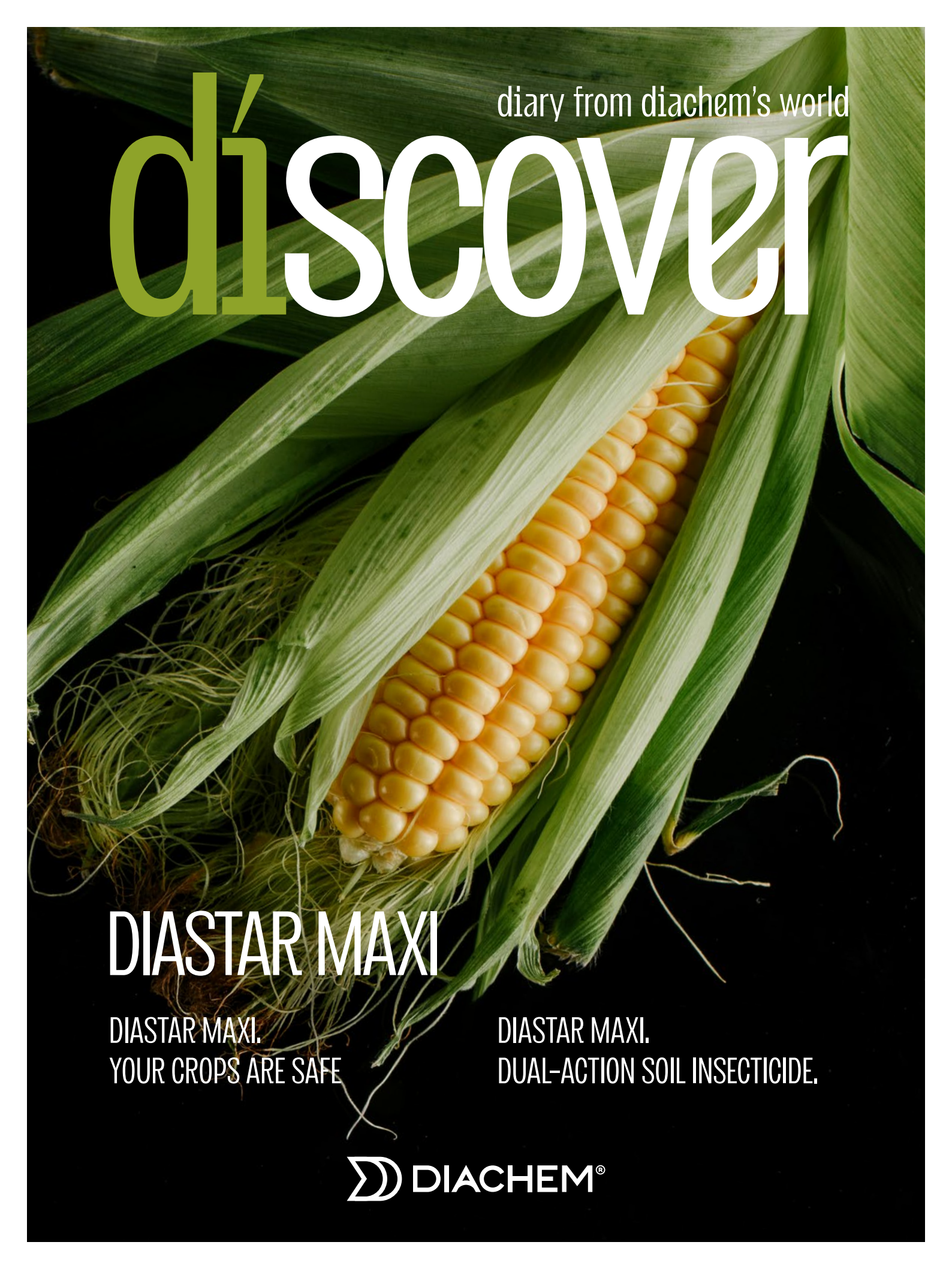




diary from diachem's world

discover

DIASTAR MAXI

DIASTAR MAXI.
YOUR CROPS ARE SAFE

DIASTAR MAXI.
DUAL-ACTION SOIL INSECTICIDE.

