



□ • BASF

We create chemistry

Stop problems before they start.

Innovative solutions for early-season
disease management in pulses.

Pulse crops face many threats to quality and yield – particularly early-season disease.

Infection from fungal pathogens are highly influenced by weather conditions, crop rotation and history of disease in the field. To minimize the yield and quality robbing implications of early-season disease, employ a preventative management strategy.

Staying ahead of two big challenges.

The two diseases that impact pulses most are mycosphaerella blight in peas and anthracnose in lentils. Since you can expect to see these early season diseases in your fields year after year, it's important to take a preventative approach with a fungicide application at first flower to stop fungal development before it starts.

A blight on pea production.

Mycosphaerella blight is a prevalent foliar disease in Western Canada¹. According to the Canadian Plant Disease Survey, mycosphaerella showed up in 80.6% and 93% of Alberta and Saskatchewan fields respectively surveyed in 2019². The economic implications to pulse crops can be significant, with yield losses up to 80%¹ in high disease environments. To take control of this yield-robbing disease, look for signs of disease from the sixth node to pod fill and use a preventative application of multiple-modes-of-action fungicide at early flower.



Mycosphaerella blight in field peas.

Source: Agriculture Victoria, DEDJTR and Mary Burrows, Montana State University, Bugwood.org

A growing threat for lentil growers.

Anthracoze manifests as microsclerotia – tiny black resting bodies that are released during harvest and overwinter in the soil or in dead plant debris³. Although warm, moist weather provides the ideal conditions for spores to spread, anthracnose occurs consistently in lentil acres. According to the Canadian Plant Disease Survey, anthracnose was present in 92% of lentil fields surveyed in Saskatchewan in 2019².

To take control of anthracnose growers should apply a preventative application of a registered fungicide at first flower or prior to canopy closure.



