SPEAR® LEP is Vestaron’s revolutionary insecticide for tree nuts, fruits, vegetables, and other high-value field and orchard crops. Targeting lepidopteran pests such as loopers, worms, and caterpillars, 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**

<table>
<thead>
<tr>
<th>EPA REG #</th>
<th>88847-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI</td>
<td>GS-OMEGA/KAPPA-HXTX-HV1A</td>
</tr>
<tr>
<td>FORMULATION</td>
<td>LIQUID</td>
</tr>
<tr>
<td>IRAC GROUP</td>
<td>32</td>
</tr>
<tr>
<td>SIGNAL WORD</td>
<td>CAUTION</td>
</tr>
<tr>
<td>REI</td>
<td>4 HOURS</td>
</tr>
<tr>
<td>PHI</td>
<td>0 DAYS</td>
</tr>
<tr>
<td>PACKAGE SIZE</td>
<td>1 GAL, 4X1 GAL CASE</td>
</tr>
<tr>
<td>USE RATE</td>
<td>2 PT/acre PLUS Btk</td>
</tr>
<tr>
<td>SURFACTANT</td>
<td>For best performance, use with a NIS or spreader/sticker at 0.125% v/v</td>
</tr>
</tbody>
</table>

**MAIN CROPS**

(refer to label for full list)

- BRASSICAS
- HEMP
- HOPS
- POME FRUIT
- SMALL FRUITS & BERRIES
- STONE FRUIT
- TREE NUTS
- VEGETABLES

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

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.

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.

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.

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

The open channel causes persistent depolarization of the nerve cell.

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

This causes paralysis and death of the insect.

PESTS CONTROLLED

• BEET ARMYWORM
• BLACKHEADED FIREWORM
• CABBAGE LOOPER
• CODLING MOTH
• CORN EARWORM
• CRANBERRY FRUITWORM
• DIAMONDBACK MOTH
• FALL ARMYWORM
• GRAPE ARMYWORM
• IMPORTED CABBAGEWORM
• MELONWORM
• NAVEL ORANGEWORM
• OBLIQUE-BANDED LEAFROLLER
• ORIENTAL FRUIT MOTH
• PEACH TWIG BORER
• SPARGANOTHIS FRUITWORM
• TOBACCO HORNWORM

* 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.