

# *Small Grain Variety Performance 2007 Growing Season*

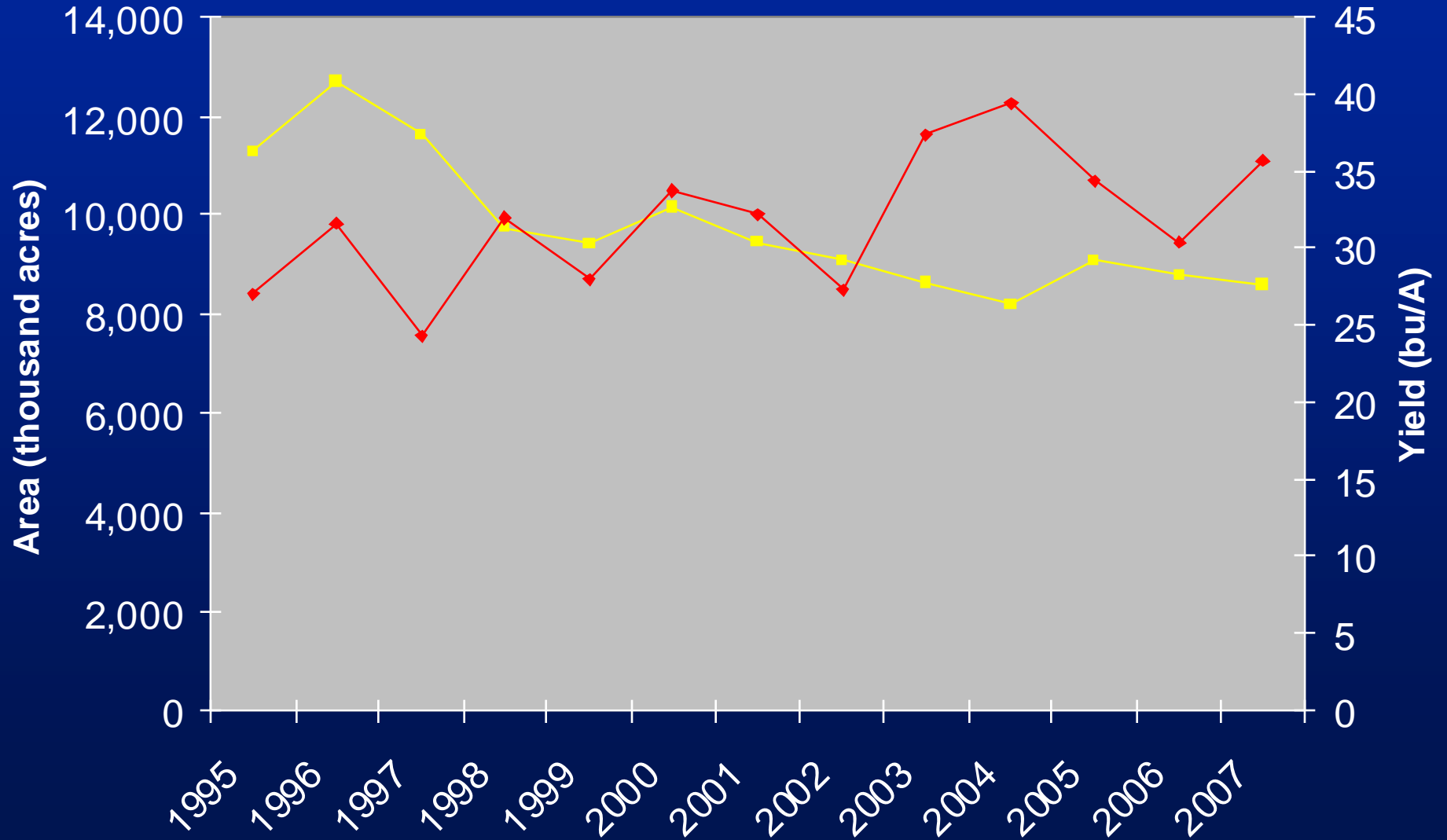
Joel Ransom

Extension Agronomist –  
Cereal Crops



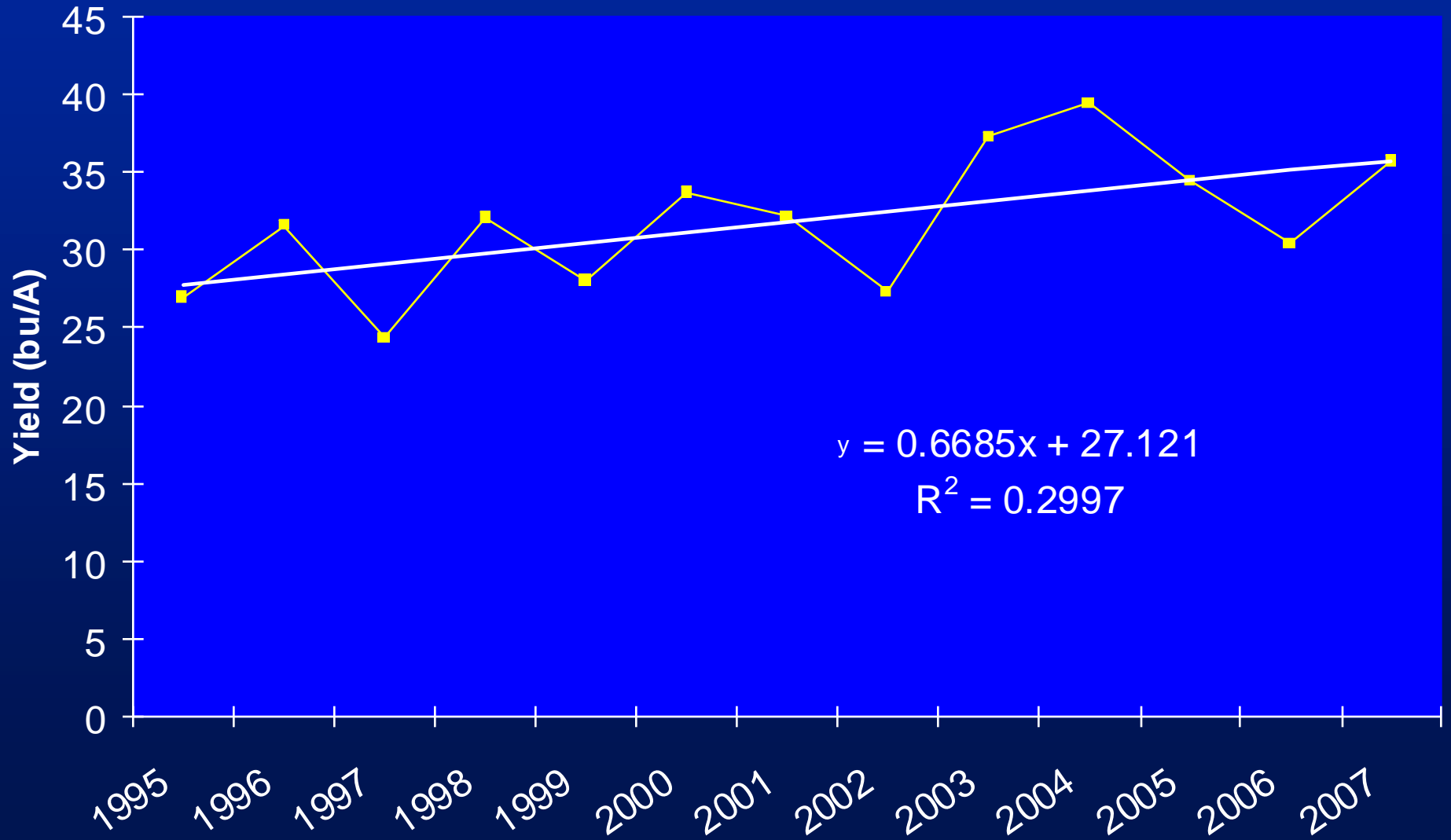
# Production and yield trends of wheat in ND 1995-2007

