I. Thresholds/Monitoring/Sampling

RED SPHERES AND YELLOW PANELS FOR TRAPPING CHERRY FRUIT FLIES

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Here we report results using five different sizes of red spheres and two orientations of Pherocon Standard yellow rectangular traps (vertical and V-shaped) for capturing western cherry fruit fly.

METHODS

Five different sizes of red spheres (4 cm (1.57 in), 6 cm (2.36 in), 8 cm (3.14 in), 10 cm (3.94 in) and 12 cm (4.72 in)) in diameter and two different orientations of the standard yellow panel traps (vertical and V-shaped) were evaluated to determine which was the most efficient in capturing cherry fruit fly adults. Tests were conducted on sweet cherries at The Dalles, Prosser and Wenatchee and on sour cherries in the Willamette valley. At each area there were 6 replications of each trap. In general, traps were placed on the trees during early June and removed late in July. Traps were placed at eye level and about 3 feet apart if in the same tree, and approximately 20 inches inward from the outermost foliage of the tree. The number of cherry fruit flies and the number of insects the same size or larger than cherry fruit flies on each trap were recorded weekly. The red spheres were cleaned and Tanglefoot reapplied and the yellow rectangular traps were replaced each week.

RESULTS

A total of 12,739 cherry fruit flies were caught (Table 1). At all four locations the 3.94 inch-diameter (10 cm) trap caught the highest percent of flies compared to the other traps (Table 2). In the Willamette valley the first cherry fruit fly was caught on 28 May and there was a slight trend for the yellow rectangular traps to catch more flies than the other traps during the early part of the season (Table 3). In the Prosser area the first cherry fruit fly was caught on 11 June and there was a trend for the red balls to catch more cherry fruit flies than the yellow rectangular traps during the early part of the season (Table 4). In the Wenatchee area the first cherry fruit flies were caught on 7 June and there was a tend for the 10 cm red ball to catch more flies than the other traps during the early part of the season (Table 5). In The Dalles area the first cherry fruit flies were caught on 31 May and there was a trend for the 10 and 12 cm red balls to catch more flies than the other traps during the early part of the season (Table 6).

CONCLUSIONS

The 3.94 inch-diameter (10 cm) appeared to be the best trap overall. This trap caught the most flies (22% of the total) followed by the 3.14 inch trap (8 cm) with 17% of the total. The 3.94 inch trap caught more flies than either orientation of the standard yellow panel trap and we tentatively conclude the 3.94 inch is the "best" trap.

Future research will use the 3.94 inch-diameter trap combined with odor attractants to improve trap efficacy.

Cherry Fruit Fly Sampling Data-1996

Table 1. Cherry Fruit Fly Totals

Trap	Prosser	Willamette	Wenatchee	The Dalles	Total
4 cm	98	552	679	40	1,369
6 cm	297	514	733	61	1,605
8 cm	362	724	966	77	2,129
10 cm	765	815	1069	94	2,743
12 cm	583	685	685	78	2,031
Vertical	424	320	695	31	1,470
V-Form	344	455	554	39	1,392
Total	2,873	4,065	5,381	420	12,739

Table 2. Percent of Total Cherry Fruit Flies

Trap	Prosser	Willamette	Wenatchee	The Dalles	Total
4 cm	3	14	13	10	11
6 cm	10	13	14	15	13
8 cm	13	18	18	18	17
10 cm	27	20	20	22	22
12 cm	20	16	13	19	16
Vertical	15	8	13	7	12
V-Form	12	11	13	9	11