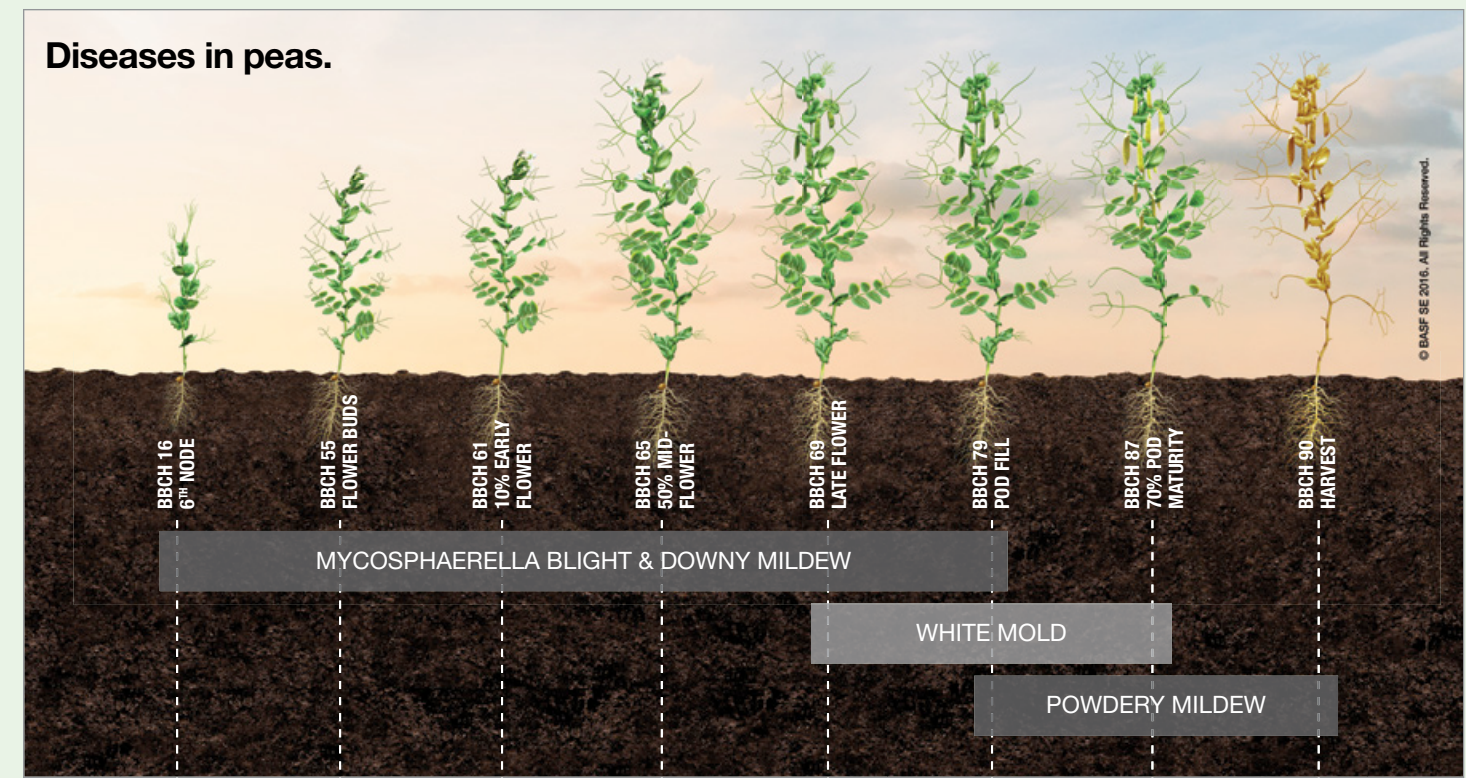
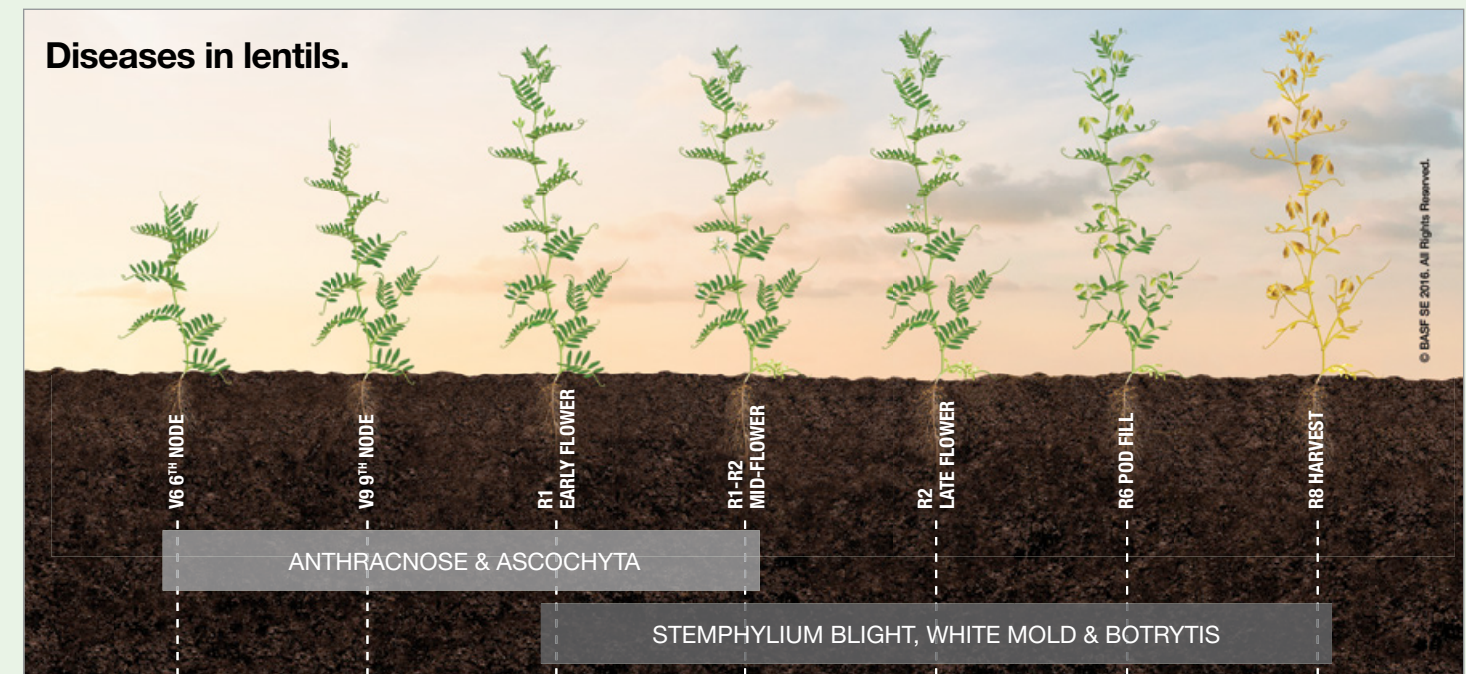
Anthracoze in lentils.

