



## LumiGEN™

LumiGEN™ seed treatments is an industry-leading seed applied technology portfolio built to help farmers establish healthy, uniform crops and maximize productivity with Pioneer® brand genetics.

### **DESIGNED FOR OUR GENETICS**

The best seed treatments for Pioneer genetics, meticulously chosen from hundreds of products

### **VERIFIED TO PERFORM**

Each treatment undergoes a 6-step process from plantability, application, and seed safety, to stewardship, efficacy, and regulatory to ensure it will perform as designed

### **PROVEN IN THE FIELD**

Extensively tested across multiple years, geographies, environments, genetics spectrum and planting equipment

**BUILT FOR YOUR SUCCESS.**

## CORN SEED TREATMENT OFFERINGS

The new LumiGEN™ seed treatments corn portfolio brings farmers peace of mind by protecting elite corn genetics from disease, insects and harmful nematodes to maximize yield potential.

**Premium offer** includes fungicide package, Lumialza™ nematicide seed treatment, and two different modes of action for insect protection, Lumivia® insecticide seed treatment + clothianidin

Corn rootworm offer includes fungicide package, and Poncho® 1250 + VOTIVO® insecticide

### FUNGICIDE PACKAGE: Full spectrum and multi-mode of action disease protection

DISEASE PROTECTION	INGREDIENTS	HIGHLIGHTS	THOROUGHLY TESTED
<ul style="list-style-type: none"> <li>Pythium</li> <li>Fusarium</li> <li>Rhizoctonia</li> <li>Head smut</li> <li>Penicillium &amp; Aspergillus</li> <li>Seed-borne disease</li> </ul>	<ul style="list-style-type: none"> <li>Maxim® Quattro</li> <li>Ethaboxam</li> <li>Ipconazole</li> <li>L-2012 R biofungicide</li> </ul>	<p><b>Ipconazole</b> is an enhanced ingredient against Rhizoctonia and Fusarium</p>	<p><b>+3.0 bu/a</b> advantage in research trials<sup>1</sup></p>
		<p><b>Ethaboxam</b> provides enhanced activity on Pythium species, including resistant Pythium species gaps</p>	<p><b>+2.9 bu/a</b> advantage in research trials<sup>2</sup></p>
		<p><b>L-2012 R</b> biofungicide inhibits seedling and root pathogens, increasing nutrient uptake through healthier roots</p>	<p>L-2012 R demonstrated <b>+1.9 bu/a</b> advantage in research trials<sup>3</sup></p>

### INSECTICIDE PACKAGE: A unique combination for effective insect control

#### PREMIUM OFFERING

INSECT PROTECTION	INGREDIENTS	HIGHLIGHTS
<ul style="list-style-type: none"> <li>Wireworm</li> <li>White grub</li> <li>Black cutworm</li> <li>Fall armyworm</li> <li>Seed corn maggot</li> <li>Billbug</li> <li>Other early-season insects</li> </ul>	<ul style="list-style-type: none"> <li>Lumivia 250 insecticide seed treatment</li> <li>Clothianidin 250</li> </ul>	<p>Combined, these two modes of action provide protection against the broadest insect spectrum in the industry, delivering better plant stands and reducing runt plants.</p>

OR **Poncho 1250 + VOTIVO insecticide** offered in place of the premium nematicide and insecticide offer to those focused on corn rootworm protection

### NEW Nematode protection with Lumialza™ nematicide seed treatment

#### PREMIUM OFFERING

NEMATODE PROTECTION	HIGHLIGHTS	THOROUGHLY TESTED
<ul style="list-style-type: none"> <li>Sting</li> <li>Needle</li> <li>Lance</li> <li>Stubby-root</li> <li>Root-knot</li> <li>Dagger</li> <li>Lesion</li> </ul>	<ul style="list-style-type: none"> <li>Biological nematicide that shields roots from harmful nematodes while cooperating with beneficial organisms</li> <li>&gt;80 days of root protection in all root zones</li> </ul>	<p>Yield advantage of <b>3.7 bu/a</b> under low nematode pressure, and <b>up to 9 bu/a</b> under heavier pressure<sup>4</sup></p>

# SOYBEANS

## SOYBEAN OFFERINGS

Protect your soybean genetic investment with best-in-class seed treatments against disease, pests and uncertain soil conditions during the critical early growth period.

### FUNGICIDE + BIOLOGICAL STANDARD PACKAGE:

Unmatched disease protection with healthy root growth promotion

DISEASE PROTECTION	INGREDIENTS	FEATURES	THOROUGHLY TESTED
<ul style="list-style-type: none"> <li>Phytophthora</li> <li>Pythium</li> <li>Fusarium</li> <li>Rhizoctonia</li> <li>Phomopsis</li> </ul>	<ul style="list-style-type: none"> <li><b>Lumisena</b>® fungicide seed treatment</li> <li><b>EverGol</b>® Energy fungicide seed treatment</li> <li><b>L-2030 G</b> biofungicide</li> </ul>	<p><b>Lumisena</b> fungicide seed treatment provides best in class protection against Phytophthora</p>	<p>Lumisena fungicide demonstrated a <b>+4.0 bu/a</b> in Phytophthora-susceptible fields, and +1.0 bu/a across broad acres<sup>5</sup></p>
		<p><b>L-2030 G</b> biofungicide inhibits pathogens, activates roots' natural defense, improving nutrient uptake through healthier roots and sites for nodulation</p>	<p>L-2030 G demonstrated <b>+0.6 bu/a</b> advantage in research trials<sup>6</sup></p>

