
Efficacy and Stability of Integrating Fungicide and Cultivar Resistance to Manage FHB and DON

K. T. Willyerd et al. Plant Dis

A Management Plan for FHB

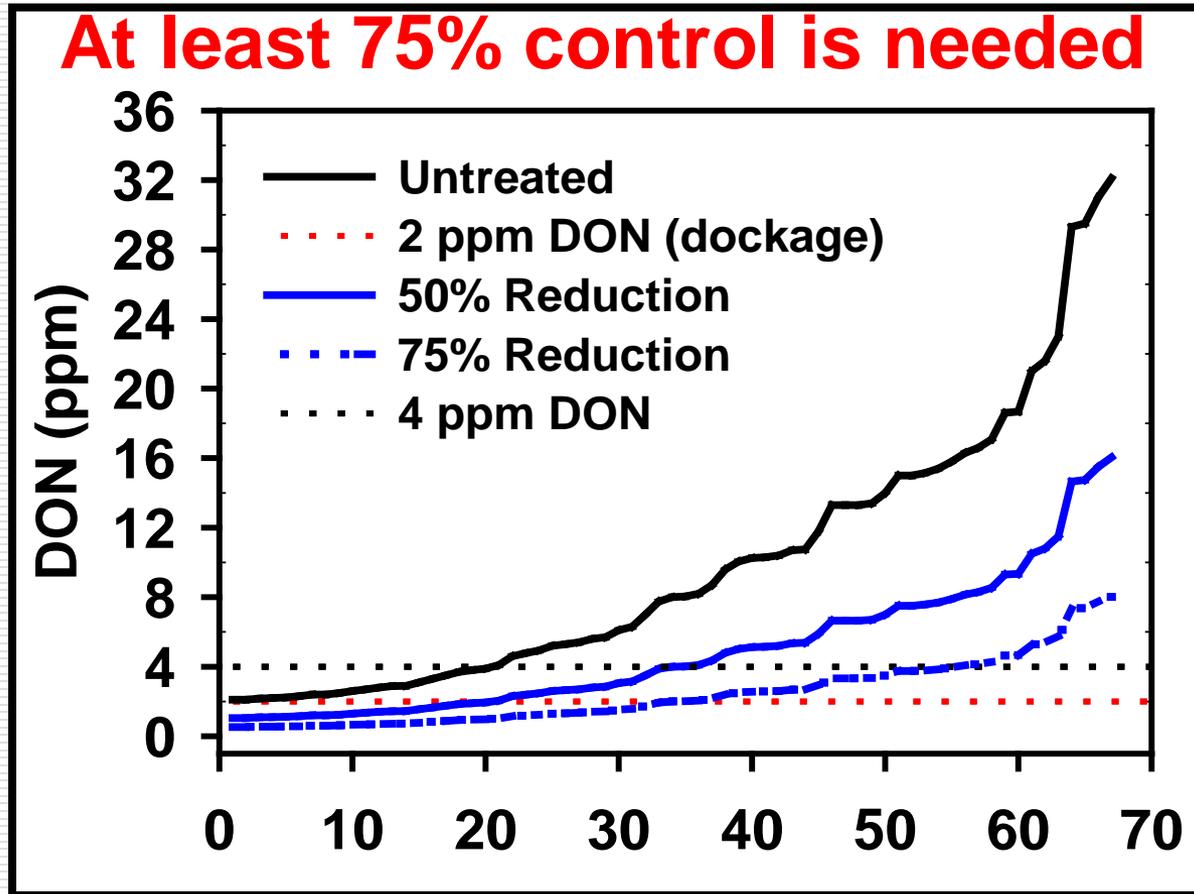
Head Scab/Deoxynivalenol

➤ Fungicide + Resistant variety

❖ Triazole (**NOT STROBILURIN!!**)