■ Planted    ◆ Yield



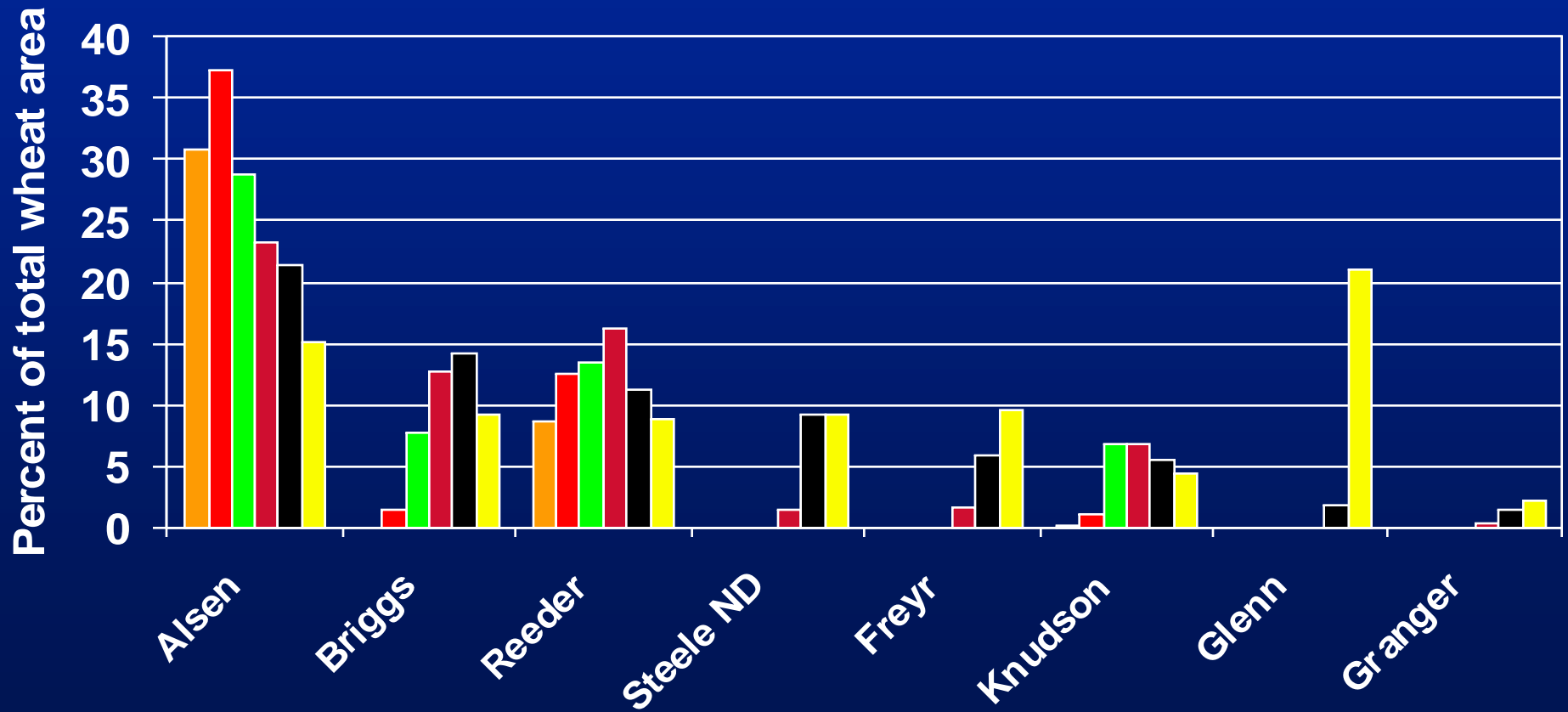
# Yield trends in ND 1995-2007

Yield Linear (Yield)



