M3 BAIT STATION

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Ready-to-use Bait Station for the Control of Fruit Flies in citrus, Deciduous and Subropical Fruit in Orchards and Gardens

The development of the M3 fruit fly bait station has provided fresh fruit industries with an integrated pest management tool that is safe to both the environment and the consumer. There is no danger of pesticide residues occurring on the fruit, as the station removes the need for the farmer to spray his orchards for fruit flies. Spraying can have serious side effects for the environment, consumers and farm workers. In addition, the M3 bait station has been proven to be an effective tool in the control of fruit fly populations in citrus, deciduous and subtropical fruits in South Africa, Spain and other countries over a number of years. It is easy to use and does not require skilled labour. If used on an area-wide basis it has the potential to create fruit fly-free areas. The results of one of several trials, conducted to test the efficacy of the M3 against the Mediterranean fruit fly, *Ceratitis capitata*, are reported here.

Materials & Methods

Eight hundred M3 bait stations were employed in a 2 ha Clementine Mandarin orchard in the Eastern Cape Province of South Africa. Nine Capilure (female pheromone analogue for attracting male flies) and nine Questlure (food attractant for attracting female flies) baited Sensus traps were placed as detailed in Figure 1. Traps were monitored weekly and all fruit flies caught were removed, identified to species and sexed. The bait stations were hung in December 2001 and the trial was terminated 17 weeks later once the fruit was harvested. An orchard inspection to determine fruit fly infestation of the fruit was undertaken immediately prior to the first fruit being picked.

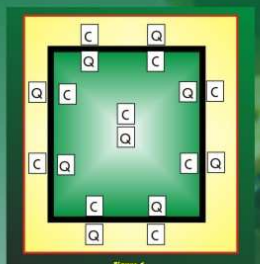

Figure 1.
Arrangement of Questlure (Q) and Capilure (C) Sensus traps in a two hectare Clementine orchard (indicated in green). Traps were placed 6 meters outside the orchard and in the second tree from the edge of the orchard and in the centre.

Results & Discussion

Figures 2 and 3 indicate the fruit fly catches. The number of fruit fly trapped outside the orchard is indicative of the fruit fly pressure. The traps inside the orchard near the border trapped 93% fewer males and females while the numbers caught in the centre were negligible.

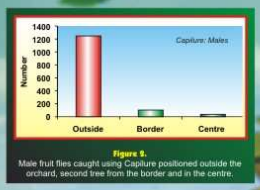

Figure 2.
Male fruit flies caught using Capilure positioned outside the orchard, second tree from the border and in the centre.

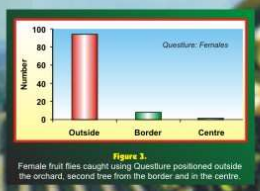

Figure 3.
Female fruit flies caught using Questlure positioned outside the orchard, second tree from the border and in the centre.

Male fruit flies are not attracted to the M3 bait mixture as readily as females and it would be expected that females would be selectively removed while the male population would remain constant (i.e. there would not be a decline in male populations in the orchard). The decrease in male numbers is attributed to there being no reason for males to colonise an area if there are no females present (no sexual attraction).

Less than 0.1% of the fruit was infested with fruit fly immediately prior to harvest indicating the effectiveness of the treatment.

Product Attributes

- IPM compatible
- No pesticide residues
- Single treatment - season-long protection of crop
- Minimal effect on non-target insects (natural enemies)
- Effective against a range of economically important fruit fly species
- Not affected by rain
- Easy to use (no skilled labour or equipment required)
- Cost effective
- Alternative to organophosphates
- EUREPGAP compliant
- Creation of fruit fly free areas?

Active Ingredients

- Protein hydrolysate
- Plant extracts
- Alpha cypermethrin

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