 DIACHEM®

Diastar Maxi®

Your crops are safe

It is well known that crops such as maize face difficulties in the early stages of growth due to their physiological sensitivity to spring temperatures. To reduce this sensitivity, the benefits of localized fertilization at sowing are well established: by placing the fertilizer element close to the root system, it can better support nutrition at a stage when the root is still poorly developed and the seed reserves are no longer sufficient to fully meet the demands of growing tissues (Testa and Blandino, 2015). In addition, in recent years, the evolution of cultivation techniques has brought about new and increasing needs for protection against soil-dwelling insects.

The maize growing cycle

The initial stage of the maize growing cycle is, in fact, more prone to critical conditions that negatively affect the subsequent stages and ultimately impact yield and quality (Blandino et al., 2019). In this regard, the synergistic protective effect against soil-dwelling insects provided by starter fertilization has been highlighted several times: by enhancing plant growth, and especially,

root development, it helps the crop better withstand root damage caused by *Diabrotica* and escape more quickly from wireworm attacks (Blandino et al., 2013b). Therefore, the combination—also within a single formulation—of soil insecticide protection with starter fertilizers, particularly those containing nutrients such as phosphorus and nitrogen, as well as micronutrients, represents a highly important solution to support agronomic management in the early stages and ensure successful crop establishment.

The trial

Diachem conducted trials over multiple years and in different locations to assess and quantify the effects by comparing different operational solutions.

The trials evaluated the effect of various soil insecticides both in terms of crop protection against potential soil-dwelling pests and as biostimulant agents for the crop itself, especially during the early growth stages.

The use of starter fertilizers at sowing, together with pest control, helps protect the investment and enhance



the vegetative vigor of maize and optimize the crop's interception of solar radiation, also contributing to an earlier flowering time.

At the end of the growing cycle, these benefits result in higher yields and improved grain quality.

A barrier against soil-dwelling insects

The application of soil insecticides therefore makes it possible to protect the crops from attacks by wireworms and Diabrotica from the moment of planting. It should be remembered that in less than twenty years, Diabrotica has become endemic in all maize-growing areas of the Po Valley, consequently changing crop protection programmes in order to contain the damage and the severe yield losses associated with strong infestations. Treatments against soil-dwelling insects, carried out using granular soil insecticides properly distributed along the seed furrow, make it possible to create a protective barrier around the seed.

Diastar Maxi®

DIASTAR MAXI® is composed of Tefluthrin 0.5% (an active ingredient with the highest soil vapor pressure compared to all other insecticides*), MAP (monoammonium phosphate) with 10% N and 44% P, and micronutrients (3% Mn and 2% Zn).

The product has dual activity: it protects against soil-dwelling insects and promotes early crop vigor. Various trials conducted in Europe demonstrate its high and long-lasting efficacy against key pests such as wireworms, Diabrotica, cutworms, crane flies (Tipulidae), dipterans, beetles, and others.

A single product combines two essential functions, ensuring good and uniform seed germination and optimal yield. Early vigor helps improve resistance to stress during the initial growth stages and leads to earlier flowering.

This means that even in particularly hot summers, the crops can reach flowering earlier. This, combined with an earlier overall growing cycle, leads to lower grain moisture at harvest. Finally, the presence of MAP, zinc, and manganese in the formulation should not be overlooked.

By using Diastar Maxi at sowing, it is possible to supply almost all the zinc required by maize, which is immediately available for plant uptake.



MAP is a starter fertilizer that supports the crop's nutritional requirements from germination through to the development of the first roots*.

MAP is the best starter fertilizer in terms of crop selectivity**.

In MAP, the phosphate is highly water-soluble and the nitrogen content, in ammoniacal form, provides greater resistance to leaching. MAP can be used on all soil types and is particularly suitable for crops requiring a high supply of phosphorus, such as maize***.

*PPDB - Pesticide Properties DataBase

**Pennsylvania State University

***EUROCHEM R&D

For more information:



Plant protection product authorized by the Ministry of Health based on tefluthrin (No. 12590 of 16.06.2008).

Use plant protection products with caution. Always read the label and product information before use. Pay attention to the hazard statements.

Diastar Maxi®

Dual-action soil insecticide

DIASTAR MAXI® by Diachem is a soil insecticide based on tefluthrin, a molecule characterized by rapid contact action and a significant repellent effect due to evaporation caused by its high vapor pressure

DIASTAR MAXI® is a soil insecticide for soil application composed of Tefluthrin 0.5% (an active ingredient with the highest soil vapor pressure compared to all insecticides), MAP (monoammonium phosphate), and the micronutrients manganese and zinc.