**Gaucha**® insecticide seed treatment for those focused on broader pest protection, including early-season insects

INSECT PROTECTION	HIGHLIGHTS
<ul style="list-style-type: none"> <li>Bean leaf beetle</li> <li>Early season aphid</li> <li>Seed corn maggot</li> </ul>	<p>Reduces leaf feeding and risk of late-season bean pod mottle virus</p>

**Adding ILEVO**® fungicide/nematicide seed treatment provides extra protection for many at-risk acres

PROTECTION	HIGHLIGHTS	THOROUGHLY TESTED
<ul style="list-style-type: none"> <li>Soybean cyst nematode (SCN)</li> <li>Sudden death syndrome (SDS)</li> </ul>	<p>Offered at different rates: a lower rate for protection against SCN and a higher rate to include SCN and SDS</p>	<p>ILEVO fungicide/nematicide demonstrated a +2.0 bu/a at all locations and environments and +6.4 bu/a at heavy SDS locations in agronomy research trials<sup>7</sup></p>

### ADDITIONAL OPTIONS TO ANY PACKAGE

- Inoculant 120+** to help improve nitrogen fixation and prolong rhizobia up to 120 days after application
- Pizazz**® dry seed finisher for improved handling, flowability and appearance

# ADDITIONAL CROPS

## Sunflower seed treatment

INSECTICIDE TREATMENT	FUNGICIDE TREATMENT	HIGHLIGHTS
<ul style="list-style-type: none"> <li>Cruiser®</li> </ul>	<ul style="list-style-type: none"> <li>Apron XL®</li> <li>Maxim® 4FS</li> <li>Dynasty®</li> <li>Lumisena® fungicide seed treatment</li> </ul>	<b>Lumisena</b> fungicide provides exceptional protection against downy mildew

## Wheat seed treatment

INSECTICIDE/FUNGICIDE TREATMENT	HIGHLIGHTS
<ul style="list-style-type: none"> <li>Cruiser</li> <li>Vibrance®</li> <li>Dividend Extreme®</li> <li>Maxim 4FS</li> </ul>	Recipe provides protection against early-season disease in insect pests enabling better stands and yield potential

## Sorghum seed treatment

PROTECTION	INGREDIENTS	TREATMENT BENEFITS
<b>Seed Safener</b>	Concep® III	Helps protect grain or forage sorghum from the phytotoxic effects of S-metolachlor herbicides
<b>Fungicide Seed Treatment</b>	Maxim® XL	Seed and seedling protection against fungi-causing seed decay, and the pathogens <i>Rhizoctonia solani</i> , <i>Fusarium</i> and <i>Pythium</i>
	Apron XL	Systemic control of <i>Pythium</i> damping-off
	Dynasty	Broadens the range of disease protection and enhances the level of activity on seedborne diseases such as <i>Fusarium</i> , <i>Rhizoctonia</i> and <i>Pythium</i>

Optional **Cruiser 5FS** provides systemic protection from seed and seedling damage caused by early-season insects.

## Canola seed treatment

INSECTICIDE/FUNGICIDE TREATMENT	HIGHLIGHTS
<ul style="list-style-type: none"> <li>Helix® Vibrance®</li> </ul>	Protection against early-season insects and diseases

Optional **Lumiderm™ insecticide seed treatment** provides protection against cutworms and flea beetles

Optional **Jumpstart®** inoculant for enhanced phosphate availability

<sup>1</sup> Data is based on replicated strip and IMPACT™ plot trials comparing Lumiflex-based recipe to the 2018 seed treatment recipe without Lumiflex. This 2018 data included 212 location comparisons in the overall and 93 locations which were under early season stress.

<sup>2</sup> Data is based on replicated research trials from 2013-2015 at 50 locations comparing standard IST/FST seed treatment recipe with Lumianto to recipe without.

<sup>3</sup> Data is based on replicated research trials in 2017 at 29 locations comparing the standard IST/FST seed treatment recipe with L-2012R to recipe without.

<sup>4</sup> Data is based on 10-state broad-acre head-to-head strip trial comparing Lumialza™ nematocidal seed treatment vs. non-nematocidal seed treatment utilizing the same insecticide and fungicide recipe in seed applied technology replicated and strip trial data. Yields ranged from 3 to 9 bu/a depending on nematode species and population, in 184 low stress and 54 moderate to high stress locations.

<sup>5</sup> Data is based on 638 head-to-head comparisons between Lumisena™ fungicide seed treatment (0.568 fl oz/cwt) and metalaxyl (0.75 fl oz/cwt) in the top 10 soybean-producing states through Dec. 12, 2017.

<sup>6</sup> Data is based on replicated research trials in 2011 at 77 locations comparing the standard FST seed treatment recipe with L-2012R to recipe without.

<sup>7</sup> Data is based on average of comparisons in Pioneer Agronomy Science trials from 2012-2015 at 165 locations.

The foregoing is provided for informational use only. Please contact your Pioneer sales professional for information and suggestions specific to your operation. Product performance is variable and depends on many factors such as moisture and heat stress, soil type, management practices and environmental stress as well as disease and pest pressures. Individual results may vary.

**Lumisena™**  
FUNGICIDE SEED TREATMENT

**Lumivia®**  
INSECTICIDE SEED TREATMENT

**Lumialza™**  
NEMATOCIDAL SEED TREATMENT

**Lumiderm™**  
INSECTICIDE SEED TREATMENT

**ILEVO®**  
Seed Treatment

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