of this spray will prevent build-up of soft scales. Some areas do not have bud moth and leaf miner, so a spray applied at Application Time # 3 is more practical for soft scale control. Use diazinon or carbaryl (Sevin).

Application time # 3. Right after blossoming.

If holly leaf miner is a problem, a spray application at this time is needed in addition to Application Time # 2. It is also an effective time to control soft scale. Spraying can be delayed until Application Time # 4 if only a few scales are present and leaf miner is not a problem.

Use diazinon or carbaryl (Sevin).

Application time # 4. July 15 to August 21.

Lecanium scale is most effectively controlled at this time. Cottony camellia and soft brown scale can be controlled if a previous application has not been made. However, delay of soft scale control until this time may result in loss due to sooty mold.

Use diazinon or carbaryl (Sevin). Do not apply before July 15 because eggs of cottony camellia scale and lecanium scale will not have hatched.

SPRAY DILUTION CHART IN AMOUNTS PER 100 GALLONS OF WATER

Insecticide	Wettable powder	Emulsifiable liquid
Diazinon	3 lbs., 50%	3 pts. 50% E. C.
Carbaryl (Sevin)	2 lbs., 50%	