

the breakthrough in effective & ecological FRUIT FLY MANAGEMENT



BioControl



Cera Trap[®]

a CERTAIN solution



MASS TRAPPING
Population Control
ZERO RESIDUE
Pesticide Free

- **MEDITERRANEAN FRUIT FLY (*Ceratitis capitata*)**
- **ORIENTAL FRUIT FLY (*Bactrocera dorsalis*)**
- **MARULA FRUIT FLY (*Ceratitis cosyra*)**
- **NATAL FRUIT FLY (*Ceratitis rosa*)**



IntelBio solutions

CeraTrap® is a **Biological Solution** which can successfully be used in an Integrated Pest Management programme against the following fruit fly species:

TARGET SPECIES

- **Mediterranean fruit fly** (*Ceratitis capitata*)
- **Oriental fruit fly** (*Bactrocera dorsalis*)
- **Marula fruit fly** (*Ceratitis cosyra*)
- **Natal fruit fly** (*Ceratitis rosa*)



Mediterranean fruit fly



Oriental fruit fly



Marula fruit fly













Natal fruit fly



Cera
Trap®

BENEFITS

-  Highly selective
-  Non-toxic, biological solution
-  Provides comprehensive fruit fly control
-  Compatible in an integrated pest management programme
-  Population suppression in consecutive seasons
-  Neither harmful nor disruptive to beneficial insects
-  Attracts fruit flies of all species including *Bactrocera dorsalis*
-  Reduced labour intensity
-  No mechanical damage close to harvest
-  100% compliance with regulations on export crops



MONITORING RECOMMENDATIONS

- Fruit fly population levels and damage should be assessed throughout the susceptible period of the crop to determine pest pressure.
- Recommended monitoring systems include FF lure baited Delta traps (Chempac), Biolure baited Bucket traps (Chempac), or Capilure- and Questlure baited Sensus traps (River Bioscience).
- Monitoring traps should be examined at weekly intervals.
- Monitoring of Oriental fruit fly (*Bactrocera dorsalis*) with ME lure baited Bucket traps (Chempac) is a requirement for phytosanitary registration of fruit for export to specific markets. If detected in the area the appropriate authorities should be informed and all susceptible varieties in a 25 km² area should be treated until eradication is achieved as per the guidelines supplied by the Department of Agriculture, Forestry and Fisheries (DAFF).





BioControl

CeraTrap[®] is registered
on the following crops:

- Table Grapes
- Stone Fruit
- Pome Fruit
- Citrus

MODE OF ACTION

MASS TRAPPING

- Hydrolysed protein attractant (no chemicals)
- Killed by drowning (no escape)
- *CeraTrap*[®] bait attracts fruit flies of all species, predominantly adult females.





APPLICATION RECOMMENDATIONS:

CeraTrap® TRAPS:

CROP	PEST	RATE PER HECTARE	REMARKS
Citrus, Stone- & Pome fruit and Table grapes.	Mediterranean fruit fly, Natal fruit fly, Marula fruit fly and Oriental fruit fly.	100 Traps per hectare.	Refer to to positioning diagram of CeraTrap®.

CeraTrap® BAIT:

CROP	PEST	RATE PER HECTARE	REMARKS
Citrus, Stone- & Pome fruit and Table grapes.	Mediterranean fruit fly, Natal fruit fly, Marula fruit fly and Oriental fruit fly.	600 mℓ per trap.	Refill every 8 – 10 weeks.

