

**I**N MID JULY, a heavily bearing six-year-old Bartlett pear orchard infested with two-spotted mites was offered to the Extension Service for the remainder of the season for the purpose of testing acaricides. Since the fruit from this orchard was not to enter commercial channels, it afforded an opportunity to test unregistered acaricides.

Table 1 shows the chemicals, formulations and amounts used per one hundred gallons of water. All materials were applied with a 290-gallon air blast Bes-Spray (28,000 cu. ft.) set to deliver 400 gallons per acre traveling at 1.76 mph.

This orchard was planted at 20 x 20 or 108 trees per acre. All plots were completely randomized and each plot consisted of three replications of sixteen trees each. A pretreatment mite count was made on July 30. Twenty leaves were taken from each replication and run through a mite brushing machine. Table 1 shows both the total number of mites per plate and the average number per leaf.

The first and only application of materials was made July 30 immediately after the pretreatment leaf samples were taken. Five post-application leaf samples were taken at weekly intervals using the same sampling and brushing techniques. Table 1 shows dates of each leaf sampling as well as total and average number of mites per leaf for each date.

When the average number of mites per leaf is compared for the third, fourth, and fifth week of control in each plot, Plictran, Carzol, and LovozaI rank one, two, and three respectively in effectiveness of control. In the absence of a statistical analysis, it would appear that there is no significant difference between Plictran and Carzol, while LovozaI ranks a very close third.

# Six acaricides tested for control of Two-Spotted Mites on Bartlett Pears

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TABLE 1. TWO-SPOTTED MITE COUNTS ON BARTLETT PEARS UNDER SIX ACARICIDE TREATMENTS.

Treatments, dosage per 100 gals. water	Three replications	Total and average mites per leaf					
		pre-treatment 7/30/69*	first week 8/6/69	second week 8/13/69	third week 8/20/69	fourth week 8/27/69	fifth week 9/3/69
Plictran 50W 6 oz.	Total	596	00	00	0	0	0
	Average	9.9	0	0	0	0	0
Carzol SP 95% 8 oz.	Total	1,422	0	2	0	2	0
	Average	23.7	0	0	0	0	0
LovozaI 20W 1½ lb.	Total	552	2	14	2	12	14
	Average	9.2	.03	.2	0	.20	.2
Niagara Supreme oil 1 gal.	Total	412	86	204	130	122	20
	Average	6.9	1.4	3.4	2.2	2.0	.3
Zolone 3 EC 1 qt.	Total	176	6	22	4	12	24
	Average	2.9	.1	.4	.1	.2	.4
Fundal SP 98% 8 oz.	Total	448	14	14	58	18	64
	Average	7.5	.2	.2	1.0	.3	1.1
Check	Total	3	68	94	208	242	0
	Average	.0	1.1	1.6	3.5	4.0	0

\* Date of only treatment.

The decline in population of mites at the end of the fifth week in the untreated check was apparently due to the extremely dry and burned condition of the leaves in these untreated replicates. Defoliation was apparent.

There was a slow but continuous increase in the number of Phytosiid mites in the oil-sprayed plots, which partially explains the drop in the two-spotted mite population at the end of the fifth week. No predaceous mites were found on

leaves from the other plots.

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TABLE 2. NOMENCLATURE AND TOXICITY DATA FOR SIX ACARICIDES USED ON BARTLETT PEARS.

Trade name of acaricide	Common name	Chemical class	Manufacturer	Acute dermal LD 50 rabbits	Reg. status &/or tolerance* as of Jan 1, 1970	Limitation
Plictran 50W	None	tricyclohexylhydroxytin	Dow	>2,000 mg/kg	N.R.	—
Fundal SP 98%	chlorphenamidine hydrochloride	formamidine	Nor-Am	>4,000 mg/kg	N.F.	Apply as a dormant spray up to silver tip (bud swell). Do not apply to bearing trees after dormance is broken. 0.5 lbs/100 gal
Zolone 3EC	phosalone	phosphate	Rhodia Inc.	>2,000 mg/kg	10 ppm.	14 days 17.5 lbs/season
LovozaI 20W	formetanate hydrochloride	benzimidazole carbamate	Fisons Corp.	>2,000 mg/kg	Exp. Label	—
Carzol SP 95%	formetanate hydrochloride	carbamate	Nor-Am	>10,200 mg/kg	N.F.	No geographical limitation 8 oz/100
Niagara Supreme Spray oil	—	petroleum spray oil	Niagara	GRAS	Exempt	—

\* N.R.: Not Registered.  
Exempt: Exempt from the requirement of a tolerance.  
N.F.: Non food use.  
Exp. Label: For experimental use only.