II. Pome Fruits

d. Chemical control

Codling Moth, Pear

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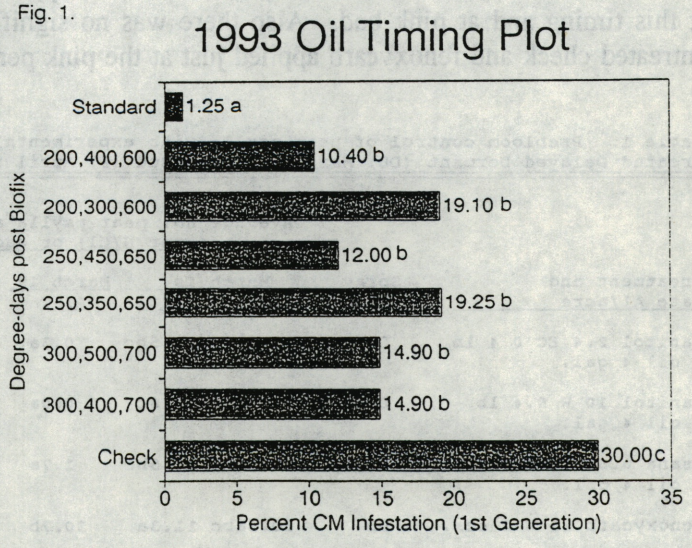
**Timing of Horticultural Spray Oil for Codling Moth Control--**

This test was conducted to find the optimal timing for applications of horticultural spray oil, for control of 1st generation codling moth (CM), if three applications are made. Mature Bartlett trees were used, six single-tree replicates were sprayed with a 1% oil concentration to run-off with a hand-gun application. All sprays were timed using the CM phenology model. In three of the treatments, the applications were spaced 200°D apart, but the sprays were initiated at different times after CM biofix. In terms of °D after biofix, the timing of sprays in these treatments were: 1) 200, 400, 600; 2) 250, 450, 650; 3) 300, 500, 700. In the other three treatments, the first two sprays were only 100°D apart. In these three "back to back" treatments the spray timings were: 1) 200, 300, 600; 2) 250, 350, 650; 3) 300, 500, 700. In the same block of Bartletts, groups of 6 and 4 trees were sprayed with Guthion twice during 1st generation, or left unsprayed as a control. These two treatments were replicated 4 times. After the completion of 1st generation egg hatch, fruit was sampled and evaluated for CM damage. In the oil timing treatments, 75 fruit per replicate were sampled, while 100 fruit per replicate were examined in the Guthion and control plots.

All of the oil timings had significantly fewer 1st generation CM entries than did the control, but the level of control was significantly less than the standard two sprays of Guthion (figure 1). Although no statiscally significant differences were seen between any of the oil treatments, some trends were apparent. In the oil programs initiated at 200 or 250 °D post biofix, the back to back treatments gave considerably less control of 1st generation CM than did the evenly spaced timings. For the treatments initiated at 300°D, the back to back and evenly spaced timings yielded identical results. When looking at the evenly spaced timings, the earlier the sprays were initiated, the lower the 1st generation CM damage.

Fig. 1.




Bars followed by the same letter are not significantly different (p=0.05; Fisher's protected LSD).