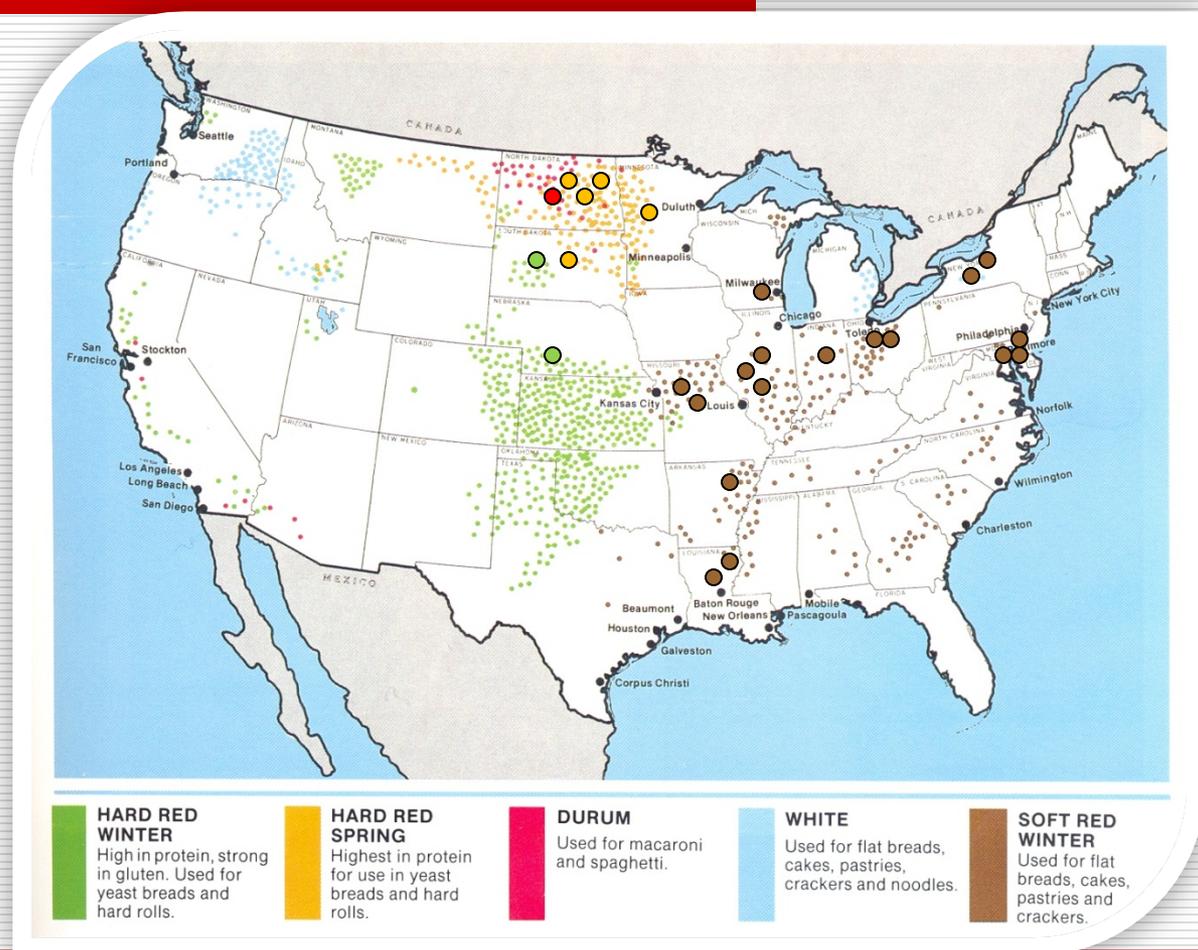
❖ Resistance (**NO IMMUNITY**)

A Management Plan for FHB



FHB MGNT CP 2007-2010

National Coordinated Project



FHB MGNT CP 2007-2010

Map from *Wheat Health Management* by Cook and Veseth

National Coordinated Project

Integrated Management

- Core Treatments
 - ❖ Resistance (S, MS, MR)
 - ❖ Fungicide application
 - ✓ Prosaro (Tebuconazole+Prothioconazole)
 - ❖ Inoculation
- Cropping sequence/Rotation
- Responses
 - ❖ FHB Incidence and Severity
 - ❖ FDK, DON, NIV