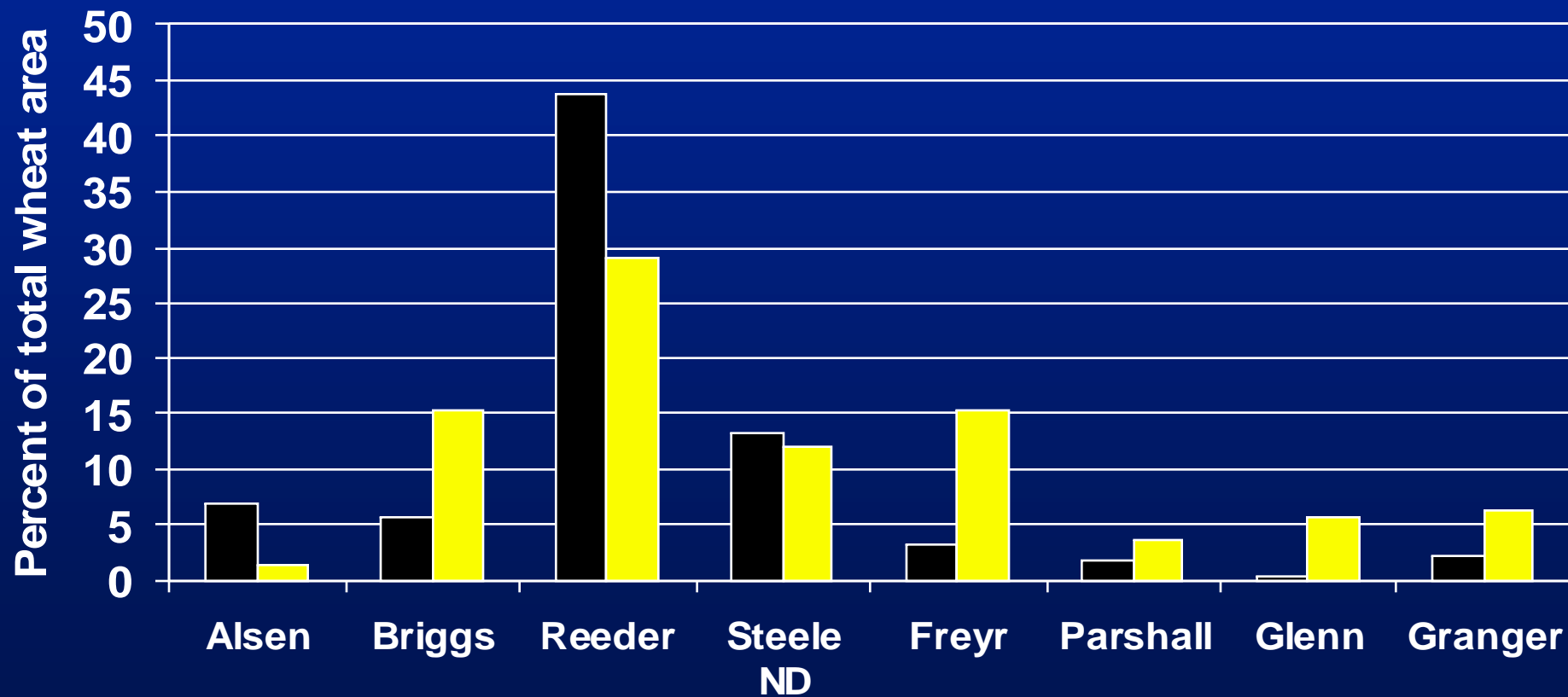
# *HRSW variety use in ND, 2002-07*

2002 2003 2004 2005 2006 2007



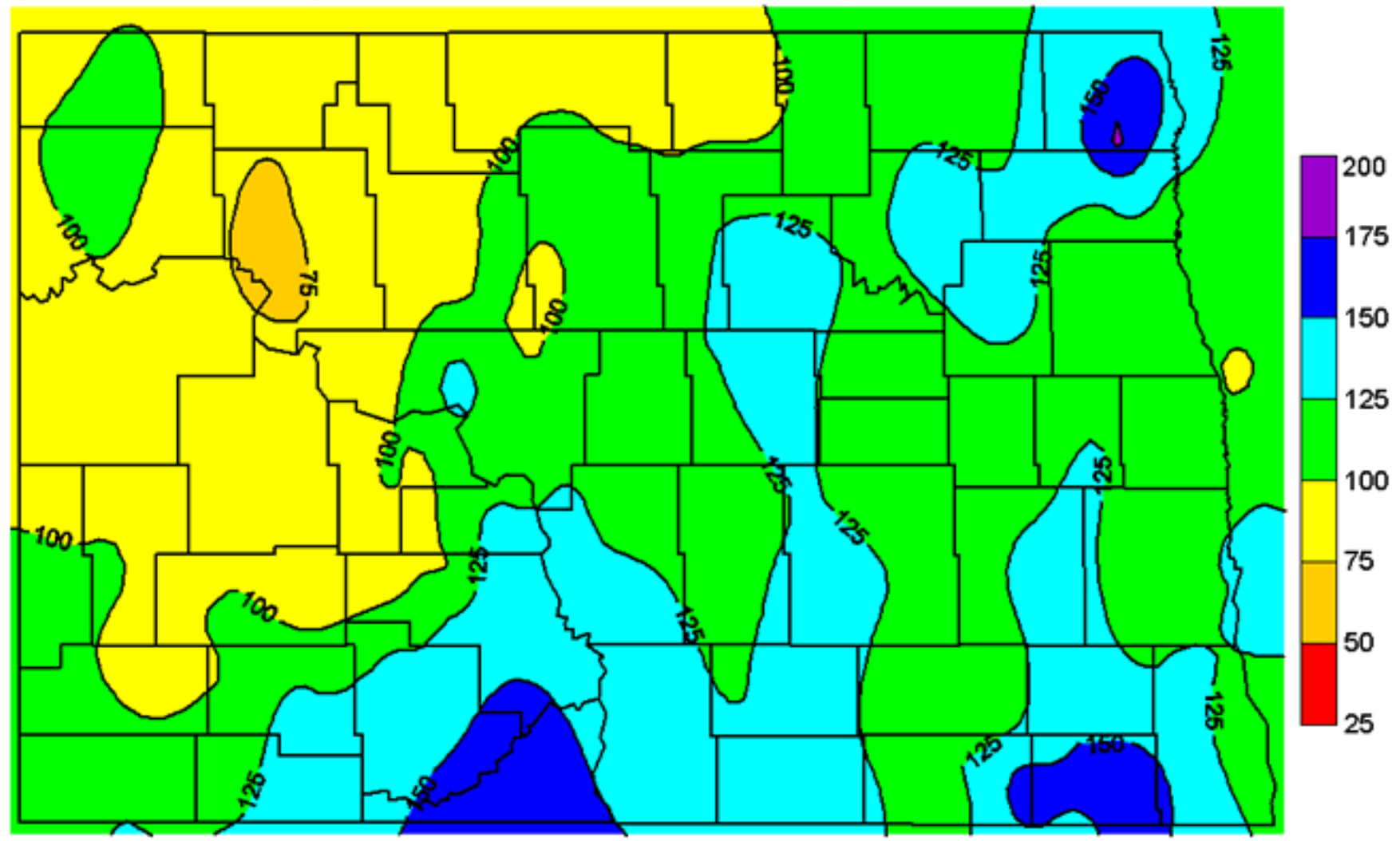
# *HRSW variety use in southwest ND, 2006-07*

■ 2006 ■ 2007



# North Dakota April - September 2007 Precipitation Percent of Normal

(Data from NWS Cooperative Network and North Dakota Agricultural Weather Network (NDAWN))



ND State Climate Office

# *New varieties of HRSW in 2007*

- **Faller - NDSU**
- **AP 604 CL - Agripro**
- **Kuntz - Agripro**
- **Cromwell - Thunder S.**
- **Norwell - Thunder S.**
- **RB07 - U of M**
- **Blade - Westbred**
- **Samson - Westbred**
- **Vantage - Westbred**



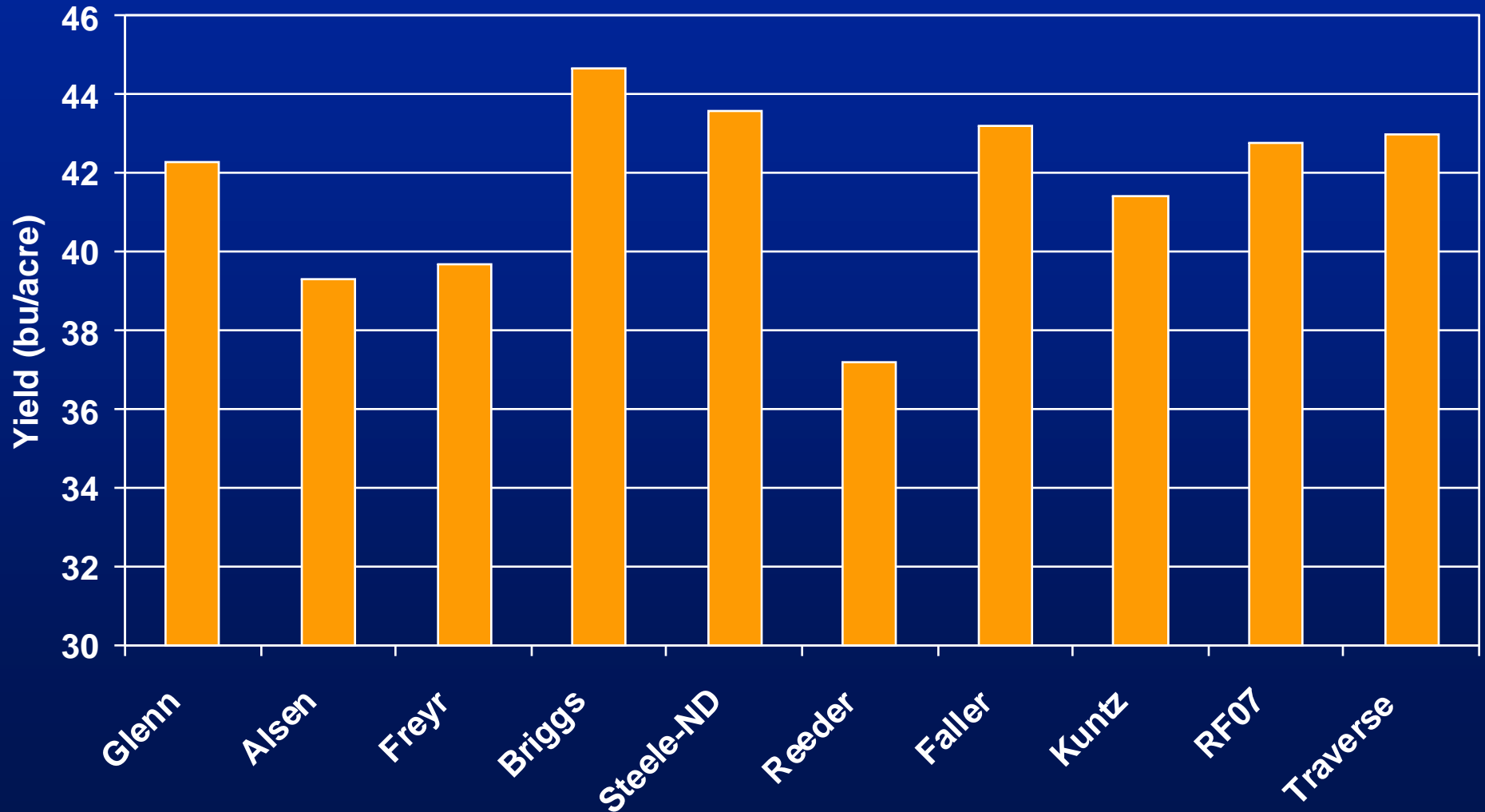
## Agronomic characteristics of HRS varieties released in 2007