Diastar Maxi and the STARTER effect

Nitrogen and phosphorus in an appropriate ratio (10:44)

- High content of plant-available phosphorus, essential during the early growth stages
- NP source with excellent crop selectivity
- Numerous field trials show the positive effects of localized nitrogen and phosphorus on yield and quality indices.

Addition of micronutrients (Mn 3%, Zn 2%)

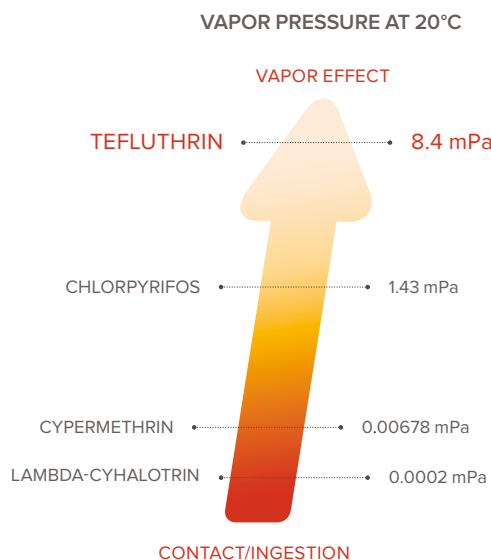
- High content of plant-available phosphorus, essential during the early growth stages
- Numerous field trials show the positive effects of localized nitrogen and phosphorus on yield and quality indices.

Advantages of the STARTER effect: earlier progression of the initial phenological stages (early vigor): the crop reaches flowering during the period of maximum photosynthetic capacity and in correspondence with the highest availability of solar radiation (2nd/3rd decade of June).

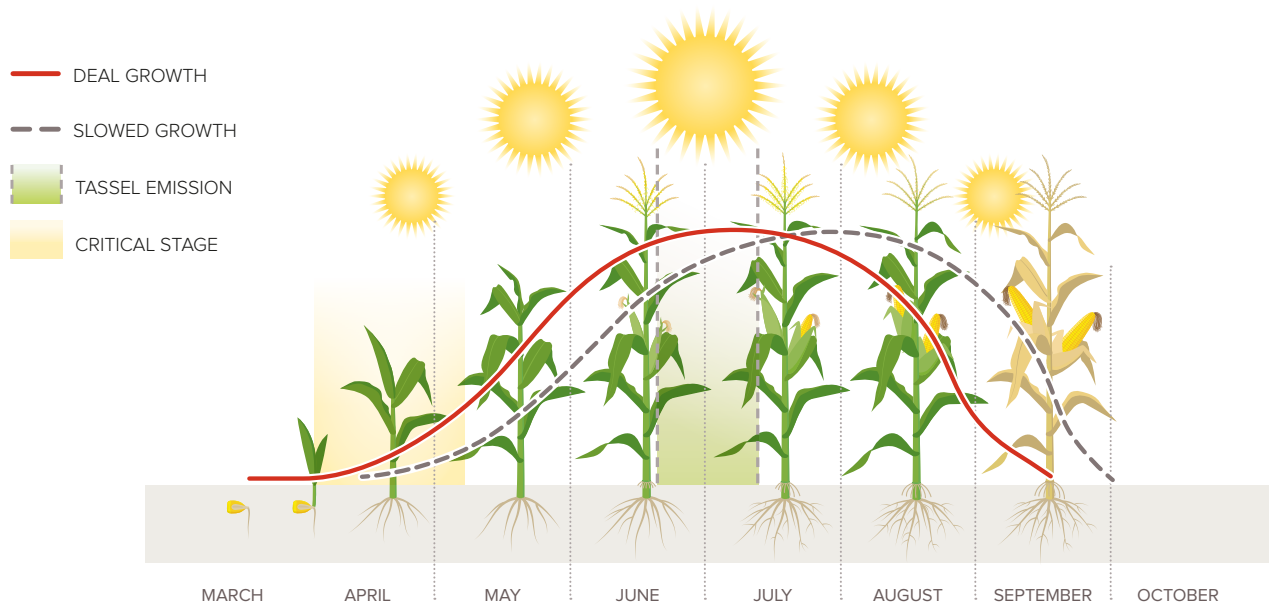
The best soil insecticide

Various trials across Europe demonstrate its high and long-lasting efficacy against key pests such as wireworms, Diabrotica, cutworms, crane flies (Tipulidae), dipterans, beetles, and others.