FHB MGNT CP 2007-2010

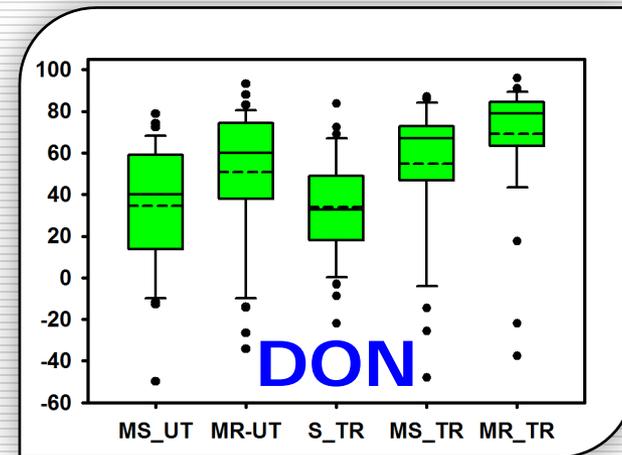
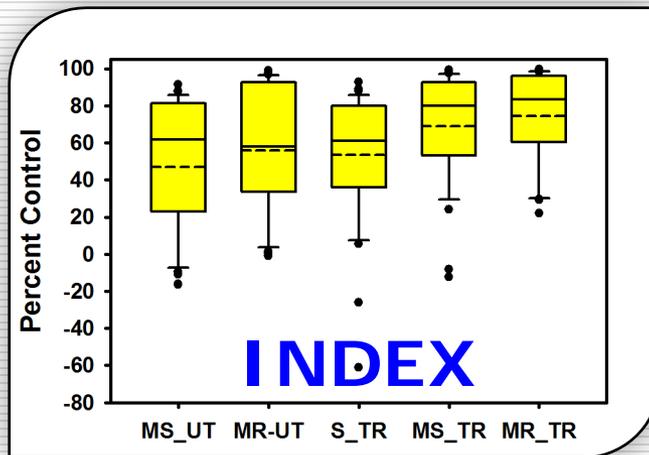
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Fungicide/Resistance treatment Combinations

Combination	Prosaro	Resistance	Code
1 (Check)	NO	Susceptible	S_UT
2	Yes	Susceptible	S_TR
3	NO	Moderately Susceptible	MS_UT
4	Yes	Moderately Susceptible	MS_TR
5	NO	Moderately Resistant	MR_UT
6	Yes	Moderately Resistant	MR_TR

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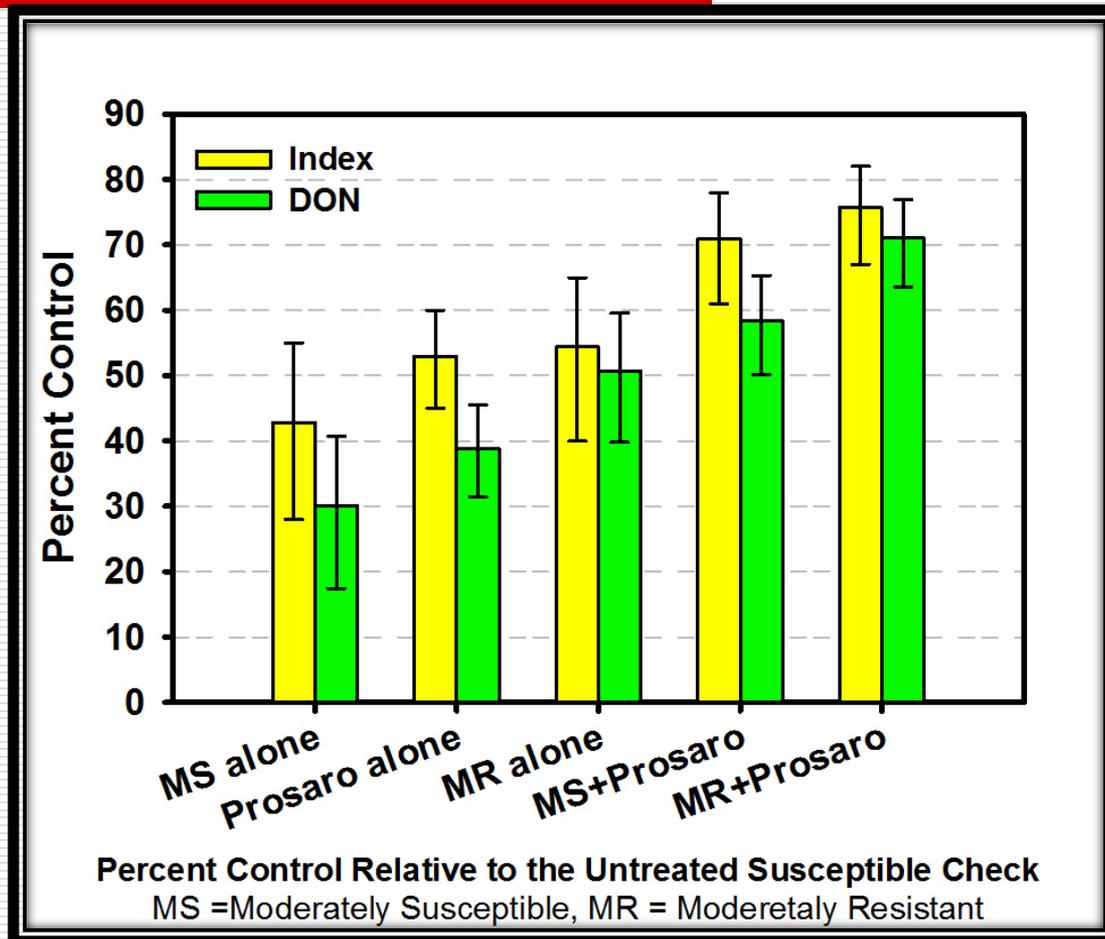
- Lots of data and variably results



