

## 2019 Chickpea Seed Treatment Options

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

Pathogen (Disease)	Threshold on Seed	Action If Over Threshold	Seed Treatment Options												
			Agrox® FL	Alliance® FL	Apron® Advance	ApronMaxx® RTA with INTEGO™	Belmont™ 2.7 FS	CruiserMaxx® Vibration Pulses**	Insure Pulse®	INTEGO™ Solo Fungicide	Trilex® EverGol®	Trilex® EverGol® SHIELD**	Vibrance® Maxx RTA / RFC	Vibrance® Maxx RFC with INTEGO™	
<i>Ascochyta rabiei</i>	0-0.3%	Use seed treatment													
	Greater than 0.3%	Do not plant seed			X	X			X	X		X*	X*	X	X
<i>Botrytis</i> spp. (seed-borne)	10% on seed (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% on seed (total of <i>Fusarium</i> , <i>Botrytis</i> , and <i>Sclerotinia</i> ) Soil-borne as well	Use seed treatment			X	X			X	X		X	X	X	X
<i>Pythium</i> spp.	Not applicable Soil-borne disease only	Use seed treatment if: 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 Primarily soil-borne disease	Use seed treatment if: History of disease, seeding under cool-moist conditions			X	X			X	X		X	X	X	X
<i>Sclerotinia sclerotiorum</i> (seed-borne)	10% on seed (total of <i>Fusarium</i> , <i>Botrytis</i> , and <i>Sclerotinia</i> )	Use seed treatment							X			X	X		
<b>General seed rot, root rot, damping-off, and seedling blight</b>	Not applicable	Use seed treatment if: History of disease, seeding under cool-moist conditions	X												

\* Product registered for suppression only

\*\* Product contains an insecticide component

(See next page for seed treatments to manage insect pests)

## 2019 Chickpea Seed Treatment Options (continued)

### 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: 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.

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