Tefluthrin has the highest soil vapor pressure compared to all insecticides.

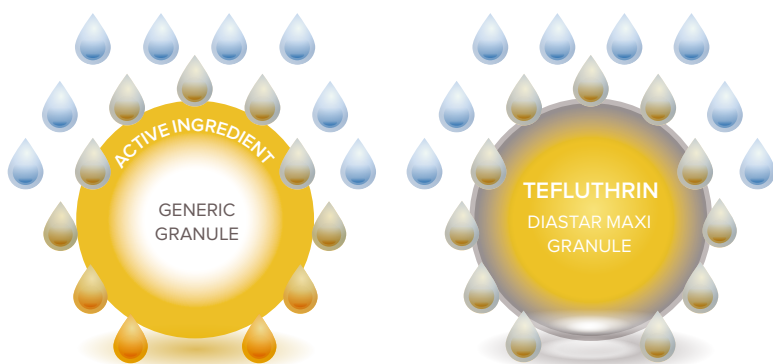
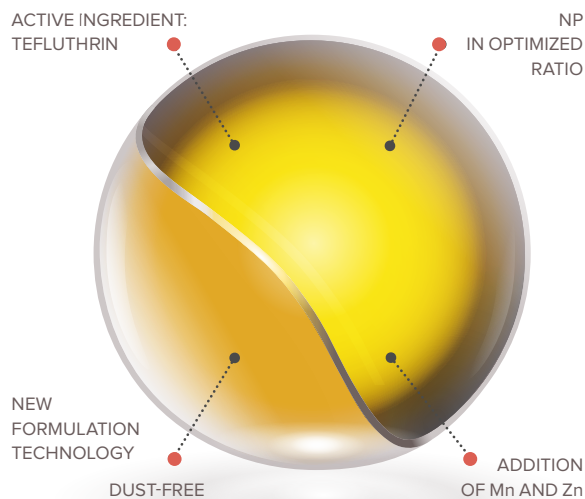


Source:
PPDB - Pesticide Properties DataBase



Homogeneous granule, uniform release

DIASTAR MAXI® protects crops against soil-dwelling insects (wireworms, corn rootworm, cutworms, crane flies, dipterans, coleopterans, etc.) and promotes early crop vigor, enhancing tolerance to stress during the initial growth stages as well as advancing flowering. Thanks to its specific properties, the MAP formulation can be used on all soil types and is particularly suitable for crops with high phosphorus requirements, such as maize. The original Diachem formulation produces an integrated granule that ensures the uniform release of both the insecticidal active ingredient and the nutritional elements.



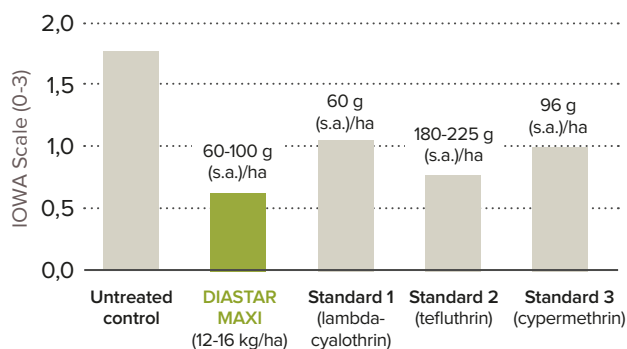
Thanks to the specific formulation developed by Diachem, the Diastar Maxi granule ensures a uniform release of both the active ingredient and the nutritional elements, meeting the crop's requirements for protection and nutrition.

Diastar Maxi®, proven efficacy. Superior performance under high pest pressure

Field data have been generated in 10 countries.
Protection has been confirmed through multi-year
experience across diverse climatic zones.

