

**BUG FREE**

**GRAINS**

*Stored Product Solutions*



# PRODUCT APPLICATION GUIDE



The Bug Free Grains lineup from Central Life Sciences includes a variety of products such as insect growth regulators, synergists, insecticides and combination products. Designed for use during the sanitation and grain storage process, these products are available in different formulations that allow for an array of application methods.

This guide contains helpful product information while providing the necessary application and dilution rates of each product for specific grain commodities and treatments. Please be sure to always read and follow label directions for product use.



## APPLICATION RATES\*

### Amount of Gravista™/1,000 Bushels of Grain

Commodity	Treatment at 0.5 ppm Deltamethrin/ 14 ppm PBO/1.2 ppm (S)-Methoprene		Gallons of Diluent	Liters of Diluent
	fl. oz.	mL		
Barley	31	916	3-5	11.3-19
Corn	35.6	1,053	3-5	11.3-19
Oats	20.38	603	3-5	11.3-19
Popcorn	35.6	1,053	3-5	11.3-19
Rice	28.5	843	10	11.3-19
Rye	35.6	1,053	3-5	11.3-19
Sorghum (milo)	31.7	937	3-5	11.3-19
Wheat	38	1,124	3-5	11.3-19

### Amount of Gravista™/Ton of Grain

Commodity	Treatment at 0.5 ppm Deltamethrin/14 ppm PBO/ 1.2 ppm (S)-Methoprene		Ounces of Diluent	Milliliters of Diluent
	fl. oz.	mL		
Barley, Corn, Oats, Popcorn, Rice, Rye, Sorghum (milo), Wheat	1.3	38	13-21	384-630

\* See label for complete product directions.

## DILUTION RATES

### Gravista™ Dilution Rates

#### Application

On-grain application with water or food grade oil	3-5 gal. solution per 1,000 bu.
Rough rice spray	10 gal. of water per 1,000 bu.
Grain bins/warehouse	1-6 fl. oz. + 1 gal. water per 1,000 sq. ft.

Can be applied directly on grain streams and as an empty-bin and warehouse treatment.

Features 3-in-1 insect control with an adulticide, an insect growth regulator (IGR) and a synergist, killing listed exposed insects and breaking their life cycles.





## APPLICATION RATES\*

### Amount of Centynal™ Synergized Insecticide/1,000 Bushels of Grain

Commodity	Treatment at 0.5 ppm Deltamethrin/14 ppm PBO		Gallons of Diluent	Liters of Diluent
	fl. oz.	mL.	gal.	L.
Barley	31	916	3-5	11.3-19
Corn	35.6	1,053	3-5	11.3-19
Oats	20.38	603	3-5	11.3-19
Popcorn	35.6	1,053	3-5	11.3-19
Rice	28.5	843	10	11.3-19
Rye	35.6	1,053	3-5	11.3-19
Sorghum (milo)	31.7	937	3-5	11.3-19
Wheat	38	1,124	3-5	11.3-19

### Amount of Centynal™ Synergized Insecticide/Ton of Grain

Commodity	Treatment at 0.5 ppm Deltamethrin/14 ppm PBO		Ounces of Diluent	Milliliters of Diluent
	fl. oz.	mL.	fl. oz.	mL.
Barley, Corn, Oats, Popcorn, Rice, Rye, Sorghum (milo), Wheat	1.3	38	13-21	384-630

\* See label for complete product directions.

## DILUTION RATES

### Centynal™ Synergized Insecticide Dilution Rates

#### Application

On-grain application with water or food grade oil	3-5 gal. solution per 1,000 bu.
Rough rice spray	10 gal. of water per 1,000 bu.
Grain bins/warehouse	1-6 fl. oz. + 1 gal. water per 1,000 sq. ft.

Features an  
adulticide and a  
synergist, designed  
to meet short-term  
storage or rescue  
treatment needs.





