



Technical Data Sheet



Lumivia™ insecticide seed treatment brings a new mode of action against early season pests, raising the industry standard for insecticide seed treatments. Insect damage to seeds and seedlings is one of the most significant yield-impacting problems that farmers face each year. As chewing insects attack establishing seedlings, the new mode of action in Lumivia seed treatment impairs their muscle function, stopping feeding almost immediately.



Control of *Spodoptera frugiperda* (fall armyworm) 20 days after planting, India.

By protecting vulnerable seed and seedlings during critical early development, Lumivia seed treatment provides better stand establishment and helps to reduce the risk of yield limiting factors. By protecting yield potential, farmers will benefit from not only peace of mind, but a greater return on investment.

Lumivia Key Attributes

- First insecticide seed treatment using chlorantraniliprole, an anthranilic diamide chemistry (IRAC Group 28)
- Utilized on wide range of crops, including corn (maize), soybean, and rice
- Rapid feeding cessation
- Systemic uptake and translocation through seeds and roots into shoots
- Excellent activity against key early-season insect pests
- Highly efficacious at low use rates
- Outstanding seed safety profile
- Highly compatible with other commercial seed treatment technologies
- Negligible effects on non-target arthropods
- Product registrations will differ by country

Lumivia Key Benefits

- Broad-spectrum control and enhanced protection against key early season pests
- Novel mode of action, contributes to integrated pest management approach
- Immediate protection of seed and seedlings
- Uniform and healthy plant stand establishment
- Promotes solid root structure and early season vigor, when under pressure by key insect pests
- Protects plants at critical early growth stages
- Minimal impact on the environment
- Minimal impact on beneficial insects and pollinators when used in accordance with the label

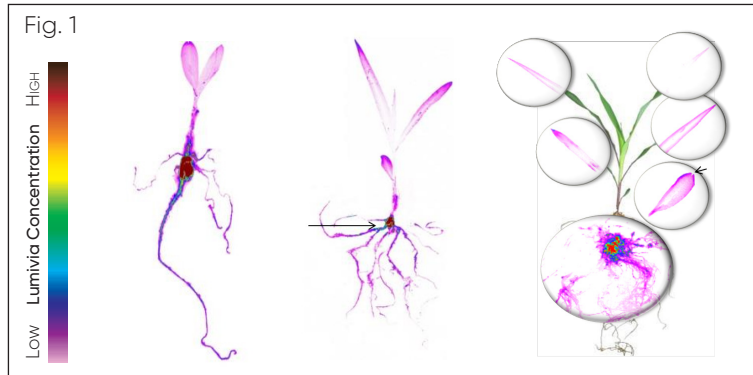
Pest Spectrum

Lumivia insecticide seed treatment controls a broad spectrum of early season pests, including fall armyworm (*Spodoptera frugiperda*), rice water weevil (*Lissorhoptus oryophilus*), white grub (*Phyllophaga spp.*), black cutworm (*Agrotis ipsilon*), wireworm (*Melanotus communis*), and seed corn maggot (*Delia platura*).

Insecticidal Action

Absorption and Translocation

When applied as a seed treatment, chlorantraniliprole is systemically translocated upward, protecting the seed, roots, and the developing seedling stem and leaves. As demonstrated with seedling corn, Lumivia™ insecticide seed treatment is present in the treated seed, root system, and above-ground plant parts from seed germination to the V5 growth stage. (Fig. 1)



Mode of Action

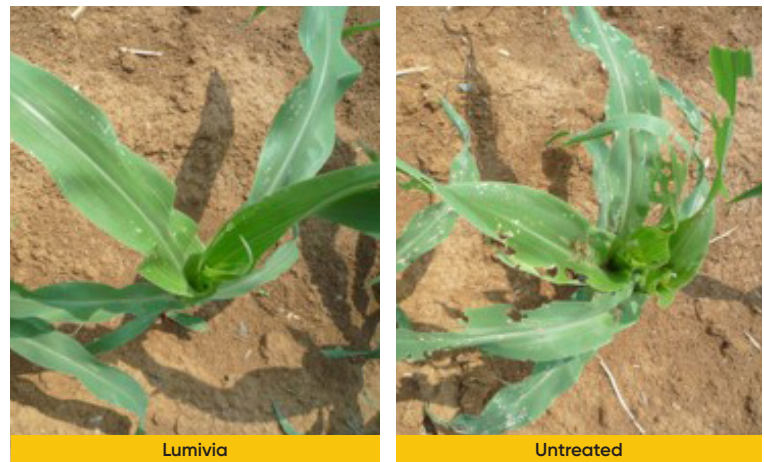
Lumivia is the first insecticide seed treatment using chlorantraniliprole, within the anthranilic diamide class of chemistries. This mode of action acts on the ryanodine receptors in insect muscle fibers, resulting in rapid feeding cessation, lethargy, regurgitation, and muscle paralysis, ultimately leading to death.

