

Intensive Fungicide Management

Objective: Compare a ‘normal’ two-application fungicide management system to an ‘intensive’ three-application fungicide management system.

Trials included 4 replications of treated and non-treated strips sprayed with cooperator equipment along the full length of the field. Harvested strips were weighed in a weigh wagon and sampled to measure moisture, test weight, and protein content. The cultivar ‘Mayville’ was used at all locations.

Results:

Table 1. Trial treatments.

Growth Stage	Intensive Management	Normal Practice
4-5 leaf (2 oz/acre)	Tilt (propiconazole)	Tilt (propiconazole)
Flag leaf emergence (2 oz/acre)	Priaxor (fluxapyroxad+pyraclostrobin)	None
Early flowering (6.5 oz/acre)	Prosaro (prothioconazole+tebuconazole)	Prosaro (prothioconazole+tebuconazole)

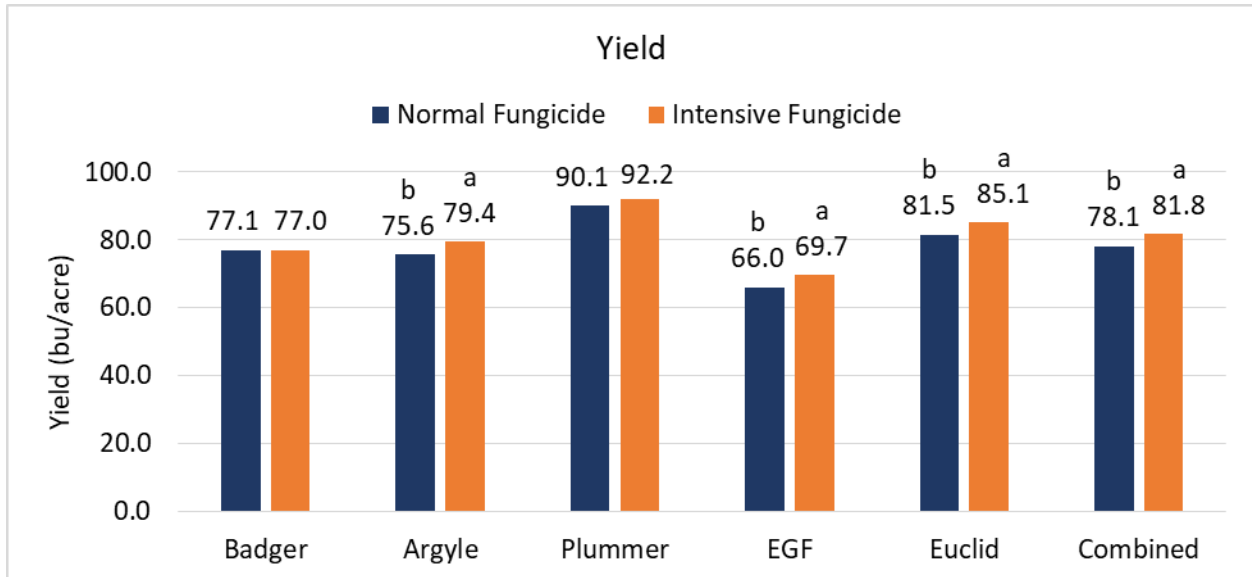


Figure 1. Yield differences between fungicide treatments at 5 locations in NW MN in 2018. Differing lowercase letters indicate significant differences between treatments at the 90% confidence level.

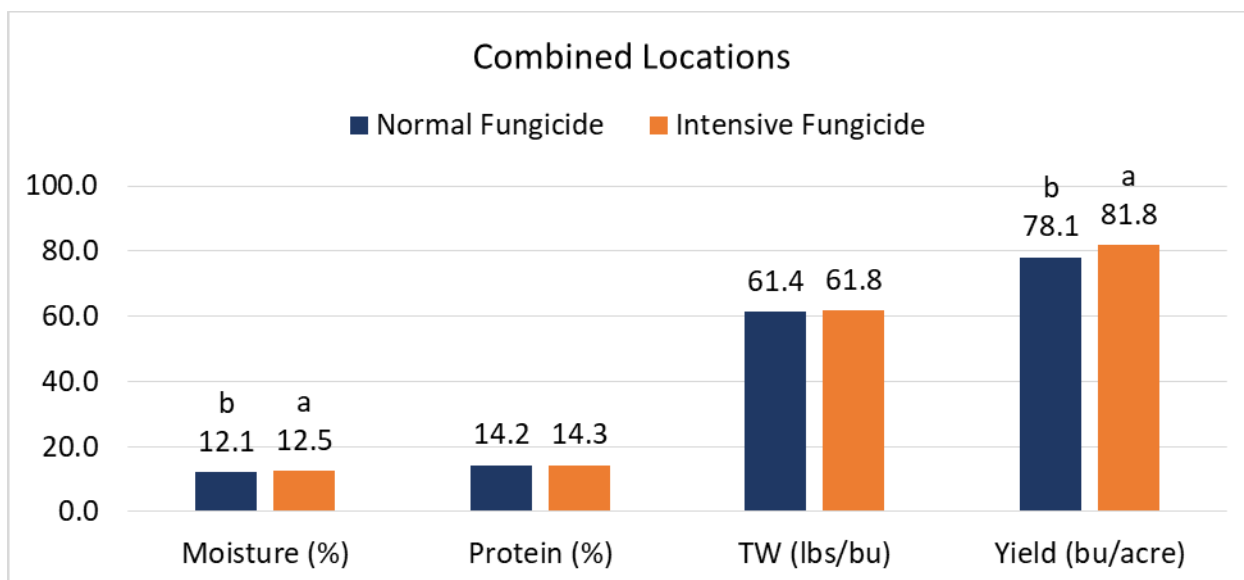


Figure 2. Differences in moisture, protein, test weight (TW), and yield between fungicide treatments combined across locations in NW MN in 2018. Differing lowercase letters indicate significant differences between treatments at the 90% confidence level.

Table 2. Economic analysis of additional fungicide application at flag leaf emergence for 2018 locations.

Location	Badger	Argyle	Plummer	EGF	Euclid	Combined
Variety	Mayville	Mayville	Mayville	Mayville	Mayville	
Normal Fungicide	77.08	75.63	90.10	66.00	81.50	78.14
Intensive Fungicide	76.98	79.35	92.16	69.70	85.10	81.81
Yield gain/loss	-0.1	3.7	2.1	3.7	3.6	3.7
\$ Yield gain/loss	\$ (0.57)	\$ 21.20	\$ 11.72	\$ 21.05	\$ 20.48	\$ 20.89
Profit/loss*	\$ (15.07)	\$ 6.70	\$ (2.78)	\$ 6.55	\$ 5.98	\$ 6.39

*Calculated at \$5.69/bu wheat, \$6.50/acre chemical cost, and \$8/acre application cost.

- Adding a fungicide application at flag leaf emergence increased yield by at least 3.6 bu at 3 of the 5 locations, and when averaged across locations in 2018. Since this is only the first year's data, care should be taken not to infer too much from these results until more locations are tested in the future.

Notes:

- Fields did not exhibit disease pressure at the time of the flag leaf application.
- Visual flag leaf ratings taken by the Research Coordinators approximately 3 weeks after the flag leaf application did not indicate any differences in disease pressure between the treatments, however these ratings may have been taken too late. Infections of bacterial leaf streak (BLS) in some of the trial fields also made disease rating difficult.