

Pome Fruits—Chemical Control

Pear, Insecticide Evaluations, 1992

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Mature 'Bartlett' pear trees were sprayed with handguns operating at 600 psi to evaluate pesticides for control of pear pests. Plots consisted of 5 single-tree replicates in randomized block design. All treatments except AgriDyne and NTN 33893 at 6.7 oz were applied 23 Apr, 19 May and 20 Jul. AgriDyne was applied 23, 30 Apr, 7 May and 1, 8, 15 Jun. NTN 33893 at 6.7 oz was applied 23 Apr and 19 May. Treatments were evaluated for PP control by counts made at 2-wk intervals. Adult PP were counted from a 5-beating-tray sample per replication. PP nymphs were counted from a 25-leaf sample per replicate. Samples prior to 26 May consisted of fruiting spur leaves, those during the remainder of the season consisted of the proximal leaf, distal leaf and 3 leaves from the middle of 5 terminal shoots. Leaves were brushed and resulting slides were examined under 10X magnification. Fruit damage by insects and mites was rated according to US grade standards for fresh market 'Bartlett' pears on 2 samples of 25 mature fruits per replication. Factors of fruit quality including firmness, soluble solids and size were evaluated from two 10-fruit samples per replicate at normal harvest maturity. Fruit and foliage were examined for phytotoxicity after each spray.

PP populations in the test orchard were more dense than those normally encountered in commercial orchards. All test materials except AgriDyne controlled PP about as well as the standard, Agri-Mek plus oil. AgriDyne applied six times during the season, three times at 7-d intervals against each of the first two generations failed to provide satisfactory control. GMB density was high in the test orchard. NTN 33893 and AC 303,630 were the only materials that provided good control of fruit infestations of this pest. Population densities of other pest species were low to moderate. NTN 33893 was the only material that did not control PRM. Fruits from the control plot were significantly firmer and smaller than those from other plots. This is probably due to damage from PP and PRM. Sylgard (surfactant) caused slight russet rings on a few fruits where drops of spray dried.

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Treatment	Rate form/ 100 gal	PP adults per 5 trays						
		21 Apr	4 May	18 May	1 Jun	15 Jun	30 Jun	15 Jul
NTN 33893 240FS	6.7 oz	1.64ab	0.92a	2.64a	3.44ab	4.80c	14.16de	16.84abc
NTN 33893 240FS	7.2 oz	1.40ab	0.52a	2.32a	3.20ab	4.44bc	11.32bcde	17.24bc
AgriDyne 3% F	5 oz	1.08a	1.52ab	3.60a	2.80ab	2.52abc	7.36abc	10.92abc
Agri-Mek .15E + Superior type oil	5 oz 1 qt	1.64ab	0.28a	1.16a	0.64a	1.28a	4.08a	4.64a
Agri-Mek .15E + Sylgard	5 oz 8 oz	1.72ab	0.20a	1.20a	1.57ab	1.92ab	6.12abc	8.64abc
AC 303,630 3S	14 oz	1.36ab	2.52b	3.44a	1.92ab	2.84abc	8.72cde	9.32abc
AC 303,630 3S	7 oz	1.32ab	2.52b	5.20a	2.64ab	2.44abc	12.32cde	14.76abc
AC 303,630 3S	3.5 oz	2.04b	4.00c	5.40a	2.00ab	1.76a	4.88ab	8.20ac
BASF 300 75% W	242 g	2.12b	0.76a	2.44a	1.24ab	1.56a	4.56a	8.80abc
Control		2.08b	8.72d	33.44b	31.56c	26.40d	53.16f	95.64d

Means within columns followed by the same letter are not significantly different (P=0.05; Fisher's Protected LSD).

Treatment	Rate form/ 100 gal	PP nymphs per 25 leaves							
		27 Apr	6 May	11 May	26 May	8 Jun	22 Jun	7 Jul	24 Jul
NTN 33893 240FS	6.7 oz	8.8a	2.8a	1.2a	0.4a	6.8a	10.4a	36.0ab	
NTN 33893 240FS	7.2 oz	8.0a	0.8a	0.0a	2.0a	10.0a	13.6a	48.8bc	5.6a
AgriDyne 3% F	5 oz	57.6c	16.8b	6.8a	20.4b	19.2a	17.6a	18.8ab	9.2a
Agri-Mek .15E + Superior type oil	5 oz 1 qt	2.4a	0.8a	0.8a	0.0a	3.2a	10.4a	11.6a	5.6a
Agri-Mek .15E + Sylgard	5 oz 8 oz	2.0ab	6.4ab	3.2a	2.8a	6.4a	24.4a	30.0ab	6.8a
AC 303,630 3S	14 oz	10.8ab	0.8a	4.4a	0.4a	0.0a	4.0a	17.6a	3.2a
AC 303,630 3S	7 oz	38.0bc	5.6ab	0.8a	1.2a	2.4a	21.6a	14.8a	3.2a
AC 303,630 3S	3.5 oz	18.8ab	1.6a	0.4a	0.8a	1.2a	20.0a	10.4a	6.4a
BASF 300 75% W	242 g	6.0a	2.4a	1.6a	0.4a	1.6a	2.0a	12.2a	2.0a
Control		114.4d	97.6c	41.6c	18.0b	95.2b	201.2b	96.4d	119.6b

Treatment	Rate form/ 100 gal	Percent fruit damage from listed pests					Quality factors	
		PP US 2	PP cull	CM	PRM	GMB in calyx	Fruit firmness	Mean g/fruit
NTN 33893 240FS	6.7 oz	9.6c	0.8a	2.0ab	19.2b	0.0a	18.26d	192.5b
NTN 33893 240FS	7.2 oz	5.2b	0.4a	2.0ab	17.6b	0.0a	18.01c	209.1cd
AgriDyne 3% F	5 oz	4.0ab	0.4a	1.3ab	0.8a	72.8cd	17.92c	212.2de
Agri-Mek .15E + Superior type oil	5 oz 1 qt	0.8a	0.0a	0.4a	0.0a	69.6cd	17.55a	214.6de
Agri-Mek .15E + Sylgard	5 oz 8 oz	2.4ab	0.0a	0.8ab	0.0a	37.6b	17.70ab	210.0cd
AC 303,630 3S	14 oz	0.4a	0.0a	0.0a	1.6a	0.4a	18.06c	214.0de
AC 303,630 3S	7 oz	0.4a	0.0a	0.0a	0.0a	0.4a	18.04c	208.0cd
AC 303,630 3S	3.5 oz	0.4a	0.0a	0.8ab	0.0a	3.6a	17.98c	218.7e
BASF 300 75% W	242 g	3.6ab	0.4a	1.2ab	0.0a	78.0d	17.58ab	212.8de
Control		33.6d	2.0a	4.5c	20.8b	61.6c	18.75e	165.0a

Means within columns followed by the same letter are not significantly different (P=0.05; Fisher's Protected LSD).