NOTES

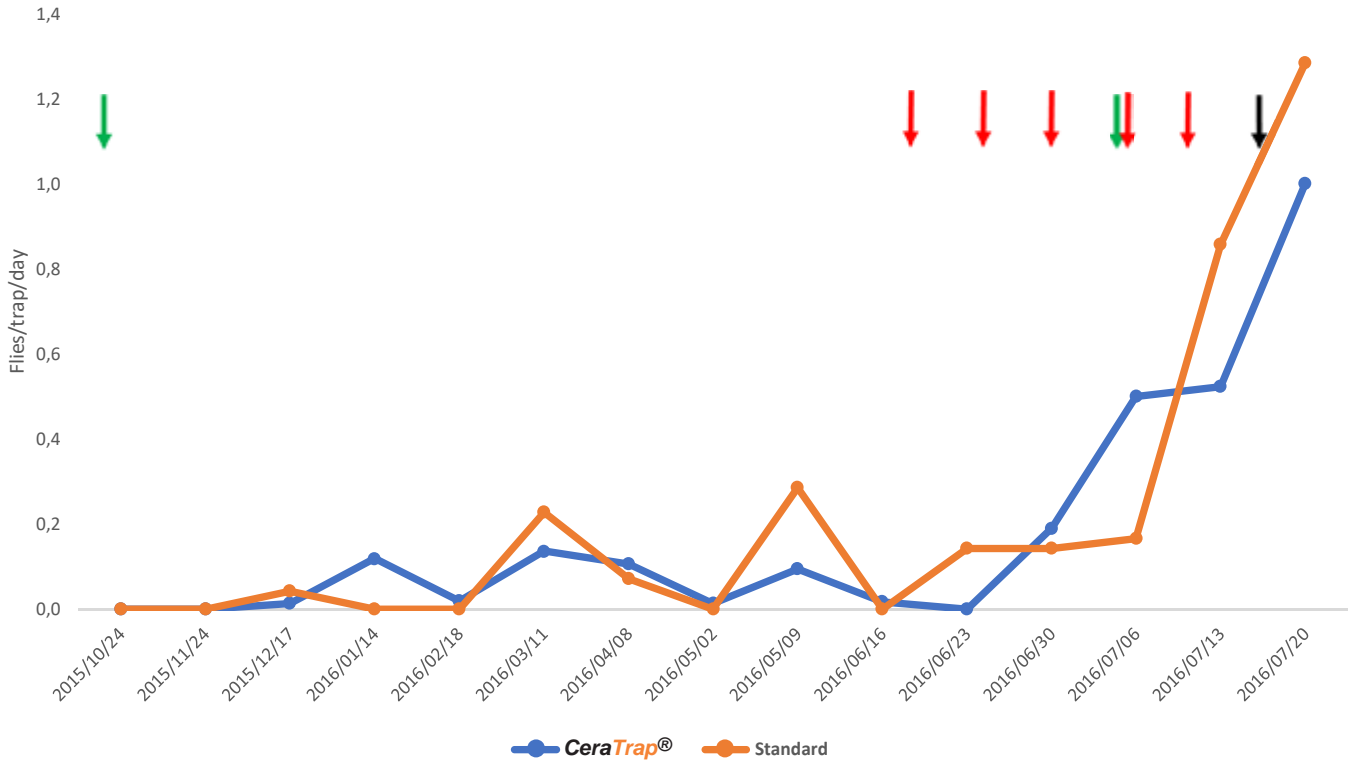
- CeraTrap® is a biological solution which could successfully be used in an integrated pest management programme against listed target pests.
- CeraTrap® bait attracts fruit flies of all species, predominantly females.
- CeraTrap® bait is most effective when used in combination with the original CeraTrap® trap.
- Hang the first CeraTrap® traps as soon as the fruit become susceptible to fruit fly attacks or as early as 12 weeks before harvesting, depending on the crop and cultivar.
- It is vitally important that infested fruit are regularly removed from orchards before and during the harvest period. Additionally, all fruit left after harvest should be removed from trees to reduce pest pressure.
- CeraTrap® traps should be hanged on the northern side of the tree, at a height of approximately 1.5 m and within the canopy of the tree.
- CeraTrap® could be used in combination with Male Annihilation Technique (MAT) for improved *Bactrocera dorsalis* control.
- Density of CeraTrap® traps should be increased on perimeter of orchards bordering an alternative host or source of fruit fly invasion.
- In the case of significant damage, application of complementary aerial- or ground sprays with a suitable insecticide is recommended.
- To reduce overwintering fruit fly populations, traps should be refilled with CeraTrap® bait after harvest.
- CeraTrap® traps should be refilled with CeraTrap® bait up to a maximum of 600 mℓ before total evaporation occurs.
- CeraTrap® traps can be left in the orchard to be refilled the following season or removed and stored until such time.
- Refilling intervals of CeraTrap® traps with CeraTrap® bait is dependent on temperature, relative humidity and direct sunlight.