Source: Agriculture Victoria, DEDJTR



More than one way to take control.

Staying ahead of challenges comes easily when you use best management practices to control disease. Planting early with clean, certified disease-free seed is a great start. It's also important to choose varieties with high levels of disease resistance, scout early and often and rotate with non-host crops. And to give seedlings the best start possible, using a fungicide seed treatment is always advisable.



Assessing the risk of disease.

Applying a fungicide at early flower can help keep pulse crops healthy and disease-free. Of course, it's always a good idea to consider disease risk and economics when deciding on whether or not it's necessary⁴. To determine the risk for mycosphaerella in peas or anthracnose and ascochyta blight in lentils, inspect the crop at 10 node to early flower in 10 different areas of the field, give each factor a risk value based on the criteria below and add them up.

IN LENTILS		RISK FACTOR
PLANT STAND	1. Thin (high weed pressure, low yield expectations)	0
	2. Moderate (some weeds, possibly low yield)	5
	3. Normal (about 12 lentil plants/ft ² or 136/m ²)	10
	4. Dense (more plants than normal, lush growth)	15
NUMBER OF DAYS WITH RAIN IN THE LAST 14 DAYS	1. 0 days	0
	2. 1 to 2 days	5
	3. 5 to 6 days	10
	4. 7 or more days	15
THE FIVE-DAY WEATHER FORECAST	1. Dry	0
	2. Unpredictable	5
	3. Light showers	10
	4. Rain	15
SYMPTOMS OF ANTHRACNOSE AND ASCOCHYTA BLIGHT ON LENTIL PLANTS	1. No visible symptoms	0
	2. Few lesions on the lower half of the foliage (up to 10% infected)	5
	3. Lesions on lower half of the foliage (up to 25% infected)	15
	4. Lesions on lower (up to 25%) as well as upper foliage (up to 10%)	25
	5. Lesions on lower foliage and premature leaf drop, characteristics of anthracnose	25
	6. Flowers and/or peduncles infected, characteristics of ascochyta blight	25
TOTAL SCORE OF RISK FACTORS		

If your total is less than **50**, a fungicide application isn't recommended, but you should reassess weekly until full flower.
If your total is **50** or more, a fungicide application is recommended.

Source: Saskatchewan Pulse Growers, developed by Agriculture and Agri-Food Canada

IN PEAS		RISK FACTOR
CROP CANOPY	1. Thin (high weed pressure, low yield expectations)	0
	2. Moderate (some weeds, possibly low yield)	10
	3. Normal (about 8 pea plants/ft ² or 85/m ²)	15
	4. Dense (more plants than normal, lush growth)	30
LEAF WETNESS/HUMIDITY/DEW AT NOON	1. None	0
	2. Low	10
	3. Moderate	20
	4. High	40
THE FIVE-DAY WEATHER FORECAST	1. Dry	0
	2. Unpredictable	10
	3. Light showers	15
	4. Rain	20
SYMPTOMS ON PEA PLANTS	1. No visible symptoms	0
	2. Up to 20% of plants showing symptoms	15
	3. 20 to 50% of plants showing symptoms	25
	4. 50 to 100% of plants showing symptoms	40
TOTAL SCORE OF RISK FACTORS		

If your total is less than **65**, a fungicide application isn't recommended, but you should reassess weekly until full flower.
If your total is **65** or more, a fungicide application is recommended.

