**Farmer Benefits**

**CHALLENGES**

Tackling pest problems while ensuring economic value to farmers, the value chain and society.

- By 2050 the growing world population will require 100% more food.
- The world has lost a third of its arable land in the past 40 years.
- 90% of the growth in crop production is projected to come from higher yields and increased cropping intensity.
- The European crop protection toolbox is shrinking from 1000 to 400 actives.
- Sap feeding insects are among the most destructive insect pests, annually causing significant economic losses in all crops.
- The introduction of new solutions per year has halved in the last 20 years.

**BENEFITS**

**Game-changing tool to fight pests and protect yields**

- **SAP**
  - Controls sap-feeding pests that are resistant to other classes of insecticides.
  - Excellent knockdown and residual control.
  - Effective at low use rates.
  - Excellent fit in IPM programmes because it has minimal impact on beneficial insects and predatory mites. No evidence of secondary-pest outbreaks has been observed.
  - Provides excellent control of hidden pests in the plant canopy and on the undersides of leaves.
  - Valuable rotation partner with other chemistries.
  - Shows a robust lack of cross-resistance with existing insecticides, including the neonicotinoids, pyrethroids, and organophosphates.

**ISOCLAST™ ACTIVE – DID YOU KNOW?**

- Highly effective at targeting an important range of pests including: English grain aphids, green peach aphids, woolly apple aphids, cabbage aphids, lettuce aphids, tarnished plant bugs, citrus mealybugs and many more.
- Farmers have observed no crop damage and no differences in varietal sensitivity under a wide range of environmental conditions worldwide.
- Approved in the EU by the European Commission.
- Not classified as carcinogenic, mutagenic or reprotoxic by European authorities.
- Has been used in millions of hectares worldwide over several growing seasons without reported harm to honey bees, even in flowering crops.
- Approved and used on a wide range of crops worldwide.
- Degrades rapidly in the environment.

**WHAT IS ISOCLAST?**

- Belongs to a new chemical class of insecticides - sulfoximines.
- Discovered by and proprietary to Dow AgroSciences.
- Controls economically important sap-feeding insects such as aphids, mealybugs and scale insects in key fruit, vegetable, citrus, potato, oilseed rape and cereal crops.
- Helps address the challenges stemming from the increasing strain on arable land.

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*Dow AgroSciences - Solutions for the Growing World*