<b>Variety</b>	<b>Ht</b>	<b>Strw Strgth</b>	<b>Maturity</b>	<b>Test Wt</b>	<b>Protein</b>
AP 604 CL	sdwf	m. strg	m. early	High	Avg
Cromwell	sdwf	Strg	m. early	High	Avg
Faller	sdwf	Strg	med	Ave	Ave/Low
Kuntz	sdwf	Strg	m. early	High	Low
Norwell	sdwf	Strg	m. early	Ave	Low
RB07	sdwf	m. strg	m. early	High	Avg

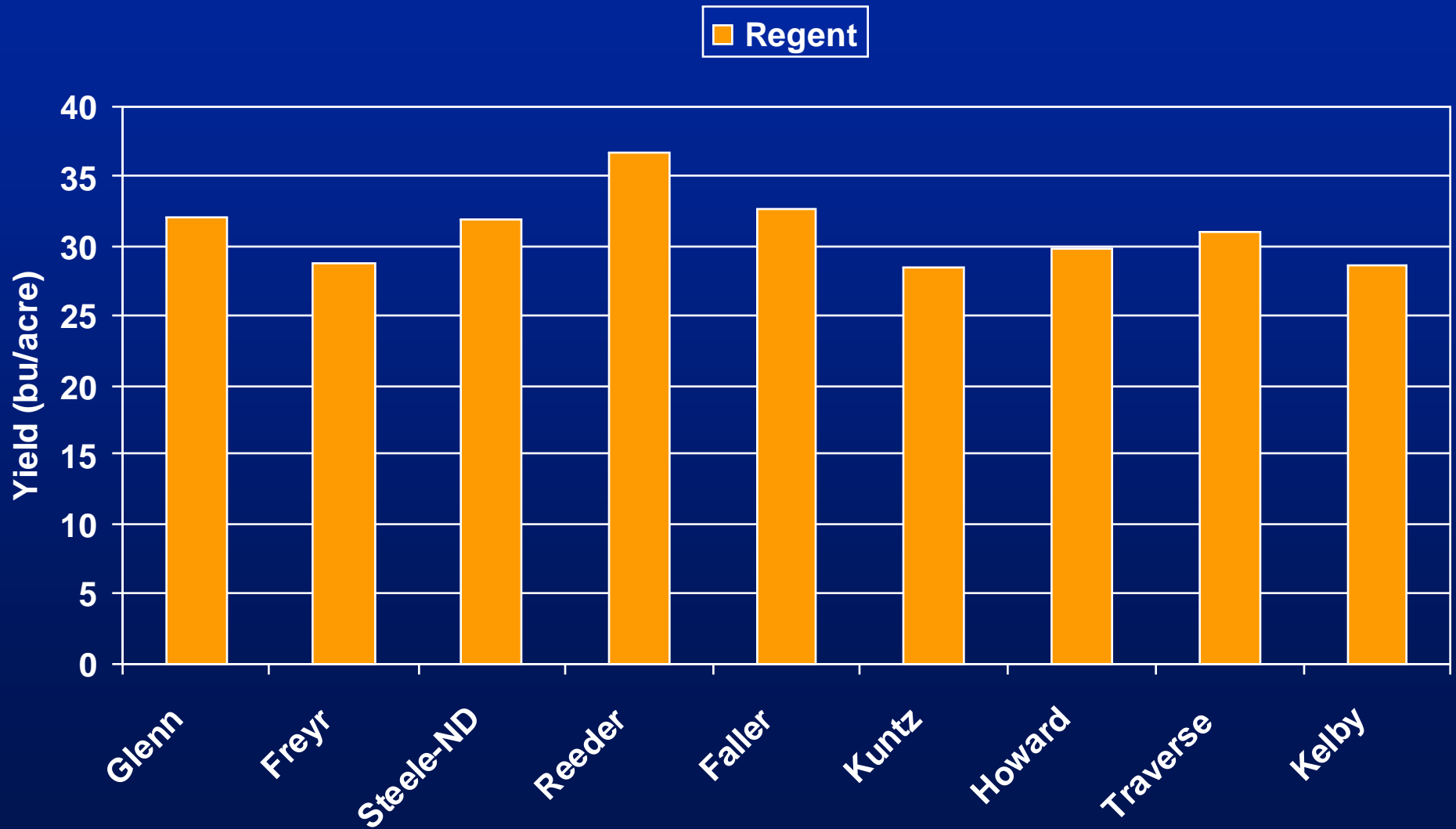
## Disease reaction of varieties released in 2007

Variety	Lf rust	Foliar dis.	Scab
AP 604 CL	R	MS	MS
Cromwell	MR	MR	NA
Faller	R	MR	MR
Kuntz	R	MS	M
Norwell	MS	S	NA
RB07	R	MS	MS