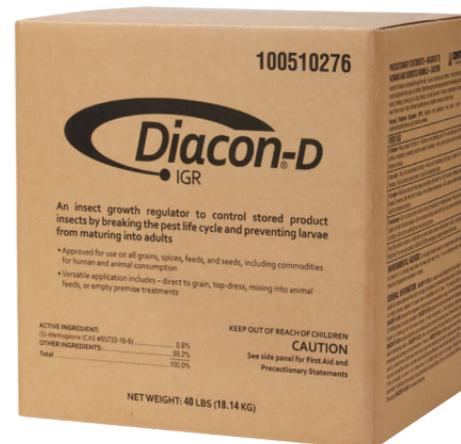
# APPLICATION RATES

## Diacon®-D IGR Application Rates

### Application

Loading grain	8-10 lbs. per 1,000 bu.
Mixing into animal feed	.33 lbs. per ton of feed
Area treatments	1.5 oz. per 1,000 sq. ft.

Designed for water-challenged operations.





## APPLICATION RATES\*

### Diacon® IGR Application Rates (Per 1,000 Bushels) in Solution

Commodity	fl. oz.
Wheat	7
Corn	7
Sorghum (Milo)	7
Barley	6
Rice	6
Oats	4
Peanuts**	4
Sunflower	4

**Breaks the insect  
life cycle.**

\* See label for complete product directions.

\*\* For peanuts, use water solution only.

## DILUTION RATES

### Diacon® IGR Dilution Rates

#### Application

On-grain application with water as carrier	5 gal. of solution per 1,000 bu.
On-grain application with food grade oil as carrier***	1 gal. of solution per 1,000 bu.
Rice spray with carrier as water	10 gal. of solution per 1,000 bu.
Fogging - aerosol generators****	1/10 fl. oz. per 10,000 cu. ft.

\*\*\* Apply at the oil manufacturer's label application rate.

\*\*\*\* Follow equipment manufacturer instructions for amount of diluent.

**Broad-spectrum control.**







## APPLICATION RATES\*

### Amount of Diacon® IGR PLUS/1,000 Bushels of Grain

Commodity	0.5 ppm	1 ppm	Gallons of Water	Food Grade Mineral Oil/Gallon
	Deltamethrin/ 1.25 ppm (S)-Methoprene	Deltamethrin/ 2.5 ppm (S)-Methoprene		
	fl. oz.	fl. oz.	gal.	gal.
Barley	7.75	15.5	5	1
Corn	9	18	5	1
Oats	5.15	10.3	5	1
Popcorn	9	18	5	1
Rice	7.2	14.4	5	1
Rye	9	18	5	1
Sorghum (milo)	8	16	5	1
Wheat	9.6	19.2	5	1

\* See label for complete product directions.

## DILUTION RATES

### Diacon® IGR PLUS Dilution Rates

#### Application

On-grain application	3-5 gal. liquid per 1,000 bu.
Rough rice spray	10 gal. liquid per 1,000 bu.
Surface spray	1 fl. oz. Diacon® IGR PLUS + 1.5 fl. oz. PBO-8® Synergist + water to make 1 gal. of solution per 1,000 sq. ft.

**Combination product for pre-bin treatments and on-grain applications.**

#### Follow the 1-1-1 Rule for Pre-Bin Treatments:

- 1 fl. oz. Diacon® IGR PLUS
- 1 gal. water
- 1,000 sq. ft.





## APPLICATION RATES\*

### Amount of Centynal™ EC Insecticide/1,000 Bushels of Grain

Commodity	0.5 ppm	1 ppm	Gallons of Water	Food Grade Mineral Oil/Gallon
	fl. oz.	fl. oz.	gal.	gal.
Barley	7.75	15.5	3-5	} Follow oil manufacturer's recommendation
Corn	9	18	3-5	
Oats	5.15	10.3	3-5	
Popcorn	9	18	3-5	
Rice	7.2	14.4	3-5	
Rye	9	18	3-5	
Sorghum (milo)	8	16	3-5	
Wheat	9.6	19.2	3-5	

## DILUTION RATES

### Centynal™ EC Insecticide Dilution Rates

#### Application

On-grain application with water as carrier	3-5 gal. solution per 1,000 bu.
On-grain application with food grade oil as carrier	Follow oil manufacturer's recommendation
Rough rice spray	10 gal. liquid per 1,000 bu.

