



MATER-BI

MATING DISRUPTION AND BIODEGRADABLE MATERIALS



MATER-BI FOR AGRICULTURE

MATER-BI is a family of fully **biodegradable and compostable** bioplastics which use renewable resources to provide a solution with low environmental impact and to solve specific environmental problems in various sectors, such as foodservice, packaging and separate collection of organic waste.

MATER-BI has shown to be an alternative and sustainable material to be used for pheromone dispensers.

Isagro Italia has introduced on the market the new pheromone dispenser Ecodian, made of MATER-BI biodegradable and compostable materials. Ecodian dispensers are used in IPM and allow a significant reduction of insecticide application; it does not require to be removed and disposed at the end of the season (as for all the plastic materials) and can be left in the soil, since the dispenser does not retain any pheromone.

THE ORIGINAL

CONTROLLED, INNOVATIVE, GUARANTEED

WHAT IS THE MATING DISRUPTION TECHNIQUE?

Today mating disruption is a well known and successful pest management technique used to control certain insect infestation by reducing the male population probability of successfully locating and mating the females. The technique involves the use of synthetic pheromones in order to mask the natural female insect pheromone trails and causing the males to follow "false pheromone trails". This technique does not have negative effects on useful insect populations and on humans. For the success of the technique it is important to use very efficient carriers of dispensers of pheromones.

ECODIAN AND MATER-BI

Isagro Italia has introduced on the market the new pheromone dispenser Ecodian, made of MATER-BI biodegradable and compostable materials. Ecodian can be used against the main fruit moths, such as *Cydia molesta*, *Anarsia lineatella*, *Cydia funebrana* and *Cydia pomonella*. Ecodian dispensers are used in IPM and allow a significant reduction of insecticide application. MATER-BI has been shown to be an alternative and sustainable material to be used for pheromone dispensers: it does not require to be removed and disposed of at the end of the season (as for all the plastic materials) and can be left in the soil, since the dispenser does not retain any pheromone.

ADVANTAGES OF USING ECODIAN

Ecodian pheromone dispensers are an environmental compatible solution against the main fruit moths in the orchards and they present many advantages, such as:

- significant reduction in insecticides treatments;
- no residues on the fruit;
- preservation of beneficial insects;
- low pheromone doses per hectare compared to the sexual disruption technique;
- no need to collect the biodegradable dispensers at the end of the season;
- suitable for every defence strategy;
- applicable in small orchards and orchards on hills;
- constant flux of pheromone guaranteed.

covered, in order to reduce CO₂ emissions.

Since 1998 the owner Giuseppe Cavallini, started his first trial with pheromones on a few hectares of peaches. From 2004 all the 55 hectares were treated with Ecodian biodegradable pheromones dispensers with very positive results. For the best control Ecodian should be placed in the field at the beginning of the growing season (when the first insects are detected by provisional models or pheromones traps), in particular before the overwintering generations of insects became active. The minimum number of dispensers per hectare in order to obtain a successful control is 2,000/hectare (not including the edge of the orchards), but when the fruit moth population is higher or with tall and vigorous trees the number has to be increased to 2,500 – 3,000/hectare.

A SUCCESSFUL APPLICATION IN THE FIELD: CAVALLINI FRUIT FARM

In the Italian region of Emilia Romagna, in one of the most well known and historical areas for fruit production the innovative Cavallini farm is located. The farm comprises 55 hectares and produces mainly apples and pears, but also peaches and nectarines. Cavallini is very aware of the environmental and market aspects, so since 2004 his farm has many certifications: Globalgap, Nature Choice and also the "CO₂ 0 certification", which implies minimum tillage and maintains the soil



NOVAMONT SPA

was founded in 1989 as Fertec, a strategic research centre for Montedison, with the aim of integrating the great chemical tradition of Montecatini with the agro-industrial skills of the Ferruzzi Group. From the outset the company's mission was to integrate chemistry agriculture and industry, while respecting the environmental and human life. Throughout the phases of its development, this has remained the unwavering objective of NOVAMONT. MATER-BI is the first family of biodegradable plastics using vegetable components such as starches, cellulose and oils from selected non-food crops, presenting the chemical structure

generated by natural photosynthesis. MATER-BI is an answer to the worsening environmental problems of recent decades. MATER-BI granules are suitable for use in the most common plastic conversion technologies creating products with properties identical to those of traditional plastics, while remaining totally biodegradable and compostable.

ISAGRO ITALIA SRL

Isagro Italia is a Joint-Venture with the Japanese company **Sumitomo Chemical** and the Italian company **Isagro SpA**. It represents a unique model of distribution of agrochemicals and fertilisers. It was born by the merging of

two traditions which have in common a strong research activity, a long terms vision, the protection of their own identity and taking care of their clients. Isagro Italia is the third group in Italy in terms of market share, with about 10%. Backing up Isagro Italia and SIAPA there are no less than three research and production centres: Isagro Spa, which is a National leader in copper-based products, than of Valent Biosciences owned by Sumitomo, which enables it to be a national leader in *Bacillus thuringiensis* based products, and that of Sumitomo Chemical, from whose research have come molecules such as pyriproxyfen (Admiral and Juvinal) and etoxazole (Borneo e Swing).

MATER-BI is certified as biodegradable and compostable. If disposed of in the wet waste fraction, it is converted into fertile, useful compost.

www.materbi.com