Environmental Profile

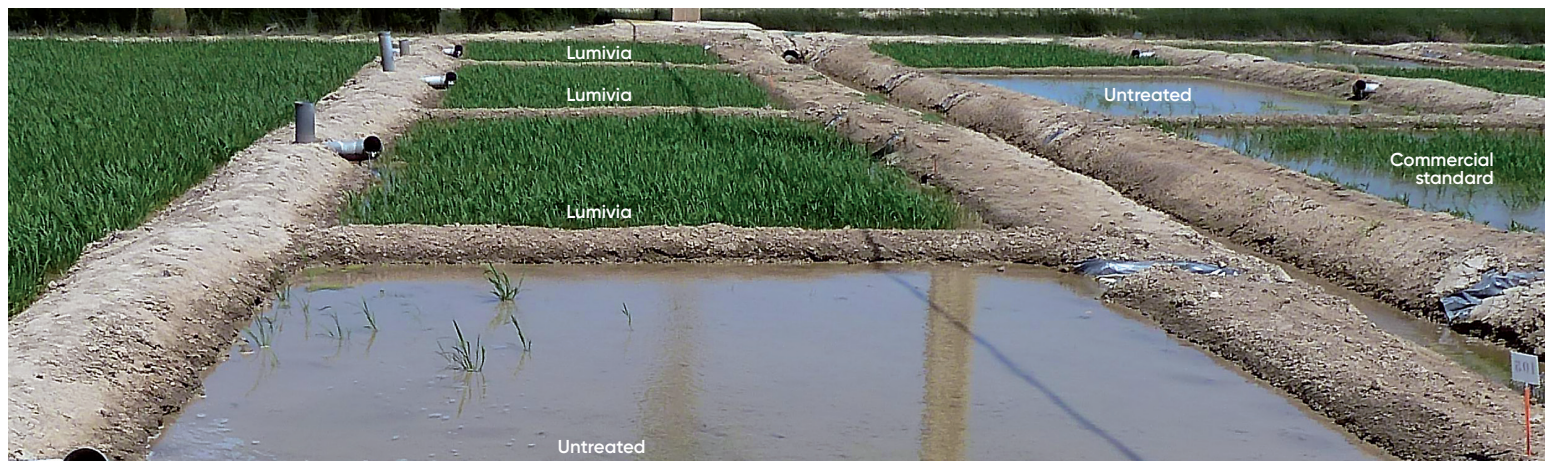
Lumivia seed treatment has minimal impact on the environment, beneficial insects or pollinators when used according to the label. High specificity to target sites in pest species results in low to no impact on non-target beneficial insects, including natural parasitoids, parasites, and pollinators. The impressive selectivity, combined with robust pest control and excellent environmental profile, establishes chlorantraniliprole as a sound tool for Integrated Integrated Pest Management and complimentary partner or alternative to neonicotinoid insecticides.

Crop	Scientific Name	Common Name
corn	<i>Agrotis ipsilon</i>	black cutworm
	<i>Delia platura</i>	seed corn maggot
	<i>Melanotus communis</i>	wireworm
	<i>Phyllophaga spp.</i>	white grubs
	<i>Spodoptera frugiperda</i>	fall armyworm
soybean	<i>Anticarsia gemmatalis</i>	velvetbean caterpillar
	<i>Elasmopalpus lignosellus</i>	lesser cornstalk borer
	<i>Helicoverpa armigera</i>	corn earworm
	<i>Phyllophaga spp.</i>	white grubs
rice	<i>Spodoptera frugiperda</i>	fall armyworm
	<i>Lissorhoptus oryzophilus</i>	water weevil
	<i>Chironomidae spp.</i>	chironomids

Partial listing of insect pests susceptible to Lumivia seed treatment when used according to label. Not all uses and insect pests are registered in all markets.



Control of *Spodoptera frugiperda* (fall armyworm) 16 days after planting, Thailand.



Control of *Lissorhoptus oryzophilus* (rice water weevil) with Lumivia versus commercial standard and untreated, Italy.