DATA



Crop: Citrus
Cultivar: Rustenburg Navel
Area: Nelspruit
Period: 2015-10-24 to 2016-07-20
Species: *Bactrocera dorsalis*
Gender: Female

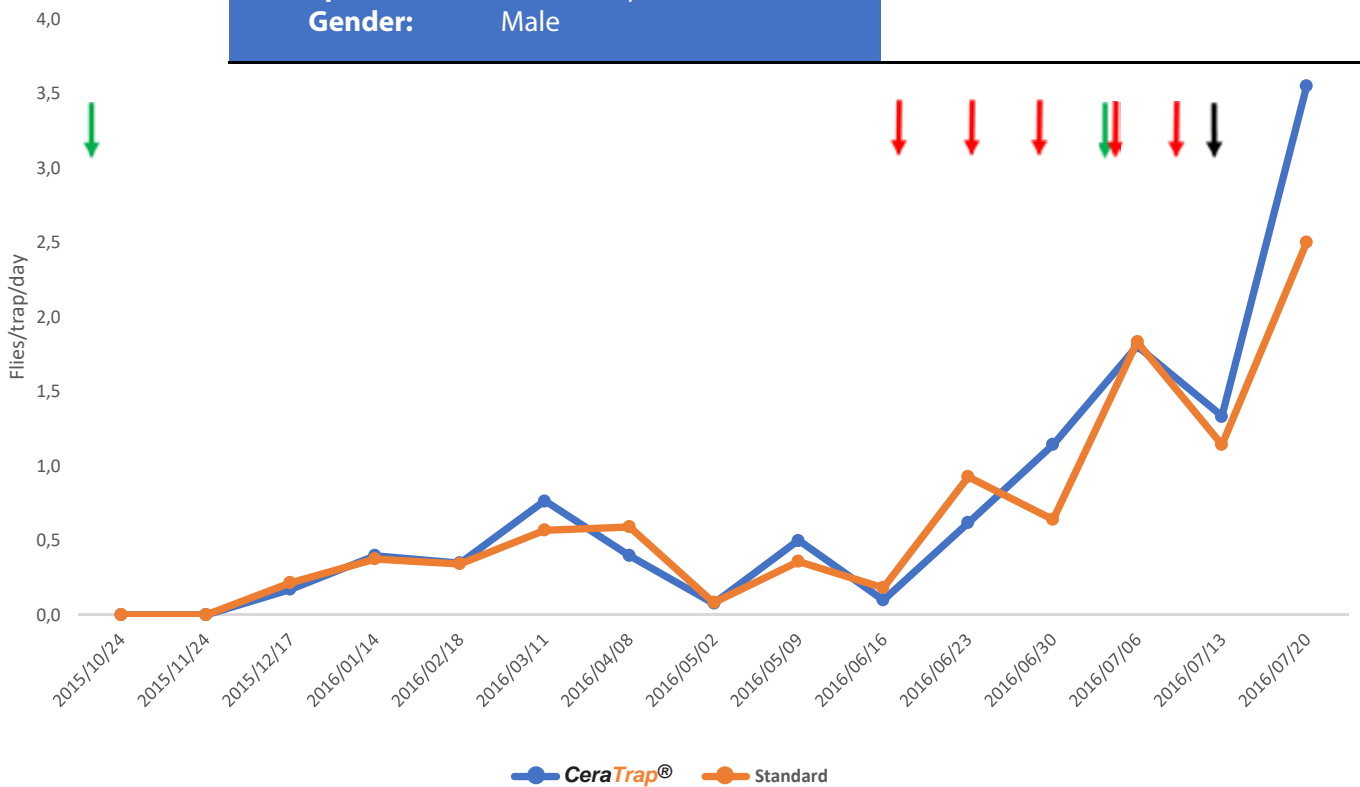
Green CeraTrap® application
Red Standard treatment
Black Harvest date



