WHAT'S UP WITH WARC?

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Fungicide Timing for Spring Wheat – A Look Back at 2013

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With fusarium head blight (FHB) emerging as a sporadic issue in Saskatchewan, Agri-ARM sites initiated a demonstration at Indian Head, Melfort, Scott, Prince Albert and Swift Current to evaluate the yield response and effectiveness of different foliar fungicide application timings to controlling both leaf disease and FHB in spring wheat.

Fungicide was applied at flag leaf (T1), 75% head emergence (T2) or at 50% flower (T3) on two varieties: Shaw VB and Unity VB rated poor and fair, respectively, for both leaf disease and FHB. Average grain yields were 81.7 and 76.1 bu/ac for Unity and Shaw, respectively at Scott in 2013.

There were no significant interactions between variety and fungicide timing at any of the sites, indicating that applying fungicide had the same impact on yield regardless of differences in disease resistance between the two varieties.

Fungicide significantly improved yields at three of five sites, including Scott. At Scott, levels of leaf disease on both varieties were relatively low early in the growing season. When rated at early dough stage, all fungicide treatments reduced leaf disease compared to the control, indicating that disease developed later in the growing season. Although there were no fusarium infected kernels detected at Scott in 2013, *Stagonospora nodorum* blotch, a disease which affects the glume, appeared to be reduced by T3 applications.

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Fungicide applied at T3 timing consistently improved yield over the control at Scott and similar yield responses occurred at Melfort and Indian Head (combined yields in Figure 1). There did not appear to be any benefit of dual application of fungicide at any site, thus we recommended to begin foliar fungicide application at T2 to finish covering all acres by T3 (optimum FHB fungicide timing) if levels of leaf disease are low early in the growing season.

This demonstration was funded by ADOPT program from the Saskatchewan Ministry of Agriculture, led by IHARF and will be continued in 2014 at the Scott Research Farm.

Do you use vertical tillage? If you're questioning the impact it might have on your farm, check out our "Vertical Tillage Demo" this summer at the Scott Research Farm, comparing fall vs. spring vertical tillage vs. no-tilling wheat, canola, corn and soybeans. We're curious to know… Why you'd consider adopting vertical tillage on your farm? CLICK HERE to answer and check out survey results next month

Table 1. Mean grain yield, leaf disease and Stagonospora nodorum blotch ratings (conducted at early dough) for Unity VB and Shaw VB wheat at Scott in 2013. (Table from Chris Holzapfel, IHARF)

	Grain Yield	Leaf Disease		*Stagonospora nodorum* blotch	
Treatment		Unity VB	Shaw VB	Unity VB	Shaw VB
	bu/ac	McFadden Scale (1-12)		Plot Severity / % Incidence	
Initial Leaf Rating	-	3.0	3.7	-	-
Check	66.9[c]	6.7	7.4	1.4 (13%)	12.6 (71%)
T1 (Flag Leaf)	74.6[bc]	4.9	5.3	1.5 (23%)	16.9 (66%)
T2 (75% Head Emergence)	76.8[abc]	4.7	5.4	1.2 (14.5%)	10.4 (78%)
T3 (50% Flowering)	83.8[ab]	5.1	5.6	0.7 (9.5%)	6.1 (49%)
T1+T2	85.6[a]	3.1	5.0	2.2 (26%)	7.5 (50%)
T1+T3	83.3[ab]	3.9	5.7	0.5 (7.5%)	5.1 (54%)
T1+T2+T3	81.2[ab]	4.0	5.4	0.6 (8%)	4.7 (34%)

[a-c] Means followed by same letter within a column are not significantly different (P ≤ 0.05)

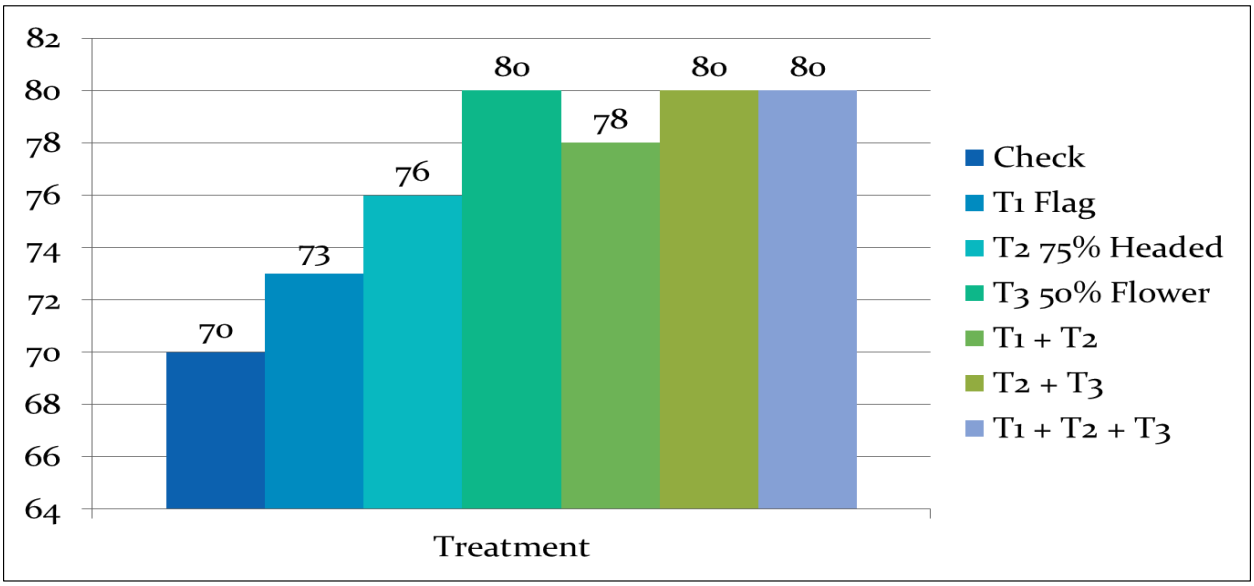

Figure 1. Mean spring wheat yield response to various foliar fungicide application timings averaged over two varieties and three responsive sites (Indian Head, Melfort and Scott in 2013). Figure from Stu Brandt, NARF.