

SPEAR® LEP Insecticide for Tree Nuts

THE POWER OF SYNTHETICS. THE SAFETY AND SUSTAINABILITY OF BIOLOGICALS.

Peptide emPOWERed Insecticide

Spear® LEP is Vestaron's revolutionary insecticide for almonds, pistachios, walnuts, hazelnuts, and pecans. Targeting worms such as Navel Orangeworm, Peach Twig Borer, and Codling Moth, field trials with Spear LEP show performance that is equivalent to conventional insecticides. With no known resistance or cross resistance, Spear LEP works as a standalone or in rotation with conventional insecticides. Spear LEP is an excellent IPM and resistance management tool.

PRODUCT INFORMATION

EPA REG #	88847-6
Al	GS-OMEGA/ KAPPA-HXTX-HV1A
FORMULATION	LIQUID
IRAC GROUP	32
SIGNAL WORD	CAUTION
REI	4 HOURS
PHI	0 DAYS
PACKAGE SIZE	1 GAL, 4 X 1 GAL CASE
USE RATE	2 PT/ACRE PLUS Btk
SURFACTANT	For best performance, use with a NIS or spreader/sticker at 0.125% v/v

PESTS CONTROLLED

- NAVEL ORANGEWORM
- PEACH TWIG BORER
- CODLING MOTH
- FILBERTWORM
- PECAN NUT CASEBEARER

Key facts

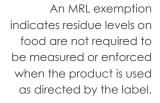
- Insecticide based on a naturally occurring peptide
- Highly specific for lepidopteran larvae with very low risk to beneficials
- Control equivalent to synthetic options
- Vital new tool for sustainable pest management
- New IRAC Group 32 supporting resistance management
 - Mode of Entry: Ingestion
 - Mode of Action: Disruption of the nicotinic acetylcholine receptor
- Spear LEP is effective when tankmixed with a gut disrupting facilitator such as Bacillus thuringiensis (Btk) (we recommend Leprotec®)
- Excellent environmental and worker safety profile
- 0-Day PHI, 4-Hour REI, & MRL Exempt
- Low risk of phytotoxicity





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A short Restricted-Entry Interval (REI) provides flexibility and desired worker safety profiles.



Spear LEP can be applied and crops can be harvested within the same day, providing a tool that allows growers flexibility in the field.

Spear LEP works on a unique neuromuscular receptor qualifying as the first product in IRAC Group 32.

HOW IT WORKS



Caterpillar ingests plant tissue treated with Spear LEP and a low dose of Btk.



Btk crystal proteins damage the gut cells allowing Spear LEP access to the nervous system.



causes persistent depolarization of the nerve cell. The affected

The open channel

The affected cells are unable to reset and transmit new electrical signals.



Spear LEP helps neurotransmitters to bind and open the receptor's ion channels.

receptor in the nervous system, killing the pest.



* Leprotec is Vestaron's OMRI Certified Btk insecticide that is the ideal partner for

use with Spear LEP. When ingested together, the non-lethal dose of Btk proteins perforate the insect mid-gut allowing the Spear peptide to access the target

This causes paralysis and death

of the insect.

TANK MIXING

TANK MIX ORDER
 1st: Powder/dry products
 2nd: Non-EC liquid, flowable, soluble concentrate products
 3rd: Emulsifiable concentrates (EC)
 4th: Adjuvants and surfactants

• WATER, AGITATE, SPEAR-LEP Do not add Spear LEP to the mix tank before introducing the desired amount of water. Start mechanical/hydraulic agitation before

 ADJUVANTS & SURFACTANTS Always use adjuvant and/or surfactant to improve spray coverage. Check/adjust the spray solution pH to 5.5-6.5, then add adjuvant/ surfactant to the dilute spray solution.

CIRCULATE

adding Spear LEP.

Maintain circulation while loading and spraying solution.





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