Citrus Male medfly

Crop: Citrus
Cultivar: Rustenburg Navel
Area: Nelspruit
Period: 2015-10-24 to 2016-07-20
Species: *Ceratitis capitata*
Gender: Male

Green CeraTrap® application
Red Standard treatment
Black Harvest date





Crop: Citrus
Cultivar: Rustenburg Navel
Area: Nelspruit
Period: 2015-10-24 to 2016-07-20
Species: *Ceratitis capitata*
Focus: Pre-harvest infested fruit

Fruit Fly-infested fruit



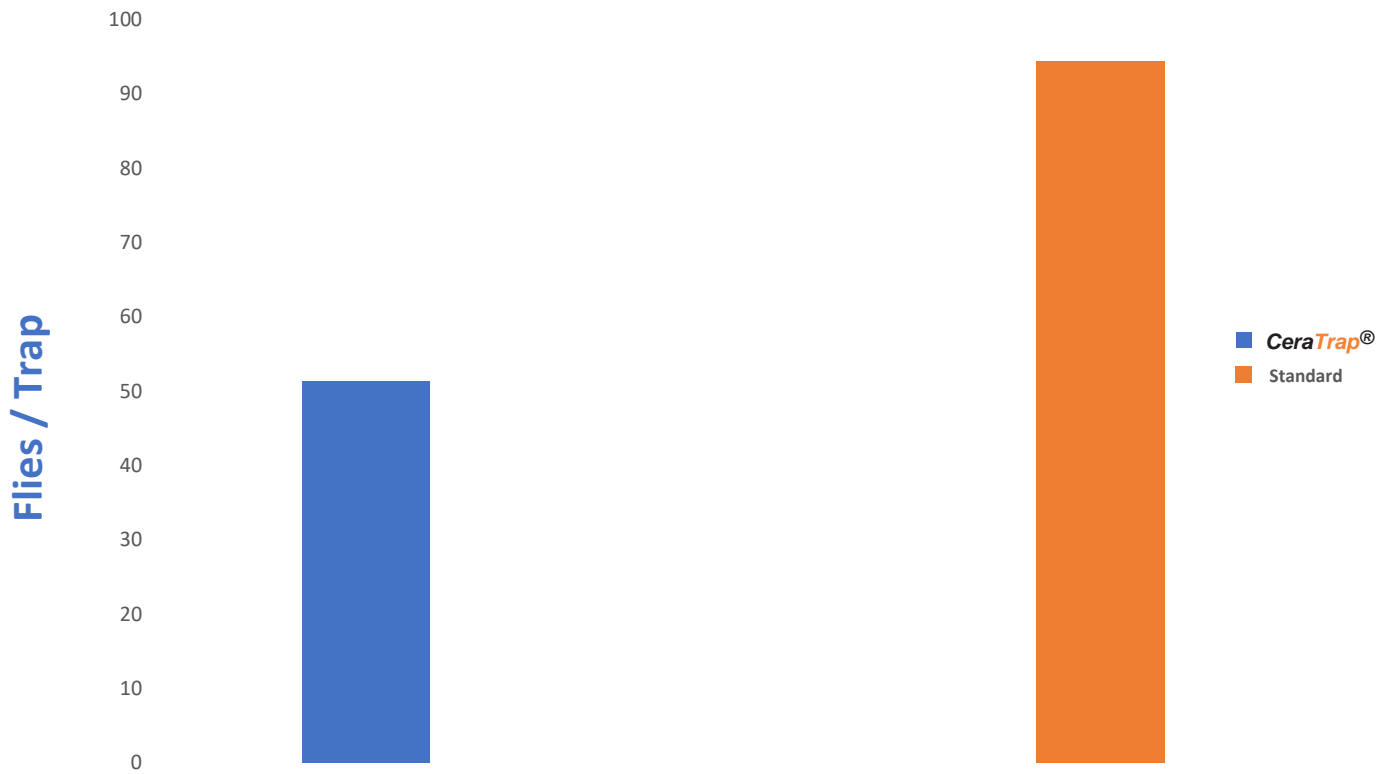
Crop: Citrus
Cultivar: Rustenburg Navel
Area: Nelspruit
Period: 2015-10-24 to 2016-07-20
Species: *Ceratitis capitata*
Focus: Post-harvest infested fruit