# *Comparative yield of HRSW varieties in western ND, 2007*

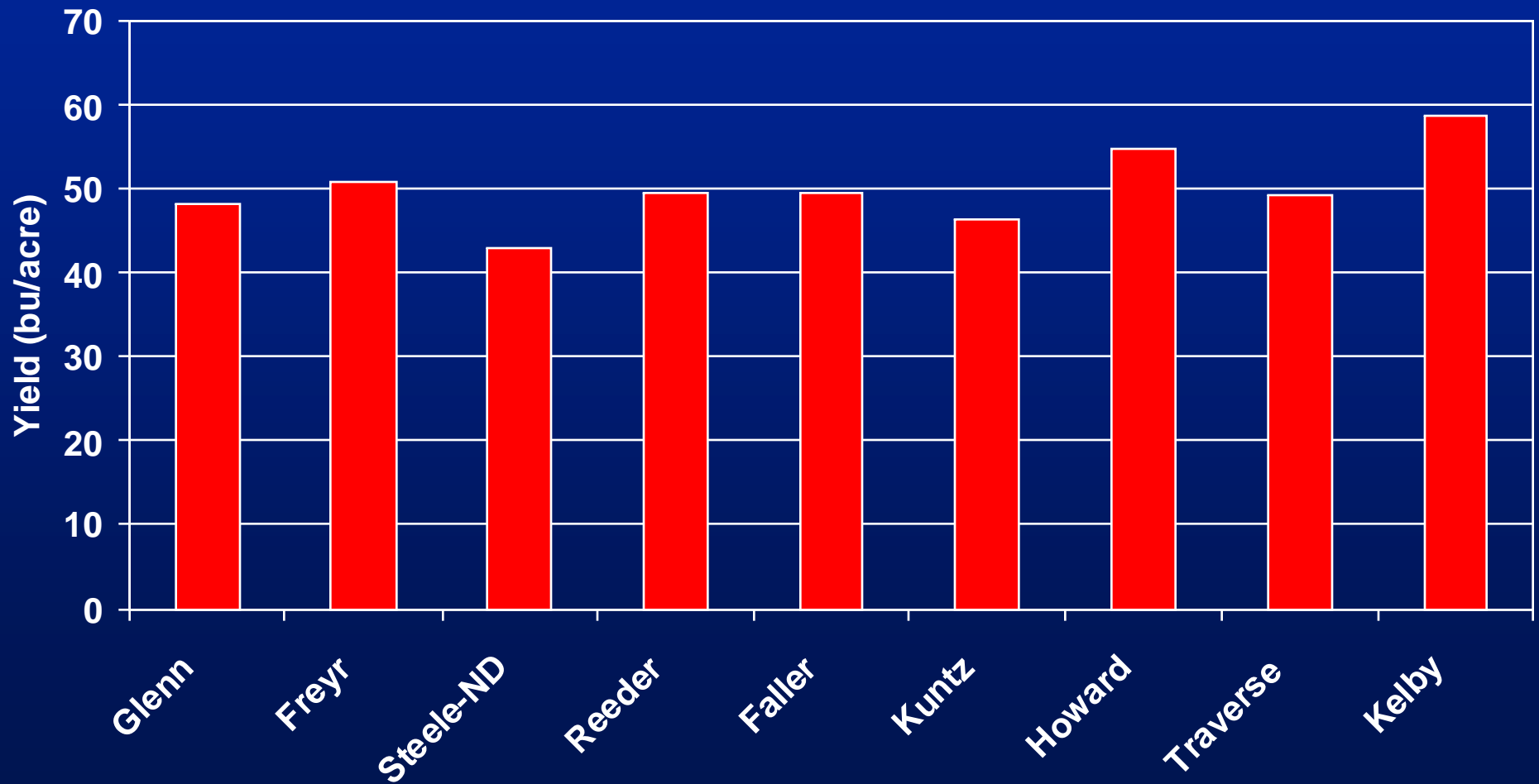


# *Comparative yield of HRSW varieties in western ND, 2007*



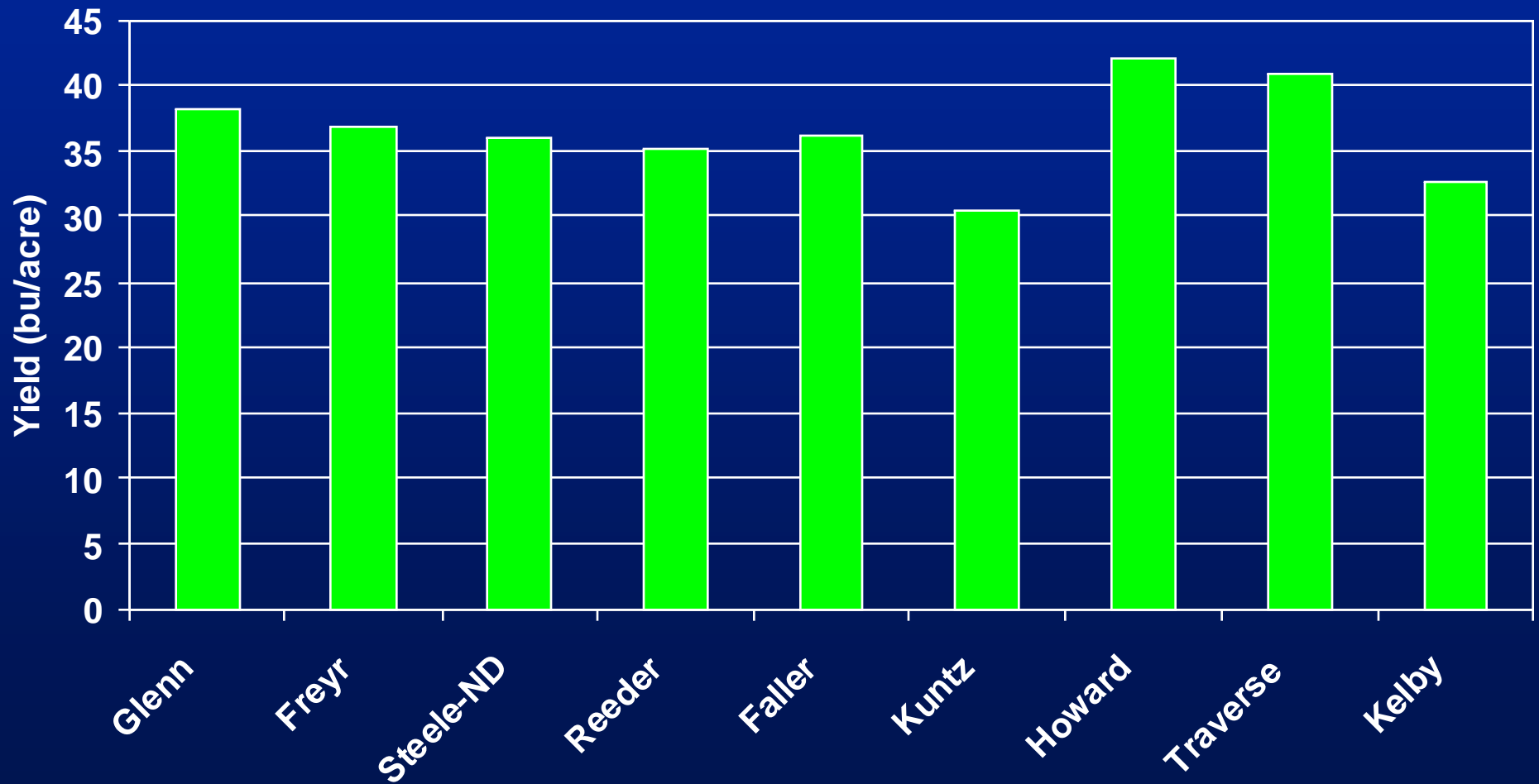
# *Comparative yield of HRSW varieties in western ND, 2007*

