

Pioneer® brand 45S51 – New canola hybrid with improved field tolerance to sclerotinia

Pioneer Hi-Bred is proud to have launched the first canola hybrid in our lineup with an improved level of field tolerance to sclerotinia. Pioneer® brand 45S51 also offers superb yield potential and solid agronomic traits.

45S51 is a medium-early canola hybrid with the Roundup Ready® trait. It has been in development for the past ten years. This technology, developed through traditional plant breeding, slows down sclerotinia development and offers growers another disease management tool.

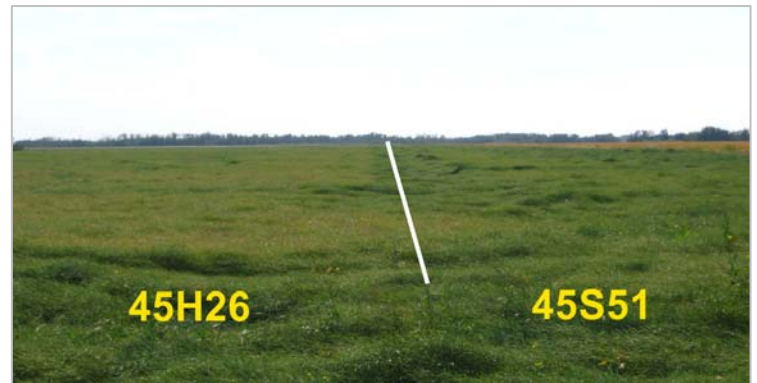
Sclerotinia stem rot of canola is one of the most serious diseases of canola on the Canadian Prairies and yield losses can exceed 50% under high disease pressure (Sask Ag and Food, 2008). It is one of the most variable and unpredictable diseases of canola and incidence levels can vary greatly among both fields and years.

45S51 significantly reduces sclerotinia disease development. On a scale of 1-9, with 9 being at the top of the scale at highly tolerant, 45S51 rates a 5 or moderately tolerant (Table 1).

How does 45S51 work?

45S51 provides improved field tolerance to sclerotinia. The mechanism of tolerance is a combination of the following three factors:

1. Reduction in disease development on the petiole
2. Reduction in disease transfer to the stem
3. Total reduction in stem infections

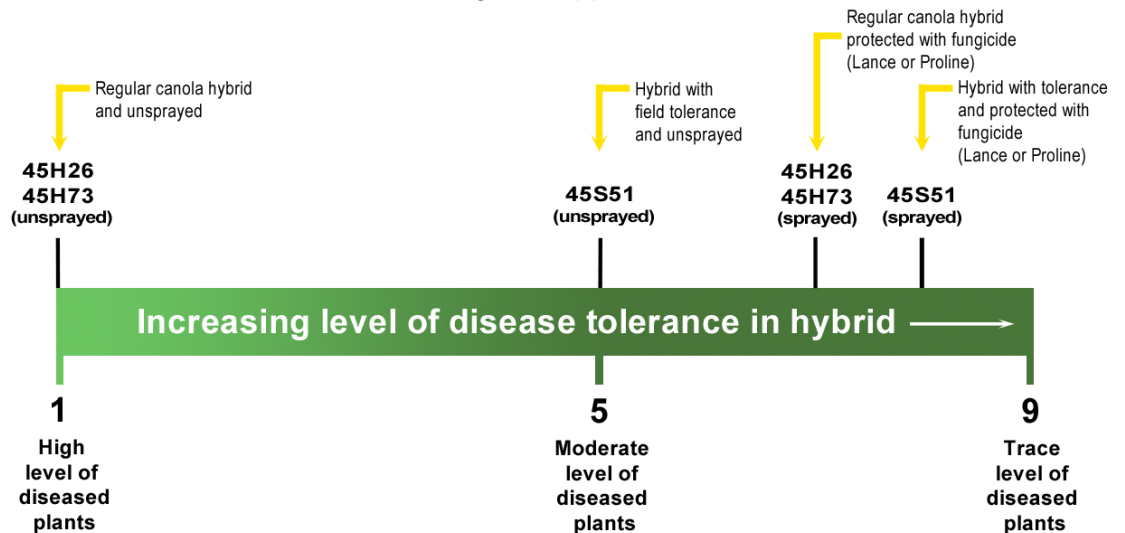


Sclerotinia incidence of 45S51 vs 45H26.
Rosthern, SK, 2008.

The above photo demonstrates the performance of 45S51 vs 45H26. 45S51, right side, contains a lower level of sclerotinia diseased plants. While 45H26, left side, shows a high level of sclerotinia with pre-mature ripening. Neither hybrid received a fungicide application.