**Emulsifiable concentrate formulation.**

### Centynal™ EC Insecticide Tank Mix Rates

PBO-8® Synergist	1 part Centynal™ EC Insecticide + 1.5 parts PBO-8® Synergist
Diacon® IGR	4 fl. oz. in mix to do 5 gallons solution per 1,000 bu.

**Treating the outside of bins**

**Mix:**  
1 fl. oz. of Centynal™ EC Insecticide  
+ 1 gal. water = 1,000 sq. ft.

**Broadcast Spray:**  
2-3 ft. up the bin foundation  
6-10 ft. around bin perimeter

**Treatment Frequency:**  
21-28 days





## APPLICATION RATES\*

### Amount of PBO-8<sup>®</sup> Synergist/1,000 Bushels of Grain

Commodity	Mixing with Centynal™ EC Insecticide at 0.5 ppm	Mixing with Diacon <sup>®</sup> IGR PLUS at 0.5 ppm Deltamethrin/1.25 ppm (S)-Methoprene
	fl. oz.	fl. oz.
Barley	11.625	11.625
Corn	13.5	13.5
Oats	7.725	7.725
Popcorn	13.5	13.5
Rice	10.8	10.8
Rye	13.5	13.5
Sorghum (milo)	12	12
Wheat	14.4	14.4

**Improves efficacy of insecticides  
with added boost.**



**Helps fight insect resistance.**

\*See label for complete product directions.



## APPLICATION RATES\*

To kill exposed stages of the species listed below, use the indicated rate of InseLux™ Fog & Mill Spray per 1,000 cu. ft.

Insect	Rate of InseLux™ Fog & Mill Spray in fluid ounces:
<ul style="list-style-type: none"> <li>House Flies, Indian Meal Moths</li> <li>Sawtoothed Grain Beetles</li> <li>Mosquitoes, Rice Weevils</li> </ul>	1 fl. oz.
<ul style="list-style-type: none"> <li>Almond Moths, Angoumois Grain Moths, Boxelder Bugs, Bran Bugs</li> <li>Cadelles, Carpet Beetles</li> <li>Cheese Mites, Cheese Skippers</li> <li>Chocolate Moths, Cigarette Beetles</li> <li>Clover Mites, Crickets</li> <li>Confused Flour Beetles, Drugstore Beetles, Earwigs, Flour Beetles, Grain Beetles, Grain Mites, Granary Weevils</li> <li>Fruit Flies, Gnats, Non-Biting Ham Mites</li> <li>Lesser Grain Borers, Mealworms</li> <li>Mediterranean Flour Moths</li> <li>Merchant Grain Beetles</li> <li>Nuisance Ants**</li> <li>Red Flour Beetles, Rice Flour Beetles</li> <li>Rusty Grain Beetles, Silverfish</li> <li>Small Flying Moths, Spider Beetles</li> <li>Tobacco Moths, Warehouse Beetles</li> <li>Spiders***</li> </ul>	2 fl. oz.

## DILUTION RATES

### InseLux™ Fog & Mill Spray Dilution Rates

May be applied undiluted or diluted with mineral oil at a 1:1 ratio through mechanical, thermal or compressed air fogging systems, as a fogging mist or space spray.

**Fogging and space spray for use in flour mills, feed mills, warehouses, barns, food handling establishments and other storage facilities.**

**Features an adjuvant, a synergist and an insect growth regulator (IGR) to kill exposed insects and break the insects' life cycle for long-term control.**



\* See label for complete product directions.

\*\* Except carpenter, fire, harvester and pharaoh ants.

\*\*\* Except black widows and brown recluse spiders.



**THE BUG FREE GRAINS LINEUP OF PRODUCTS HELPS CONTROL THE MOST COMMON STORED GRAIN INSECTS FOUND ON YOUR OPERATION.**

**Lesser Grain Borer**



**Red Flour Beetle**



**Rice Weevil**



**Sawtoothed Grain Beetle**



**Indian Meal Moth**



**Granary Weevil**



**Confused Flour Beetle**



To learn more about the Bug Free Grains product lineup,  
call 1-800-248-7763 or visit

**BugFreeGrains.com**



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