■ Scranton



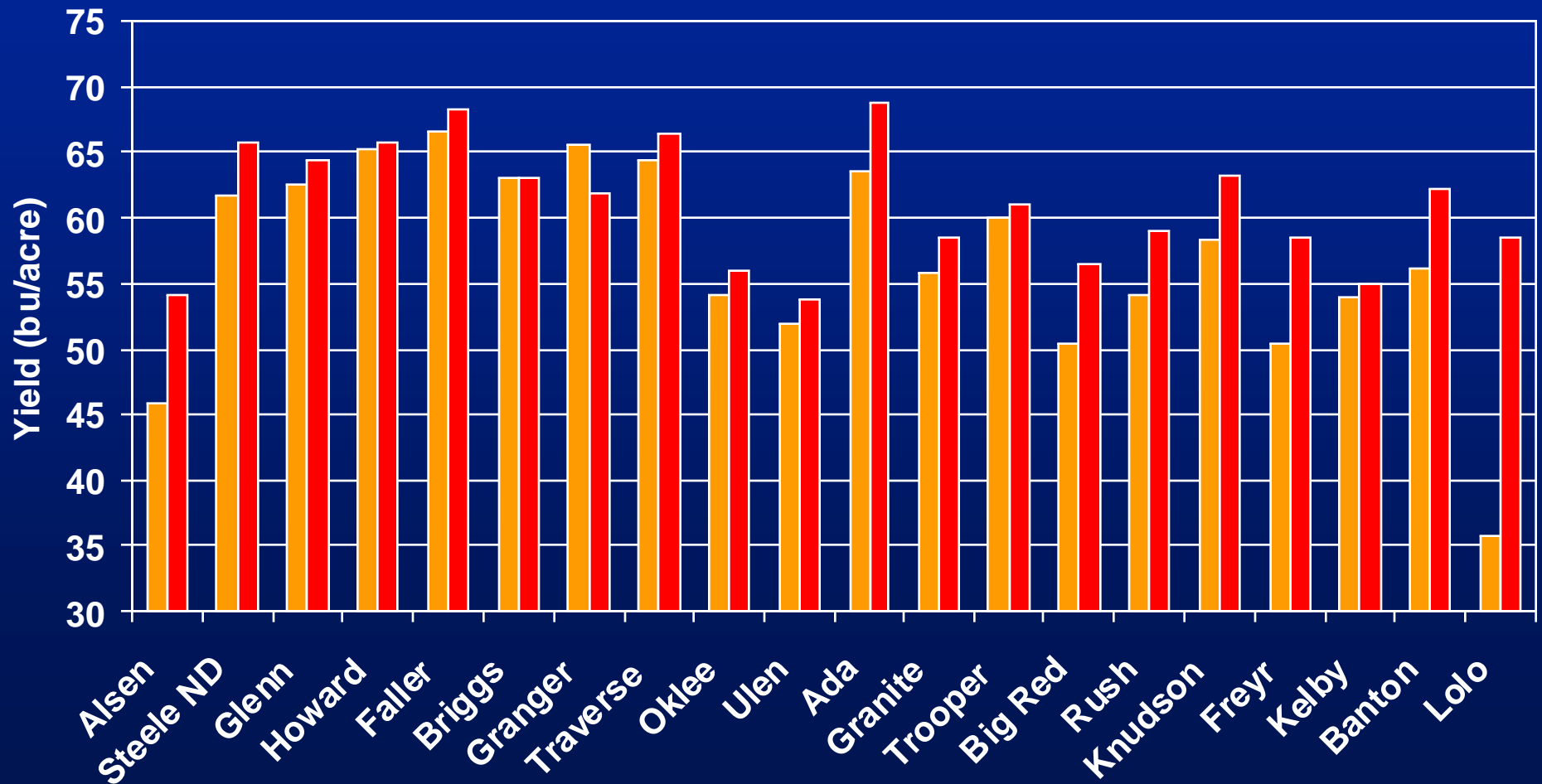
# *Comparative yield of HRSW varieties in western ND, 2007*

■ New Leipzig



# *Effect of fungicides on HRSW varieties, Lisbon ND, 2007*

■ No Fung ■ Fung



*Select a stable variety - one that is relatively high yielding in many environments*

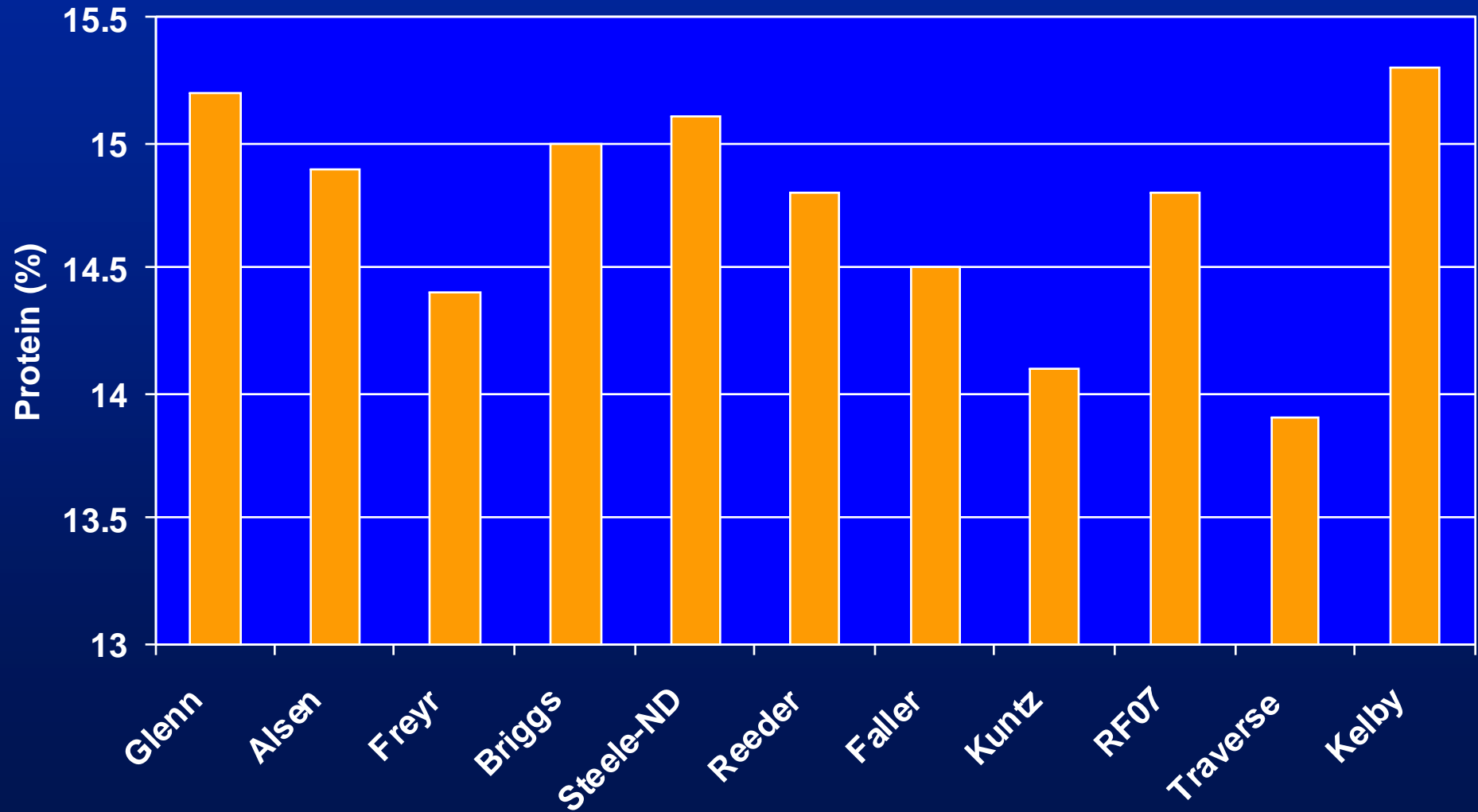
## Rank of western locations

Variety	Min	Will	Hett	Dic	Min-3
Briggs	2	6	1	9	4
Faller	5	8	2	5	1
Glenn	8	3	4	6	6
Howard	6	5	7	4	7
Knudson	4	9	9	3	3
Kuntz	9	1	6	9	-
RB07	7	7	5	1	2
Steele-ND	3	2	3	8	5
Traverse	1	4	8	2	-