Table 1*
Disease tolerance of hybrids given different levels of sclerotinia pressure

*This diagram does not account for extreme years when two fungicide applications are recommended by manufacturers.



2008 Large-scale Field Results

45S51 is a risk management tool for growers. It is important to remember that growing this hybrid does not necessarily eliminate the need for a fungicide application. However, 45S51 has demonstrated significant reductions in sclerotinia disease development in field settings (Figure 1).

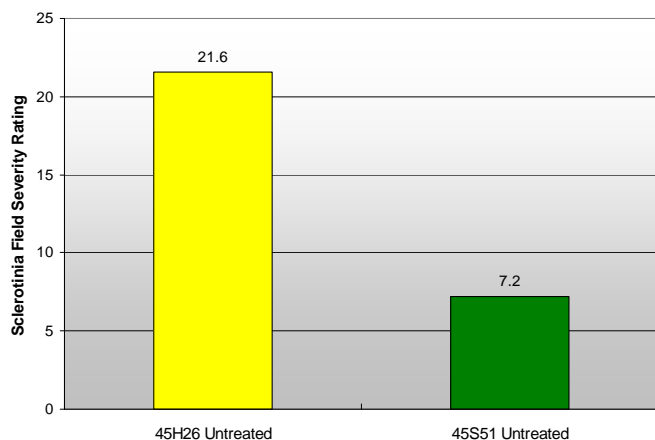


Figure 1: Sclerotinia Field Severity Rating* for 45H26 untreated versus 45S51 untreated.

(Untreated = no canola fungicide application). Pioneer Field Trials, 2008 (6 locations: Kamsack, SK; Elm Creek, MB; Russell, MB; Canora, SK; Ashville, MB; Somerset, MB)

*Sclerotinia Field Severity: % of prematurely dying plants.

Below are the yield results from the same trials as above.

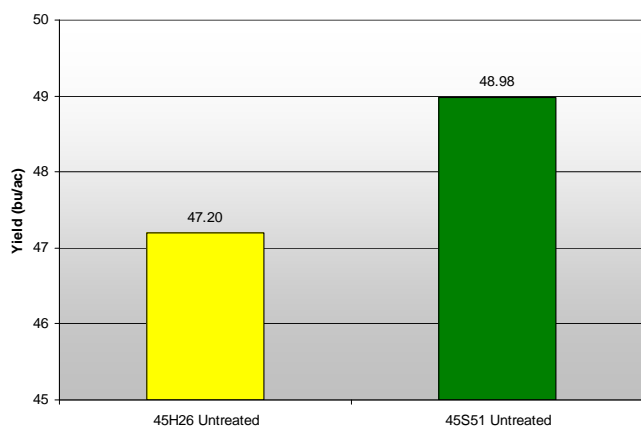


Figure 2: Yield (bu/ac) comparison of 45H26 non-fungicide treated versus 45S51 non-fungicide treated. Pioneer Field Trials, Western Canada, 2008.

Under variable disease pressure, 45S51 delivers results

1. Under variable levels of disease pressure, 45S51 reduced sclerotinia infection by 66% compared to 45H26 (Figure 1).
2. Under variable levels of disease pressure and no fungicide application, 45S51 out yielded 45H26 by 1.78 bu/ac (Figure 2).

How does 45S51 perform versus the top genetics in the industry?

	Comparison hybrid	Yield Advantage (bu/ac)	# comp.
45S51	45H26	0.8	67
45S51	45H28	-1.1	50

In 117 large-scale field trials, 45S51 delivered similar yield potential as 45H28 and 45H26, the top-performing hybrids on the market in the Roundup Ready segment.

45S51 – A management tool for your farm

Determining whether a canola fungicide application is required can be a difficult and stressful decision. But, the improved sclerotinia field tolerance provided by 45S51 can help offer growers additional flexibility. 45S51 can help by:

1. Acting as an insurance policy in areas with low risk of sclerotinia development.
2. Helping spread out a grower's risk level and improve time management of applying canola fungicides.

It is important to note, Pioneer brand 45S51 only reduces the impact of sclerotinia if there is not a fungicide application. For the highest level of disease protection, a combination of a fungicide application and growing 45S51 will give you the best results (Table 1).

The Sclerotinia Checklist developed by the Canola Council of Canada along with your local weather forecast should still be the major factors when making spraying related decisions for sclerotinia.

For more information on Pioneer brand 45S51 or any Pioneer brand product, please contact your local Pioneer Hi-Bred sales representative.



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