Source: Lopetinsky and Strydhort, 2002. Ag Research Division, AARD, Barrhead and the University of Alberta, Edmonton, Alberta, Canada

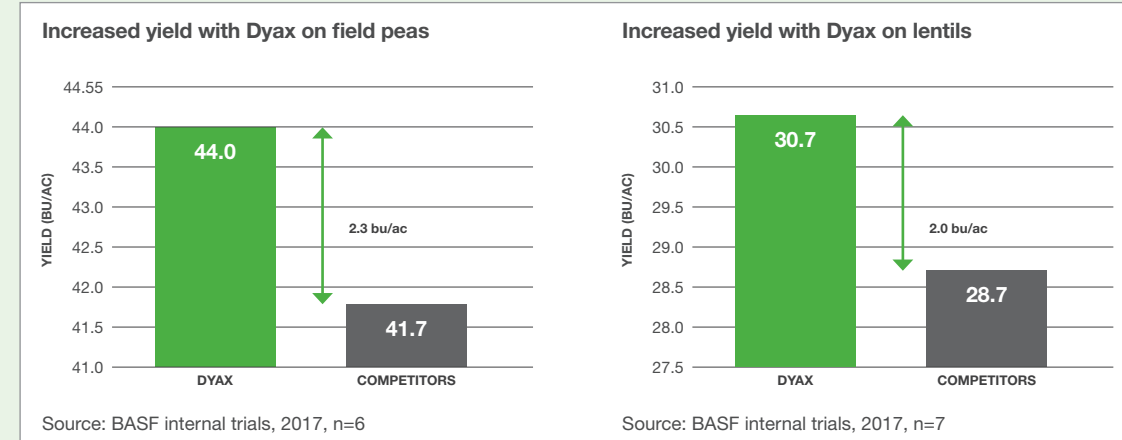
An added measure of protection.

Want to have the upper hand in managing disease pressure? Recommend an **AgCelence**[®] fungicide for exceptional disease control and more. Applied at first flower, Dyax[®] fungicide, delivers the unique mobility of Xemium[®] for even more consistent and continuous control of diseases in pulses, including mycosphaerella blight, anthracnose, ascochyta blight and powdery mildew. It provides multiple modes of effective action for broad-spectrum disease control and resistant management in pulses. And you can expect more with the proven benefits⁵ of **AgCelence**.

Boost disease control. And potential.

Research has shown that **AgCelence** fungicides like Dyax interact with the crop to increase growth efficiency and help better manage minor stress for greater yield potential.⁶ The result is a stronger, healthier crop that's ready to take on disease⁶. And if you want definitive proof, look no further than the following results.

Dyax[®]
Xemium[®] Fungicide

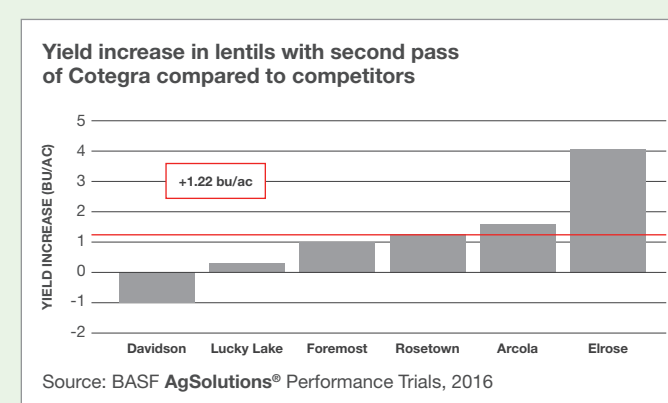


Keep up the excellent work.

When disease pressure is high, it's a good idea to follow up with a second fungicide application 10-14 days after the first to target white mold and other late-season diseases to continue to limit disease severity and frequency.

Cotegra[®]
Fungicide

Cotegra[®] fungicide combines two leading active ingredients for industry-leading disease management of white mold, anthracnose and mycosphaerella blight to preserve crop yield potential and quality in peas and lentils. Formulated as a liquid premix, it offers greater convenience and flexibility with pulse crops and provides significant yield improvements.



¹ Alberta Pulse Growers, 2021. ² Canadian Phytopathological Society, 2020. ³ Saskatchewan Pulse Growers, 2021. ⁴ Forsythe, 2018. ⁵ **AgCelence** benefits refer to products that contain the active ingredient pyraclostrobin. ⁶ All comparisons are to untreated, unless otherwise stated.

For more information, contact your BASF **AgSolutions** Grower or Retail Representative or call **AgSolutions** Customer Care at 1-877-371-BASF(2273).

Always read and follow label directions.

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