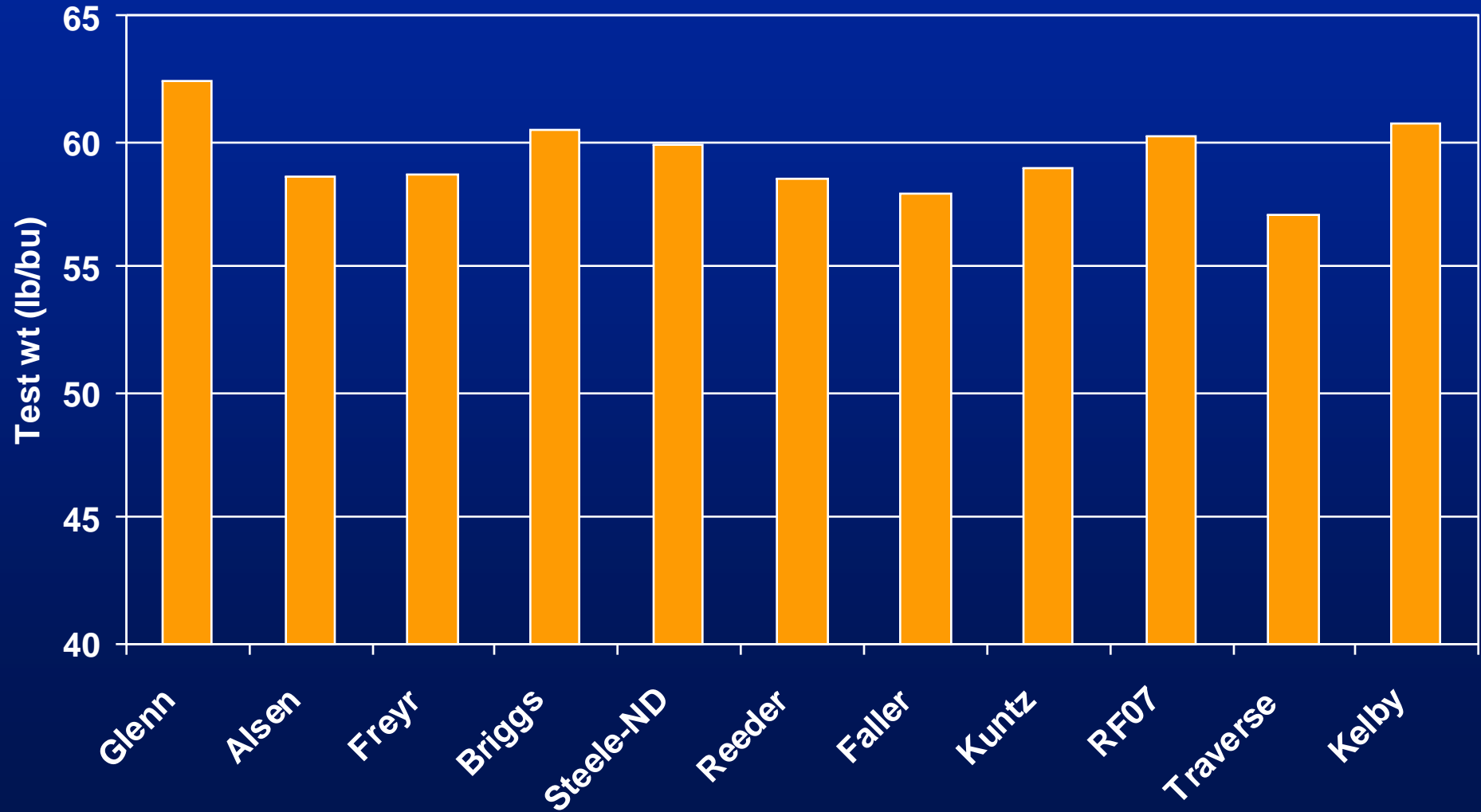
## Rank of western off station locations, 2007

Var	N. Leipiz	Regent	Scranton	Dickinson
Faller	2	5	5	4
Freyr	7	3	4	8
Glenn	3	7	3	5
Howard	6	2	1	2
Kelby	8	1	8	3
Kuntz	9	8	9	7
Reeder	1	4	7	9
Steele-ND	4	9	6	6
Traverse	5	6	2	1
Yield	31	50	37	51

# *Comparative protein of HRSW varieties in ND, 2007*



# *Comparative test weight of HRSW varieties in ND, 2007*



## *Conclusions*

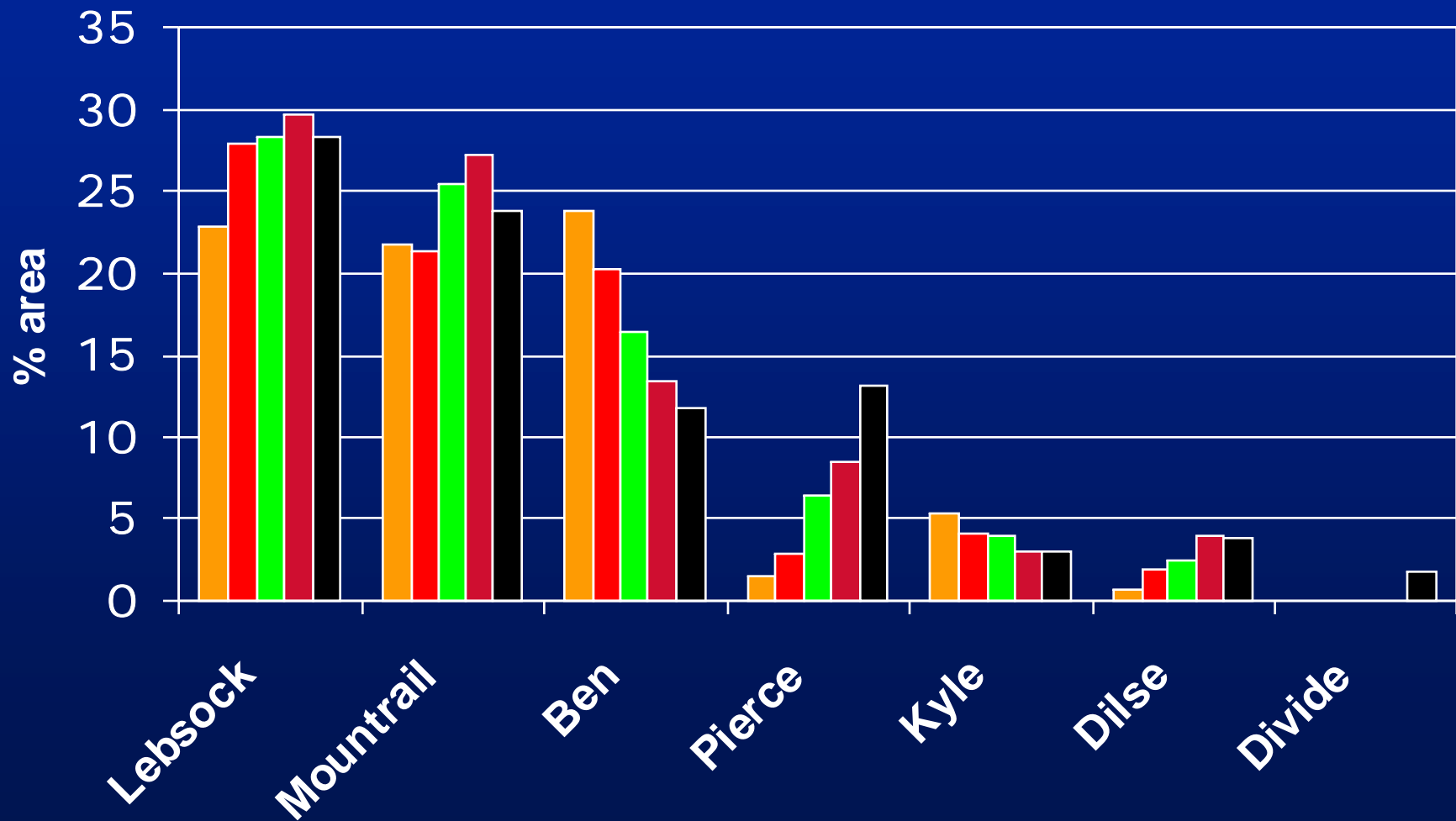
- 2007 was generally a good year for wheat, especially out of RRV
- Many new varieties in 2007, several with limited testing
- Best performers often were newer varieties
- Low protein can be a concern in a few newer releases