*Trials were conducted in compliance with GEP by
authorized testing centers.*

Damage caused by corn rootworm on maize



- Mean of 24 trials
- 2013-2017 (5 years)
- Italy, Slovenia, Austria, Germany, Czech Republic, Hungary, Romania, and Slovakia

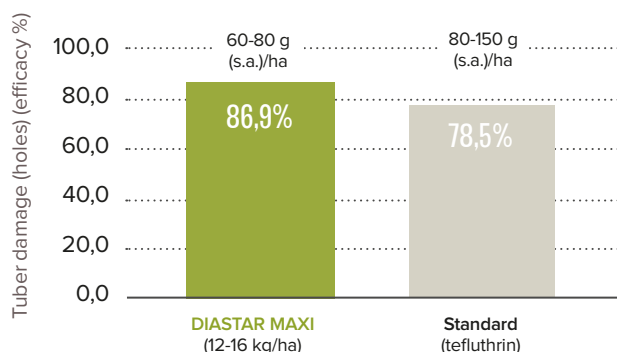
Localized application of fertilizer units and micronutrients: crop stimulation and indirect action

- Stimulatory effect on germination processes, root development, and photosynthetic capacity
- Enhanced recovery from transplant shock and increased plant vigor
- Advancement of early phenological stages and reduction of damage caused by soil-dwelling insects.



Comparison between maize treated with Diastar Maxi (right) and conventional insecticide (left).

Efficacy against wireworms on potato



Mean incidence in the untreated control: 50.3%

- Mean of 10 trials
- 2013-2019 (7 years)
- Italy, Slovenia, Austria, Germany, Czech Republic, Romania e Slovakia



Comparison between maize roots treated with Diastar Maxi (right) and with a conventional insecticide (left).

Crop	Pest	Dose rate
Corn, Sweet Corn, Sorghum	<i>Agriotes</i> sp., <i>Agrotis</i> sp., <i>Diabrotica</i> sp., <i>Hylemya</i> sp., <i>Scutigerella immaculata</i> , <i>Tipula</i> sp.	12-16 Kg/ha (20 Kg/ha in case of high <i>Diabrotica</i> pressure)
Potato	<i>Agriotes</i> spp., <i>Agrotis</i> spp., <i>Diabrotica</i> spp.	12-16 Kg/ha
Sunflower, Soybean, Oilseed Rape	<i>Agriotes</i> sp., <i>Agrotis</i> sp., <i>Chaetocnema tibialis</i> , <i>Hylemya</i> sp.	12-16 Kg/ha
Sugarbeet	<i>Agriotes</i> sp., <i>Atomaria linearis</i> , <i>Chaetocnema tibialis</i> , <i>Scutigerella immaculata</i> , <i>Tipula</i> sp.	12-16 Kg/ha
Wheat, Barley	<i>Bibio hortulanus</i> , <i>Hylemya</i> sp., <i>Scutigerella immaculata</i> , <i>Tipula</i> sp.	10-12 Kg/ha
	<i>Agriotes</i> sp., <i>Melolontha melolontha</i>	12-16 Kg/ha
Tobacco	<i>Agriotes</i> spp., <i>Agrotis</i> spp., <i>Tipula</i> spp.	12-16 Kg/ha
Flowers and Ornamentals	<i>Agriotes</i> sp., <i>Agrotis</i> sp., <i>Blaniulus guttulatus</i> , <i>Centipeda</i> spec., <i>Chaetocnema tibialis</i> , <i>Melolontha melolontha</i> , <i>Tipula</i> sp.	4 g/m ²
Solanacea, Cucurbits, Cabbages, Carrot, Lettuce, Beans, Peas and other minor veggies	<i>Agriotes</i> sp., <i>Agrotis</i> sp., <i>Ceutorhynchus pleurostigma</i> , <i>Blaniulus guttulatus</i> , <i>Centipeda</i> spec., <i>Chaetocnema tibialis</i> , <i>Chamaepsila rosae</i> , <i>Hylemya</i> sp., <i>Melolontha melolontha</i> , <i>Tipula</i> sp.	16-20 Kg/ha

COMPOSITION	Tefluthrin 0.5% (original Syngenta's active ingredient) Co-adjuvants contain Nitrogen and Phosphorus (10:44) and microelements (Mn 3%, Zn 2%)	
HAZARDS INDICATIONS	Warning	 H410; EUH401
FORMULATION	Granular (GR)	
PACKAGING	10 kg bags (carton box 2 pcs)	



For more information:

Diastar Maxi

Dual-action **soil insecticide**



 **DIACHEM®**
We embrace agriculture