Fruit Fly-infested fruit





Crop: Nectarines
Cultivar: Alaska Red
Area: Franschoek
Period: 2015-02-11 to 2016-01-11
Species: *Ceratitis capitata*
Gender: Male





Crop: Nectarines
Cultivar: Alaska Red
Area: Franschoek
Period: 2015-02-11 to 2016-01-11
Species: *Ceratitis capitata*
Focus: Pre-harvest infested fruit

Fruit Fly-infested fruit



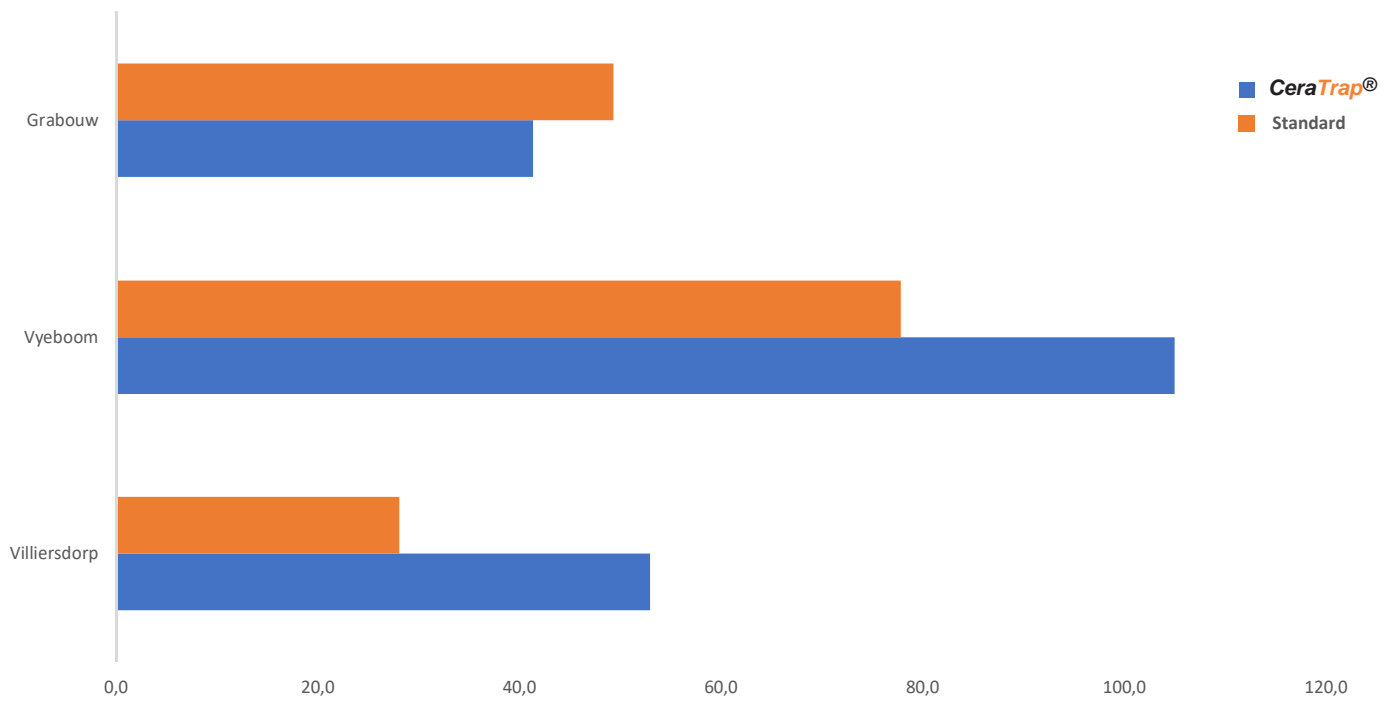
Crop: Nectarines
Cultivar: Alaska Red
Area: Franschoek
Period: 2015-02-11 to 2016-01-11
Species: *Ceratitis capitata*
Focus: Post-harvest infested fruit