- Lots of questions

- ❖ How effective?
- ❖ How stable?

The overall *mean* percent control



FHB MGNT CP 2007-2010

Management Plan: Head scab

Is the treatment better than the Check?

- 5: Always
- 4: Almost always
- 3: More often than not
- 2: Sometimes
- 1: Never

Stability

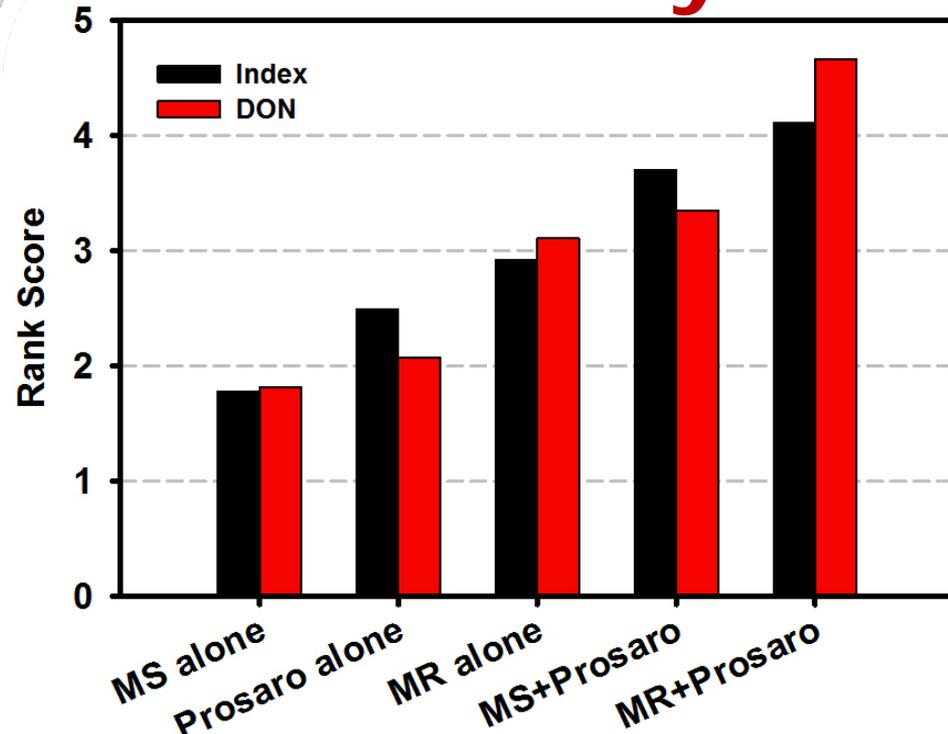


Figure 2. Score Relative to the Untreated Susceptible Check
MS =Moderately Susceptible, MR = Moderately Resistant

So, what have we learned?

1. Combining resistance with fungicide was more effective than either approach alone;
2. Relative to fungicide alone, the integrated approach led to comparable levels of index and DON reduction;
3. The integrated approach is more stable across environment;
4. **There was evidence for interaction of environment and management combination for index;**
5. There was an additive effect of fungicide and resistance on both index and DON; and
6. Percent control of index with fungicide tended to be lower on moderately resistant cultivars than on susceptible cultivars.

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