

SPEAR® LEP

AN INSECTICIDE SOLUTION FOR FRUITS,
NUTS, AND VEGETABLES BY VESTARON®



SPEAR® LEP is Vestaron's revolutionary insecticide for tree nuts, fruits, vegetables, and other high-value specialty crops.

Targeting lepidopteran pests such as armyworms, loopers and leafrollers, 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 and is soft on your beneficials.

PRODUCT INFORMATION

EPA REG #	88847-6
AI	GS-OMEGA/KAPPA-HXTX-HV1A
Formulation	Liquid
IRAC group	32
Signal word	Caution
REI	4 Hours
PHI	0 Days
Package size	1 gal, 4x1 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

MAIN CROPS (Refer to label for full list of crops)

- Brassicas
- Hemp
- Hops
- Pome fruit
- Small fruits and berries
- Stone fruit
- Tree nuts
- Vegetables

KEY FACTS

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





An MRL exemption indicates residue levels on food are not required to be measured or enforced when the product is used as directed by the label.



MRL Exempt

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



IPM tool



4-Hour REI

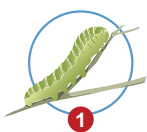
A short Restricted-Entry Interval (REI) provides flexibility and desired worker safety profiles.



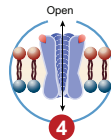
Novel MOA

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

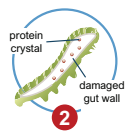
HOW IT WORKS



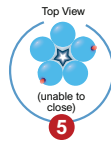
1 Pest ingests plant tissue treated with SPEAR® LEP and a low dose of BTK.



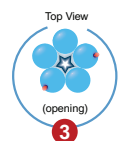
4 The open channel causes persistent depolarization of the nerve cell.



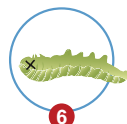
2 BTK crystal proteins damage the gut cells allowing SPEAR® LEP access to the nervous system.



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



3 SPEAR® LEP helps neurotransmitters to bind and open the receptor's ion channels.



6 This causes paralysis and death of the insect.

* 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 receptor in the nervous system, killing the pest.

PESTS CONTROLLED

(Refer to label for full list of pests controlled)

- Beet armyworm
- Blackheaded fireworm
- Cabbage looper
- Codling moth
- Corn earworm
- Cranberry fruitworm
- Diamondback moth
- Fall armyworm
- Grape berry moth
- Imported cabbageworm
- Melonworm
- Navel orangeworm
- Oblique-banded leafroller
- Oriental fruit moth
- Peach twig borer
- Sparganothis fruitworm
- Tobacco hornworm

