

FUNGICIDES for the control of fruit rot of strawberries caused by *Botrytis cinerea* are effective in substantially reducing losses in the field and in storage. However, timing and frequency of applications are essential considerations for economic use of these materials. Sprays should be applied at 10-day intervals beginning at early blossom stage and extending into harvest as long as rainy weather continues.

Field applications of the fungicides captan or thiram, for control of *Botrytis*, fruit rot of strawberries, resulted in yield increases of 333 to 388 crates per acre of marketable fruit, in recent Monterey County tests. The fungicides also reduced the amount of fruit rot in storage by 22 to 34 per cent as compared with fruit from check plots.

Strawberry Fruit Rot Losses

*in Both
Field and
Storage*

Reduced with Fungicide Application

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Tests of all fungicides registered for this purpose were conducted during the spring, 1961, on the Akiyoshi Brothers ranch in the Springfield district of Monterey County, just south of Watsonville. From the latter part of April through May and early June there were numerous light rain showers—ideal weather for *Botrytis* rot in strawberries.

The first test plot involved two materials. Each treatment was applied to an eight row strip through the field, and repeated three times. Application was by a boom with four nozzles per row—later changed to six. The sprayer was operated at 200 psi (pounds per square inch) and delivered 200 gpa (gallons per acre). Application dates were March 21, March 30, April 7, April 14, May 1, May 11, May 19, and June 2. Treatments included captan, 50% wettable powder (W.P.), at 2 lbs. per 100 gallons of water, and thiram, 65% W.P., at 2 lbs. per 100 gallons of water.

Yield records, kept up to June 15, of the actual amount of commercially harvested market fruit from each treatment showed production on the check plot was 943 crates per acre as compared with the captan plot which yielded 1,276 crates per acre and the thiram plot which yielded 1,331 crates per acre. Very little significance is attached to the differences between the results of captan and thiram, although in each replication thiram had the slight edge.

Field observations

Percentage of fruit exhibiting any visible decay in the field at the time of harvest averaged: Check—29.8%; captan—15.2%; thiram—13.7%.

To determine the effect of these fungicide applications on the amount of rot in storage, fruit from each of these treatments was harvested, held in refrigerated storage, and then left at room temperature (70° F.) for two days. The results indicate that both captan and thiram, if applied properly in the field, can significantly reduce decay in storage.

Results of the three tests are summarized below:

Test A—Harvested fruit was placed in 37° F. storage for five days, then held at 70° F., for two days.

	% of fruit rot after 5 days at 37° F.	% fruit rot after 5 days at 37° F. + 2 days at 70° F.
Captan	3.8	45.7
Thiram	2.66	40.0
Check	8.0	73.9

Test B—Harvested fruit was placed in 37° F. storage for 3 days, then held at 70° F. for two days.

	% fruit rot after 3 days at 37° F.	% fruit rot after 5 days at 37° F. + 2 days at 70° F.
Captan	3.1	22.2
Thiram	1.7	20.9
Check	4.9	42.8

Test C—Harvested fruit was placed in 38° F. storage for five days, then held at 70° F. for two days.

	% fruit rot after 5 days at 38° F.	% fruit rot after 5 days at 38° F. + 2 days at 70° F.
Captan	9.6	82
Thiram	7.0	63
Check	12.9	85

It should be noted that in Test C a high percentage of the decay was due to *Rhizopus* sp. and not to *Botrytis*. This test was run in the middle of June when temperatures were favorable to *Rhizopus*. It was evident from the test results that very little control of this organism can be obtained with either of the treatments.

A second experiment was established to evaluate three other compounds, Dyrene, dichlone (Phygon) and folpet (Phaltan) in comparison with captan and thiram. Neither Dyrene nor dichlone produced satisfactory results. Folpet produced results comparable with those of captan.

Captan is the only one of these fungicides recommended for use on strawberries at the present time by the University of California. Additional residue data must be obtained for thiram and folpet before a University recommendation can be made.

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REGISTRATION DATA FOR FUNGICIDES USED IN STRAWBERRY FRUIT ROT CONTROL TESTS

Material	Tolerance	Rate/acre actual	Limitations
captan	100 ppm	3.8 lbs	No time limitation
thiram	7 ppm	3.3 lbs	Wash fruit to reduce residue if application made within 3 days of harvest.
Dyrene	10 ppm	3.0 lbs	5 days
dichlone	15 ppm	0.4 lb	3 days
folpet	50 ppm	2.0 lbs	No time limitation