Fruit Fly-infested fruit





Crop: Apples
Period: 2016-01-04 to 2016-10-17
Species: *Ceratitis Capitata*
Gender: Male
Focus: Fruit fly catches



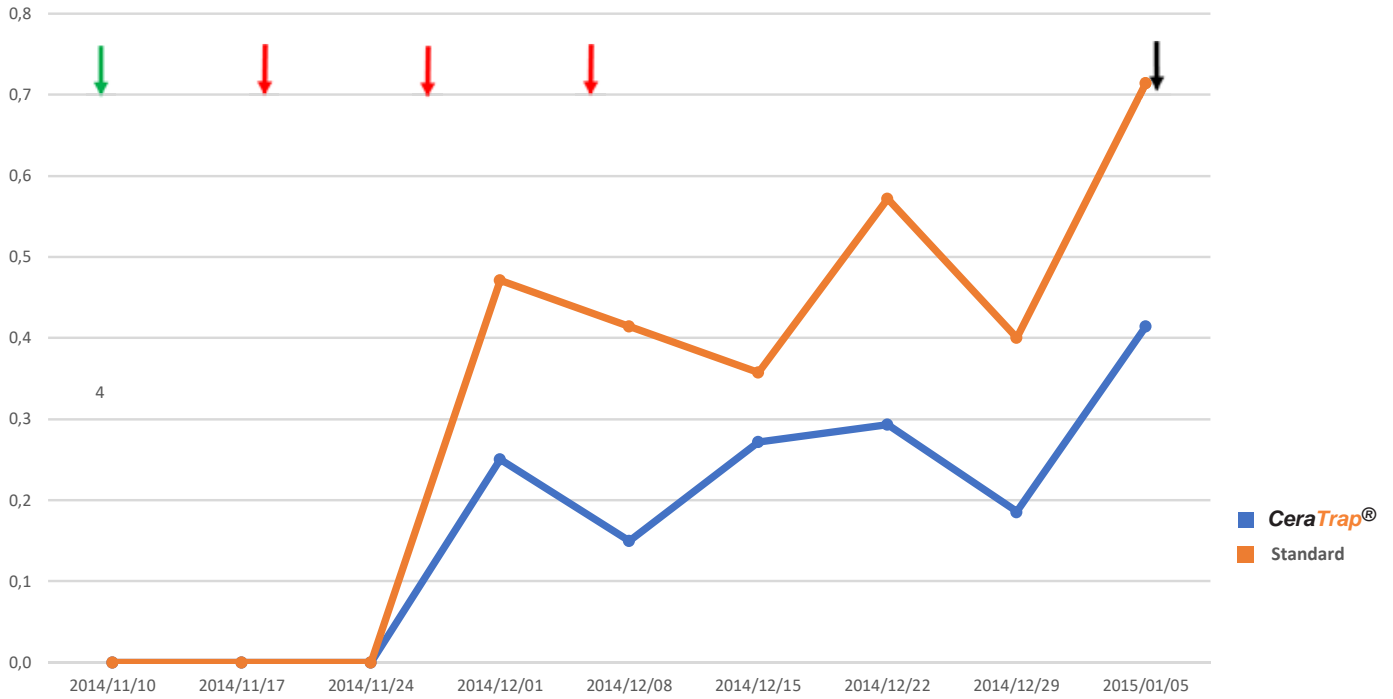
