



We create chemistry

Pheromone

Worldwide Technical Factsheet

Introduction

Pheromones take a radically different approach to insect control. Rather than interfere with the target insects' biochemistry, they disrupt the insects' behavior. Pheromones make it very difficult for the male insect to locate female insects for mating, thus limiting the opportunity for larvae to inhabit and destroy crops. This approach to pest control is commonly known as mating disruption.

Pheromones are an optimal tool for both pest management and resistance management programs. Pheromones are applied using dispensers that time-release the product to form a pheromone cloud. The cloud is non-toxic and leaves zero-residue, making it ideal for integrated pest management as well as organic crop production. Since sex pheromones are essential to the insect mating process, the likelihood that an insect would develop resistance is unlikely.

Pheromones are species-specific and therefore have no significant acute toxicity to humans, beneficial insects or other non-target species. Pheromones provide highly specific control of economically important Lepidoptera (moth) species that infest pome fruits, grapes and stone fruits.

Key Features and Benefits of Pheromones:

- Novel behavioral activity
 - Ideal for integrated pest management programs and resistance management programs
 - Reduces insecticide resistance
- Zero-residue products
 - Ideal for organic crop production
- Excellent toxicological and environmental profile
 - Highly species-specific, with no significant acute toxicity to humans
 - Research indicates that beneficial insects and other non-target species are not adversely affected

BASF pheromones are registered for use in fruit production in Argentina, Brazil, Chile, the European Union, South Africa and the USA.



Pheromones protect pome fruit, grapes and stone fruit from the damaging effects of multiple moth species.



Grape pheromone dispenser



Grape pheromone dispenser

Pheromone Formulations and Use

BASF pheromones come in ready-to-use, pre-filled dispensers. These dispensers do not need to be activated or opened, which means better worker safety and efficiency.

Each dispenser is comprised of two chambers. The volatile pheromone molecules passively disperse through the membrane of the chambers. One or both chambers of the dispenser may contain pheromones, depending on whether one or two pest insects are targeted. For instance, to manage the grape pests *Eupoecilia* and *Lobesia*, one chamber is filled with RAK® 1 and the other is filled with RAK® 2.

An integrated hook is molded into the dispensers. The design of the hook enables one worker to hang roughly 500 dispensers per hour. With an intended usage of 500 dispensers/hectare, one worker should be able to treat 1 hectare/hour (2.5 acres/hour).

The dispensers should be hung from the branches of fruit trees or grape vines at regular distances throughout the cultivation area, just before the flight of the first generation of moths.

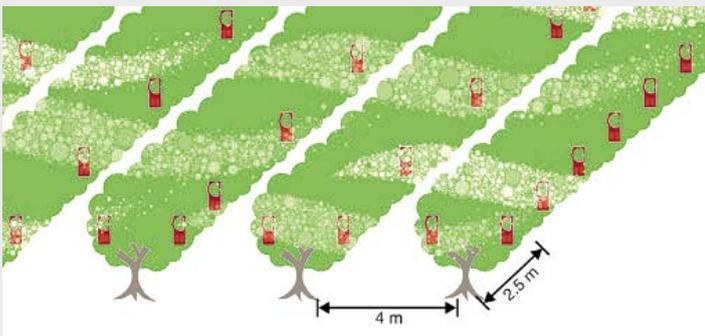
Pheromones can be used in combination with insecticide treatments as part of an integrated pest management program or as a stand-alone treatment.

Application

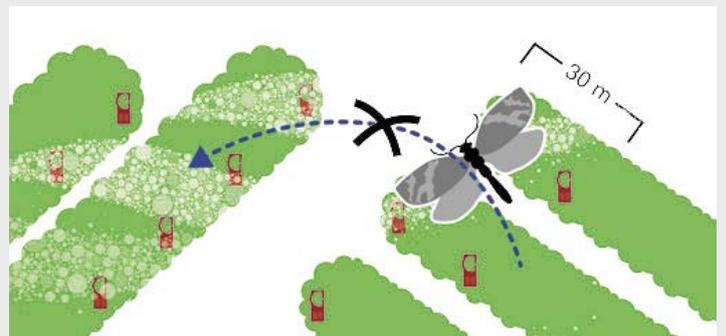
Pheromone treatment is most appropriate and efficient in bigger fruit cultivation areas, since homogenous pheromone clouds can be maintained there.

In order to stop copulated females from flying in from neighboring fields, intensive edge treatment may be necessary. In order to ensure treatment efficacy on closed cultivated areas, 30 meters of the neighboring surfaces should be treated with pheromones.

Pheromone concentrations can be compromised where trees vary dramatically in height or across an expanse of unlevel ground. In these situations a more dense alignment of dispensers should be applied.



Intensive edge treatment may be necessary depending on the size of the cultivated area, tree height, or change in ground levels.



When a treated area is growing near an untreated area, it may be necessary to treat neighboring surfaces as well.

BASF
We create chemistry

**BASF Crop Protection
Global Strategic Marketing,
Insecticides**
26 Davis Drive,
Research Triangle Park, NC 27709
USA
+1 919-547-2000
www.agro.basf.com

Always read and follow
label directions.

RAK, Quant and Cetro are registered
trademarks of BASF.
© 2011 BASF Corporation.
All Rights Reserved.
GL-8004A December 2011