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FRUIT BOOST with QMP™ For Pollination

FRUIT BOOST TREATED KIWIFRUIT BLOCKS PRODUCE HIGHER EXPORT YIELDS THAN UNTREATED BLOCKS

FRUIT BOOST, with the unique active ingredient QMP (Queen Mandibular Pheromone) attracts and holds honey bees to flowering crops to improve pollination and fruit set.

QUEEN MANDIBULAR PHEROMONES

QMP is a complex of five chemicals that together have a powerful influence on worker bee activity. Individually these chemicals have no influence. QMP is a primer pheromone. It is highly attractive to worker bees and exerts a fundamental level of control over bee behaviour both inside and outside the hive. The queen bee only produces this pheromone after she has finished mating and begins to lay eggs. Worker bees pick up the pheromone as they attend to the queen and then transfer it to other workers in the hive.

COMMERCIAL APPLICATIONS

QMP is used commercially as a substitute for the queen bee when transporting bees, or in queenless hives. During transporation, they stay calm and react as if the queen was actually present. In queenless hives with QMP, worker bees forage and pollinate with the same efficiency as hives containing queens. In the absence of QMP or a queen, there were less bees foraging and the hive eventually died out.

QMP, as ***FRUIT BOOST***, has been extensively tested as an aid to improve pollination in many crops (e.g. pears, apples, cherries, cranberries, blueberries) in the USA since 1989. Generally, two applications were made prior to peak bloom. On average, bee numbers in sprayed plots increased by 37% compared to untreated areas (data from 12 trials)[1]. The increase in bee numbers is exhibited mainly on the day of application. In some instances, higher numbers persisted until 2 days after application. In treated areas, increased bee numbers are explained in two ways. Firstly, bees spend more time foraging and are likely to visit more flowers. Secondly, honey bees returning from ***FRUIT BOOST*** treated areas dance more vigorously and longer than bees from non-treated areas. Dancing is used to recruit new bees to rich floral patches. As a result, the bees visiting ***FRUIT BOOST*** treated crops work more flowers, transfer more pollen and give more complete pollination.

Statistically significant yield increases occurred in half of these trials. The yield increase was generally associated with increased fruit set or fruit size.

[1] **Applications of queen honey bee mandibular pheromone for beekeeping and crop pollination" Mark L. Winston and Keith N. Slessor, Simon Fraser University, Burnaby, British Columbia,Canada. In Bee World 74: 111-128, 1993.**

NEW ZEALAND KIWIFRUIT TRIALS

FRUIT BOOST has been evaluated in large block trials in NZ kiwifruit in Northland and the Bay of Plenty.

FRUIT BOOST was applied at a rate of 250 ml/ha in 500 L-1000 L water/ha. Application timing was aimed at 30-40% bloom for the first application and 80% bloom for the second.

In New Zealand trials, *FRUIT BOOST* treated blocks produced higher export yields than untreated blocks.

EFFECT OF FRUIT BOOST TREATMENT ON KIWIFRUIT EXPORT YIELD AND FRUIT SIZE

	NORTHLAND Location 1 1994/95	NORTHLAND Location 2 1995/96	BAY OF PLENTY Location 1 1994/95	BAY OF PLENTY Location 2 1995/96
YIELD (EXPORT TRAYS/HA)				
UNTREATED	8,773	3,368	5,046	6,932
FRUIT BOOST	9,707	5,383	7,101	7,555
YIELD INCREASE	+934	+2,015	+2,055	+623
AVERAGE FRUIT SIZE				
UNTREATED	32.9	34.6	34.4	34.0
FRUIT BOOST	33.1	34.8	34.6	34.1