

Heligen Features and Benefits

FEATURE	BENEFIT	
	Sorghum	Soybeans
Highly specific to <i>Helicoverpa</i> and <i>Heliothis</i> (bollworm / earworm / budworm)	<ul style="list-style-type: none"> • Excellent control and ongoing suppression of the target pest/s • Valuable Integrated Pest Management tool • Conserves beneficial species • Does not flare secondary pests such as aphids, mites and whitefly 	
✔ Larvae that die from a Heligen spray release huge amounts of NPV	The NPV (nucleopolyhedrovirus) generated by dying larvae establishes an infection cycle in the crop	
✔ Heligen applications to sub-threshold larval numbers are sufficient to establish an infection cycle in the crop	Larvae do not progress to the damaging 4th and 5th instar stages	
	A single application at early flowering will control <i>Helicoverpa</i> for the season	Can delay or eliminate the need for a chemical insecticide to control <i>Helicoverpa</i>
Versatile application options	Can be applied by ground, air or chemigation	
Rainfall enhances NPV performance	No need to delay application if rain is expected	
High concentrate formulation	Low application rates and reduced storage requirements	
✔ Highly compatible with pesticides and foliar fertilizers	Can be mixed with pyrethroids and aphicides	Can be mixed with fungicides and herbicides
Low risk of <i>Helicoverpa</i> developing resistance to NPV	<ul style="list-style-type: none"> • Can be used for season-long control • Decades of effective use with no reductions in performance • Effective resistance break for chemical insecticides 	
Nil toxicity	Safe to humans and the environment	
Nil residues	Heligen can be applied up to the day of harvest	

LARVAL TARGET	RATE OF HELIGEN	
	Sorghum	Soybeans
Sub-threshold populations AND/OR Larvae less than 7 mm in length	0.7 fl.oz/ac	1.0 fl.oz/ac
Threshold populations AND/OR Larvae 7 to 13 mm in length	1.4 fl.oz/ac	1.6 fl.oz/ac



APPLICATION METHODS:

- » Ground rig – Minimum 10 gallons of water per acre
- » Aerial High Volume – Minimum 3 gallons of water per acre
- » Aerial Low Volume (Sorghum only) – Minimum 1 gallon of water per acre plus anti-evaporation additive (such as 2% emulsifiable oil)
- » Application via overhead irrigation water (chemigation) is highly effective
- » Aerial Ultra Low Volume – Minimum 1 quart of an approved oil carrier per acre using micronair nozzles. Do not tank mix with other pesticides or fertilizers using this application method



ORDERS AND LOGISTICS Ph: 1-866-930-2108
Fax: 1-866-930-7955

TECHNICAL ENQUIRIES Ph: (931) 218-3545
www.agbitech.com

This technical note is only intended as a guide - always read the Heligen label prior to use. Heligen is a trademark of AgBiTech Pty Ltd. EPA Registration Number: 87978-2

Achieving optimal performance with Heligen*

*Active ingredient: Helicoverpa NPV (nucleopolyhedrovirus)

Coverage, coverage, coverage

Thorough coverage of Heligen on the target plant is vital because LARVAE MUST INGEST THE VIRUS for infection to occur. Coverage can be optimized by:

- » Using higher application volumes
- » Selecting appropriate nozzles and boom setup
- » Applying Heligen in overhead irrigation water where possible

Larval size

- » Ideally target larvae less than 7 mm in length - particularly in high value crops
- » Larvae larger than 13 mm should NOT be targeted with Heligen = unsatisfactory control
- » Larvae between 7 and 13 mm in length can be effectively controlled, however some damage can occur

Spray solution pH

- » NPV can be rapidly degraded by high (alkaline) pH
- » If the spray mixture pH is above 8.0 a suitable buffer or acidifier should be added
- » pH levels above 8.8 will damage NPV particles = reduced or no control



Ensure larvae are actively feeding at the time of spray

Environmental conditions at time of spray

IDEAL CONDITIONS FOR HELIGEN

WARM TEMPERATURES 68 - 95°F

HUMID Above 40% relative humidity

- » Ensures larvae are actively feeding
- » Minimizes droplet evaporation

AVOID APPLYING HELIGEN

HIGH TEMPERATURES Above 95°F

LOW HUMIDITY Below 40% relative humidity

- » High evaporation = poor coverage = reduced Heligen performance

NOTE: Active feeding at the time of spraying is vital because NPV is rapidly broken down by ultra-violet light and therefore has a short residual life on the plant surface.

Helicoverpa growth stage identification

Showing the actual size of *H. zea* larvae at a given age (days since egg hatch) when reared at 77°F.

Instar	Age days	Size category	Length mm	Actual size	Heligen timing
1st	0 - 2	Very Small	1 - 3		✓✓
2nd	2 - 4	Small	4 - 7		✓✓
3rd	4 - 8	Medium (small)	8 - 13		✓
4th	8 - 11	Medium (large)	14 - 23		✗
5th	11 - 14	Large	24 - 28		✗
6th	14 - 18+	Large (snake)	29 - 40+		