

## 2018 Chickpea Seed Treatment Options

### Disease Reference — Action Thresholds and Registered Seed Treatment Options

| Disease (Pathogen)                       | Threshold on Seed   | Action If Over Threshold   | Seed Treatment Options |                |                |                             |                 |                                |               |                        |            |                  |                           |                          |                                 |
|--|---|--|------------------------|----------------|----------------|-----------------------------|-----------------|--------------------------------|---------------|------------------------|------------|------------------|---------------------------|--------------------------|---------------------------------|
|  |   |  | Agrox® FL              | Allegiance® FL | Apron® Advance | ApronMaxx® RTA with INTEGO™ | Belmont™ 2.7 FS | CruiserMaxx® Vibrance Pulses** | Insure Pulse® | INTEGO™ Solo Fungicide | Trilex® AL | Trilex® EverGol® | Trilex® EverGol® SHIELD** | Vibrance® Maxx RTA / RFC | Vibrance® Maxx RFC with INTEGO™ |
| <i>Ascochyta rabiei</i>                  | 0 to 0.3 per cent   | Use seed treatment   |                        |                |                |                             |                 |                                |               |                        |            |                  |                           |                          |                                 |
|  | Greater than 0.3 per cent   | Do not plant seed  |                        |                | X              | X                           |                 | X                              | X             |                        | X*         | X*               | X*                        | X                        | X                               |
| <i>Botrytis</i> spp.                     | 10 per cent<br>(total of <i>Fusarium</i> , <i>Botrytis</i> , and <i>Sclerotinia</i> ) | Use seed treatment   |                        |                | X              | X                           |                 | X                              | X*            |                        |            | X                | X                         | X                        | X                               |
| <i>Fusarium</i> spp.                     | 10 per cent<br>(total of <i>Fusarium</i> , <i>Botrytis</i> , and <i>Sclerotinia</i> ) | Use seed treatment   |                        |                | X              | X                           |                 | X                              | X             |                        | X          | X                | X                         | X                        | X                               |
| <i>Pythium</i> spp.                      | Not applicable<br>Soil-borne disease only   | Use seed treatment if:<br>History of disease, seeding under cool-moist conditions, planting Kabuli chickpeas |                        | X              | X              | X                           | X               | X                              | X             | X                      | X          | X                | X                         | X                        | X                               |
| <i>Rhizoctonia</i> spp.                  | Unknown<br>Primarily soil-borne disease   | Use seed treatment if:<br>History of disease, seeding under cool-moist conditions                            |                        |                | X              | X                           |                 | X                              | X             |                        | X          | X                | X                         | X                        | X                               |
| <i>Sclerotinia sclerotiorum</i>          | 10 per cent<br>(total of <i>Fusarium</i> , <i>Botrytis</i> , and <i>Sclerotinia</i> ) | ***If in combination with other pathogens on seed, use seed treatment  |                        |                |                |                             |                 |                                |               |                        |            |                  |                           |                          |                                 |
| Unspecified Root Rot/<br>Seedling Blight | Not applicable  | Use seed treatment if:<br>History of disease, seeding under cool-moist conditions                            | X                      |                |                |                             |                 |                                |               |                        |            |                  |                           |                          |                                 |

\* Product registered for suppression only

\*\* Product contains an insecticide component

\*\*\*No seed treatments are registered specifically for *Sclerotinia* management on chickpea seed

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### Insect Reference—Recommendations and Registered Seed Treatment Options

|          |   | Seed Treatment Options |                                |                    |                           |
|----------|---|------------------------|--------------------------------|--------------------|---------------------------|
|          |   | Cruiser® SFS           | CruiserMaxx® Vibrance Pulses** | Stress Shield® 600 | Trilex® EverGol® SHIELD** |
| Insect   | Recommendation  |                        |                                |                    |                           |
| Wireworm | Use seed treatment if:<br>History of insect pressure on the field or in the nearby area | X                      | X                              | X                  | X                         |

\*\* Product contains fungicide components

**Action thresholds have not been identified for all disease and insect risks in chickpeas, so the recommendations provided are based on thresholds from similar crops, identified action thresholds for chickpeas, or rules of thumb.**

Understanding seed quality and using seed treatments on pulse seed when risk of disease or insect damage is present, is critical to maximizing yield.

Fungicide seed treatments protect the seed and seedlings from soil-borne diseases as well as those diseases found on the surface of the seed or carried inside of the seed. Seed treatments will not act as a cure for seed that has high disease levels or is poor quality.

In order for a seed treatment to provide effective protection, it is important to ensure that adequate coverage of the seed is achieved and appropriate rates are used for the target pest(s).

Seed treatments will breakdown as the plant begins to develop and as a result, their limit of protection to the seed will only last for the early part of the plant's growth.

When using a seed treatment in combination with an inoculant, it is important to check with the inoculant manufacturer to ensure that there is compatibility with the seed treatment, prior to use.

Seed treated with a seed treatment may pose a risk to other organisms or plants in the environment. Dispose of all leftover treated seed properly, and do not leave treated seed on the soil surface.