Flies / Traps





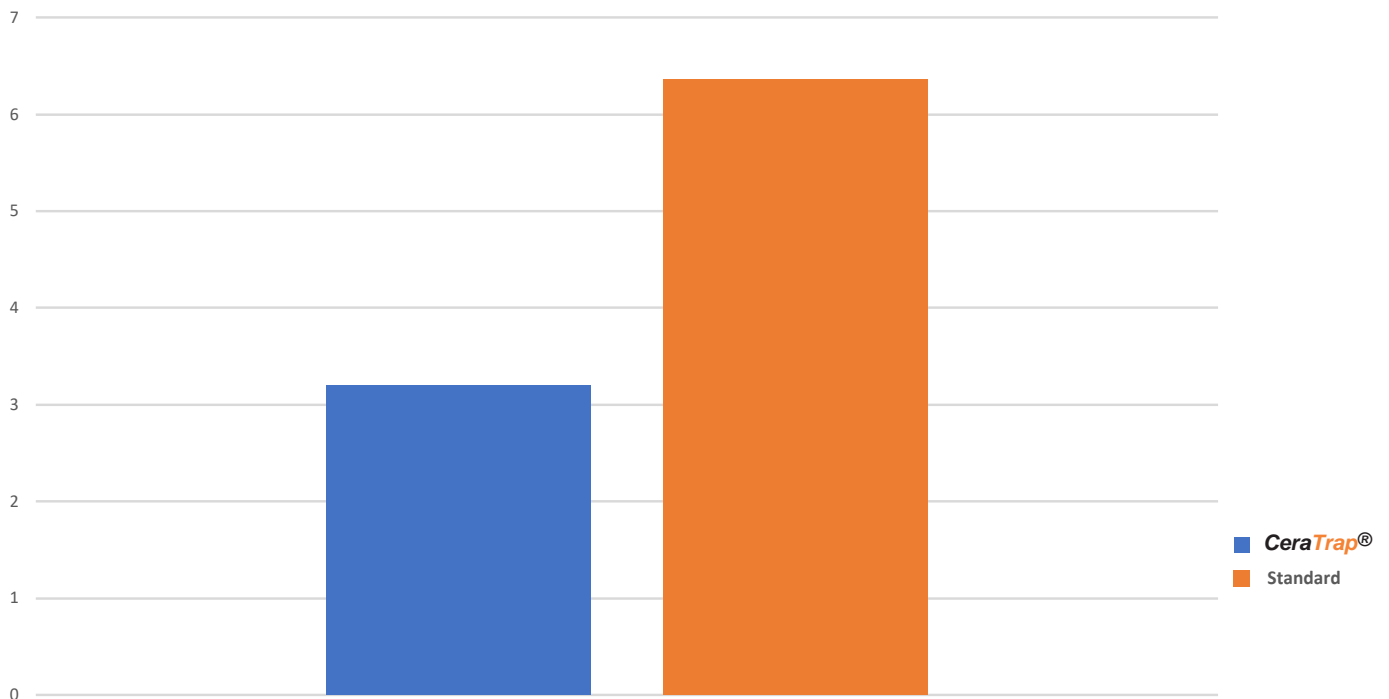
Crop: Grapes
Cultivar: Dauphine
Area: De Doorns
Period: 2014-11-10 to 2015-01-05
Species: *Ceratitis capitata*
Focus: Population suppression

