THE ANATOMY OF THE NEWEST PULSE SEED TREATMENT.
{ And how its benefits go well beyond the seed. }

- The first truly systemic pulse seed treatment with Xemium®, for broad-spectrum disease control
- Increased seedling vigour both above and below ground
- Enhanced ability to manage environmental stresses
- More consistent and increased emergence, including under cold conditions
NEW - Insure Pulse

- **Active Ingredients:**
  - Xemium
  - Pyraclostrobin
  - Metalaxyl

- **Registered Crops:**
  (Crop Subgroup 6C)
  - Field Pea
  - Chickpea
  - Lentils
  - Dry bean
  - Faba bean
  - Flax

- **RTU Formulation**

- **Propylene Glycol based formulation**

- **Now registered for sale in Canada**
NEW - Insure Pulse

➢ First Seed Treatment in Canada to contain Xemium
   ➢ First truly systemic seed treatment for pulse & flax crops
   ➢ More continuous & consistent disease control

➢ First Pulse and Flax Seed Treatment to offer benefits of AgCelence
   ➢ More consistent & increased germination
   ➢ Enhanced seedling vigour above & below ground
   ➢ Enhanced ability to manage exposure to environmental stress
What makes Insure Pulse unique?

- **Insure Pulse** is the first truly systemic pulse seed treatment containing the new active ingredient, Xemium, for more consistent and continuous disease control
  - Xemium exhibits unique plant mobility and translocation characteristics, enabling it to spread throughout entire seedling, roots and shoots
  - Plant wide distribution ensures protection right from initial developmental stages, providing reliable, consistent disease control
  - Contributes to a better plant stand, which is the foundation for a healthier crop and yield potential

Radiolabelled Xemium, shown to translocate from the seed throughout the seedling providing continuous, consistent disease control. BASF Internal Study. Germany 2012.

**Insure Pulse is not registered for use on Soybeans in Canada – research purposes only**
What makes Insure Pulse unique?

- Increased germination and seedling emergence
- Increased plant biomass, both above and below ground
- More consistent crop staging

- Broad-spectrum disease control
- Uses active ingredients from Groups 4, 7 and 11 for multiple modes of action (MMOA)

- Enhanced ability to manage exposure to stress
- Improved emergence under cold conditions

BASF
We create chemistry
# Insure Pulse - Technical Information

## Active Ingredients
- Metalaxyl (Group 4), Xemium (Fluxapyroxad, Group 7), Pyraclostrobin (Group 11)

## Crops registered (Crop Subgroup 6C)
- Field peas, lentils, flax, faba beans, dry beans and chickpeas

## Application rates

<table>
<thead>
<tr>
<th>Crop Type</th>
<th>Active Ingredient</th>
<th>Rate 1</th>
<th>Rate 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field pea</td>
<td></td>
<td>120</td>
<td>1469</td>
</tr>
<tr>
<td>Small red lentil</td>
<td></td>
<td>120</td>
<td>1469</td>
</tr>
<tr>
<td>Large green lentil</td>
<td></td>
<td>120</td>
<td>1469</td>
</tr>
<tr>
<td>Chickpea</td>
<td></td>
<td>120</td>
<td>1469</td>
</tr>
<tr>
<td>Flax</td>
<td></td>
<td>64 to 128</td>
<td>787 to 1575</td>
</tr>
<tr>
<td>Faba bean</td>
<td></td>
<td>120</td>
<td>1469</td>
</tr>
<tr>
<td>Dry bean</td>
<td></td>
<td>120</td>
<td>1469</td>
</tr>
</tbody>
</table>

1. For flax (*Linum usitatissimum*), use the higher rate if: a) there is a history of high disease pressures in the field or b) where field conditions favour seed- and soil-borne pathogens. If using the 600 ml per 100 kg rate, it is highly recommended that the seed be treated in a bin or truck box to allow the treated seed to dry prior to placing into the seeder hopper. This will prevent clumping and bridging in the seeder.

## Package size
- Case: 2 x 9.8 L jugs.
- Also available in 120 L drum.

## Diseases controlled and suppressed

### Pulse diseases controlled
- Seed rot and seedling blight caused by soil-borne *Fusarium* spp. and *Pythium* spp.
- Seed rot, seedling blight and root rot caused by soil-borne *Rhizoctonia solani*
- Seedling blight caused by seed-borne *Ascochyta* spp.

### Pulse diseases suppressed
- Root rot caused by soil-borne *Fusarium* spp.
- Seed rot and seedling blight caused by seed-borne *Botrytis cinerea*
- Anthracnose seedling blight caused by seed-borne *Colletotrichum lindemuthianum*

### Flax diseases controlled
- Seed rot, seedling blight and root rot caused by soil-borne *Fusarium* spp. and *Rhizoctonia solani*
Insure® Pulse has the highest degree of disease control offered in a pulse and flax seed treatment

Source: Third party generated registration data, 2015
Insure Pulse - Disease control in Lentil & Chickpea

Insure® Pulse has the highest degree of disease control offered in a pulse and flax seed treatment

Source: Third party generated registration data, 2015
Insure Pulse - Disease control

Insure® Pulse has the highest degree of disease control offered in a pulse and flax seed treatment.
Insure Pulse – Enhanced Emergence

Insure® Pulse provides more consistent and increased emergence, including under cold conditions.

Source: Third party generated registration data, 2015
Insure Pulse – Enhanced Emergence

Insure® Pulse provides more consistent and increased emergence, including under cold conditions.

Meadow pea – 10 days after planting, 9 seeds per pot at 10°C

Insure Pulse – Enhanced Seedling Vigour

Insure® Pulse provides increased seedling vigour, both above and below ground.

Source: Third party generated registration data, 2015
Insure Pulse - Benefits

Competitor | Insure Pulse

Fungicide Seed Treatment

Competitor | Insure Pulse

Fungicide Seed Treatment

150 years
Insure Pulse - Benefits

Source: BASF Research Authorization Trial, Wynyard, SK. 2014
Insure® Pulse
Fungicide Seed Treatment
Enhanced Ability to Manage Stress

Control -3°C 1 h -4°C 1 h -5°C 1 h -6°C 1 h

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