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Barley seed treatments evaluation in northern Peace region

Background: A sound seed base is necessary for optimum crop yield. Tests are available for seed pathogens. There are several cereal seed treatments to reduce pathogen induced losses. The decision to use a seed treatment depends on many factors: environmental conditions at seeding, crop rotations, pathogen exposure, cost, seed source and personal preference.

The risk of disease generally is reduced when proper crop rotations and a good seed source are used. Providing that seed source does not have a seed-borne disease, the most likely conditions when seed treatments would be effective are early seeding in cold soils with suboptimal moisture conditions (too dry or too wet).

Current information on different seed treatments is available in the Blue Book and on websites of companies manufacturing the chemicals. However, unbiased comparison of different seed treatments on crops in a given area helps producers to make informed decisions.

Objectives: To compare different seed treatment for barley production in northern Peace region.

Materials and Methods: The trial was seeded in two locations. Both sites were seeded on May 29, 2006, using air seeders and 100 lbs/ac seed rate of Kendall barley. Granular fertilizer mix of 27-12-9-4 (N-P-K-S) was applied at 150 lbs/ac. Seed treatments were applied according to the products label.

Samples from 10 locations (3 plants per location) in each plot were collected on August 18, 2006 and oven dried at 100 F° for 3 days to determine their root and shoot weights.

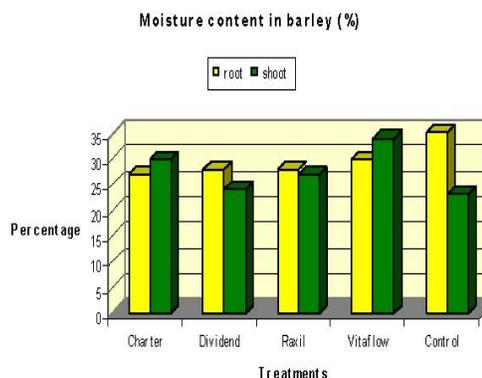
Results and Discussion: Data were collected from only one of the two sites. The Check yielded the lowest (Table 1). The increase in seed yield with fungicide treatments ranged

from 1.0 bu/ac with Charter to 13.8 bu/ac with Raxil. But the increase in barley yield over the Check was significant for Raxil only. Raxil also showed significantly higher barley yield than the Charter fungicide. Both the fungicides from Bayer provided higher yield than the fungicides from BASF and Syngenta. There were not any significant differences in the moisture content of shoots or roots from the treatments (Figure 1). Current fungicide and crop prices could be used to decide whether the increase in yield by different treatments is worth the seed treatment expense.

Table 1: Barley yield at Experimental Farm.

Fungicide	Company	Yield, bu/ac
Charter	BASF	93.2
Dividend	Syngenta	98.2
Raxil	Bayer	106.0
Vitaflow	Bayer	101.8
Check	Untreated	92.2
	<i>LSD_{0.05}</i>	<i>11.66</i>
	<i>CV, %</i>	<i>6.26</i>

Figure 1: Barley samples moisture content.



Conclusions: The tested seed treatments tended to increase barley seed yield. With any management decision, it is necessary to factor in the return on investment. Current prices of seed treatments and barley can be considered to decide the seed treatment use.

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