Flies / Trap / Day



Crop: Grapes
Cultivar: Dauphine
Area: De Doorns
Period: 2014-11-10 to 2015-01-05
Species: *Ceratitis capitata*
Focus: Pre-harvest cluster infestation

Fruit Fly infested clusters





Reg. No. L 10728
Act/Wet No. 36 of/van 1947

0 zero
residu

4 fruit crops
citrus
stone fruit
table grapes
wine grapes

0 withholding
period

100
traps per hectare

4 targeted
fruit fly
species

100% export crops

100% biological

8-10 weeks before
REFILL

**5,9% HYDROLISED
PROTEIN**

0 CHEMICALS

12 hangweeks
before harvesting

1,5m above the ground within the canopy

**20ℓ &
1000ℓ
REFILLS**



"Due to pressure on fruit farmers to control fruit flies to a threshold of almost no catches and zero infestation, the need for a product such as **CeraTrap**[®] is of great importance. I have for the past 3 years personally tested the **CeraTrap**[®] technology together with **InteliGro**. **CeraTrap**[®] works well by catching all detrimental fruit flies. In the process there are no chemicals on the fruit."

Petru du Plessis, Bon Esperance, Stellenbosch

"I'm farming next to the town and for years have had difficulty with fruit fly control in spite of bait applications and chemical sprays. The past 3 years I have had excellent results since hanging **CeraTrap**[®] and combining it with my weekly ground bait application. My fruit fly damage is now minimal. It would be a good thing if the Agricultural industry can create awareness of the importance of **CeraTrap**[®] among the Municipalities and town residents."

Pietman le Roux, Hugodore Boerdery, Villiersdorp

testimonials

about

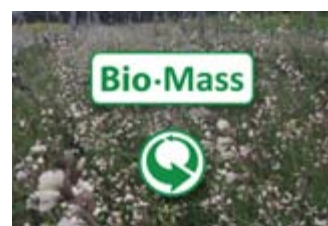
IntelBio solutions

With the ever-increasing focus on food safety, residue management and environmental stewardship, the need exists for more alternative crop protection solutions.



These solutions can be implemented in well-structured programmes without resulting in additional residues and a possible negative impact on the environment.

The **Bio-Control** range forms the foundation of a well-structured, integrated crop solution approach and in future will assist our focus towards residue and pesticide free food production.



IntelGro promotes an Integrated Crop Solutions Approach that includes the use of biological solutions in combination with the responsible implementation and positioning of conventional crop protection products.

IPM is a flexible system of managing pests which is designed to be sustainable, making the best use of all available technologies to manage problems effectively and safely. **IPM** involves using the best combination of cultural, biological and chemical measures for particular circumstances, including plant biotechnology as appropriate.

This is exactly the approach that IntelGro follows to help growers with sustainable crop solutions:

The IPM approach is built on three main areas of expertise with specific underlying areas:

- 1) Good knowledge of the specific crop involved; plant physiology, plant biological and specific production aspects. This also include an understanding of the specific cultivars, seed varieties, rootstocks, and its specific susceptibility to certain pests.
- 2) Knowledge of the pests (weeds, insects, diseases, nematodes) and the potential economic impact is an important focus area. Monitoring plays a crucial part in accurate decision-making, and forms the basis of well-structured crop solution approach.
- 3) Thirdly, **IntelGro** has a good knowledge of the available crop protection solutions that include, chemical, biological and cultural management options.



IntelBio solutions

with us you are
**growing
goodness**

**ZERO
RESIDUE
FOCUS**



BIOIBÉRICA is a Spanish company that specialises in contributing biological solutions to agricultural problems.

CeraTrap® is an specific second generation attractant, for the capture of *Ceratitis capitata* and other fruit flies.



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Provider of integrated crop solutions

- Sustainable crop protection
- Integrated biological offering - IntelBio Solutions™
- Customised plant nutrition advice
- Specialist technical support and a comprehensive product portfolio
- Professional crop specialists
- Innovative supportive technology



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