# *Durum Variety Update*

With data from Kent McKay  
Area Extension Agronomist  
NCREC, Minot, ND

## Durum varietal use, 2003-07

2003 2004 2005 2006 2007



# *“The New Big Three”*

- **Divide**
  - Ben/Belzer
- **Alkabo**
  - Direct parents experimentals
    - Renville, Ward, Fjord, Rugby, Crosby, Vic
- **Grenora**
  - Direct parents experimentals
    - Sceptre, Laker, Vic, Cando, Ward

# *2008 Durum Variety Selection*

- **NE, Central ND important considerations:**
  - Yield
  - Scab ratings (2005 Langdon, Carrington data)
  - Lodging
- **NW, NC, SW important considerations:**
  - Yield
  - Quality: Test weight
  - Protein

# ***NE AREA Durum 2005-2007 (9 site locations)***

**Langdon, Perth, Devils Lake**

<b>Variety</b>	<b>Yield Bu/A</b>
<b>Alkabo</b>	<b>61.5</b>
<b>Divide</b>	<b>58.8</b>
<b>Grenora</b>	<b>60.2</b>
<b>Lebsock</b>	<b>58.2</b>
<b>Mountrail</b>	<b>59.8</b>

# *Langdon REC Durum, 2005*

## FHB Incidence %

Variety	Langdon	Devils Lake
Divide	24.5	33.3
Grenora	37.8	41.7
Alkabo	31.1	51.7
Mountrail	33.3	36.7
Lebsock	28.9	40.0
Pierce	33.3	48.4
Primo Doro	28.9	51.7
Dilse	40.0	50.0
<b>TRIAL MEAN</b>	<b>33.3</b>	<b>44.3</b>

# *Carrington Durum 2005-2007 (6 site locations)*

<b>Variety</b>	<b>Yield Bu/A</b>
<b>Alkabo</b>	<b>41.5</b>
<b>Divide</b>	<b>41.8</b>
<b>Grenora</b>	<b>40.4</b>
<b>Lebsock</b>	<b>39.5</b>
<b>Mountrail</b>	<b>39.0</b>

# *2008 Durum Variety Selection*

- **NW, NC, SW important considerations:**
  - **Yield**
  - **Quality: Test weight**
  - **Protein**

# *Williston Durum 2005-2007 (18 site locations)*

<b>Variety</b>	<b>Yield Bu/A</b>
<b>Alkabo</b>	<b>45.1</b>
<b>Divide</b>	<b>45.3</b>
<b>Grenora</b>	<b>45.6</b>
<b>Lebsock</b>	<b>42.7</b>
<b>Mountrail</b>	<b>46.1</b>
<b>Pierce</b>	<b>43.6</b>

# *NW AREA Durum 2007*

## *(6 locations)*

Variety	Yield Bu/A	TW Lb/bu	Protein %
Alkabo	39.6	60.0	12.9
Divide	38.2	59.4	13.5
Grenora	40.2	59.0	13.1
Lebsock	36.0	60.3	13.5
Mountrail	39.5	59.1	13.3
Pierce	35.0	59.8	13.9
TRIAL MEAN	35.2	59.4	13.7

# *Ranking of yield in western location trials, 2007*

	<b>Minot</b>	<b>Williston</b>	<b>Dickinson</b>	<b>Hettinger</b>	<b>Glen Ullin</b>
<b>Alkabo</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>4</b>
<b>Divide</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>5</b>	<b>3</b>
<b>Grenora</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>2</b>
<b>Lebsock</b>	<b>5</b>	<b>5</b>	<b>5</b>		
<b>Mountrail</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>1</b>
<b>Pierce</b>	<b>6</b>	<b>6</b>	<b>4</b>	<b>4</b>	

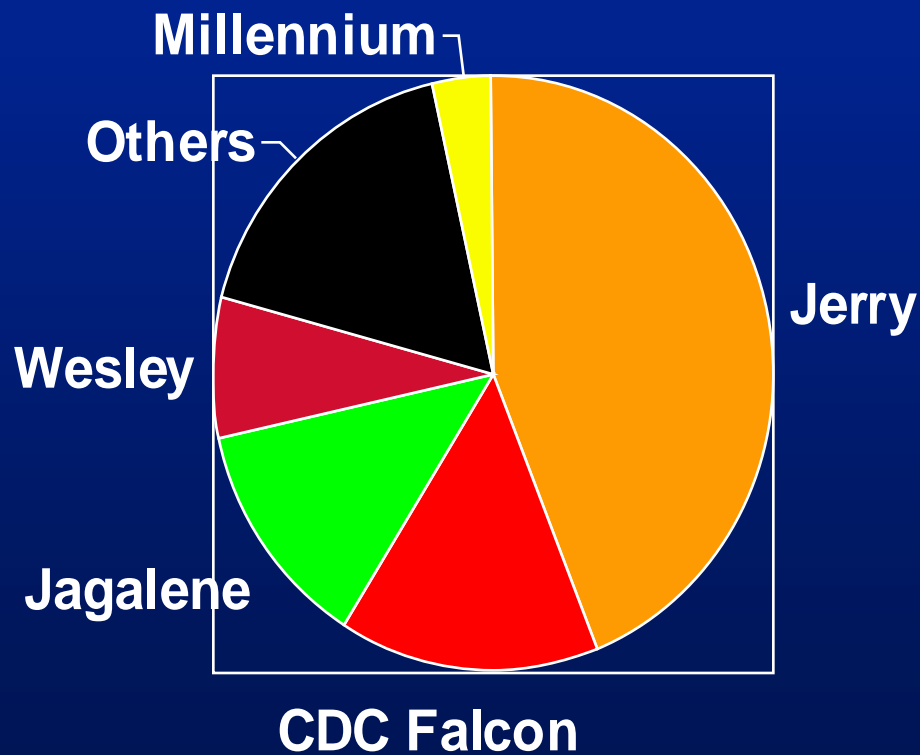
# *Durum Variety Summary*

- **Divide**
  - Above average yield
  - Best scab tolerance to date
  - Lower tombstone, lower leaf disease ratings
  - Above average test weight, especially where scab was rated as moderate or higher
  - Moderate (weak?) straw strength
- **Grenora:**
  - Above average yield
  - Has lower tombstone and FHB severity ratings
  - Below average test weight and protein are a concern
- **Alkabo:**
  - Most susceptible to scab of the 3 new releases
  - Above average yield and test weight
  - Below average Protein

# *Durum Variety Summary*

- **Lebsock**
  - Will continue to be popular, very high test weight, strong straw strength
- **Maier, Dilse**
  - Average yield, above average protein
- **Ben**
  - Large kernel size (“puffing” durum market)

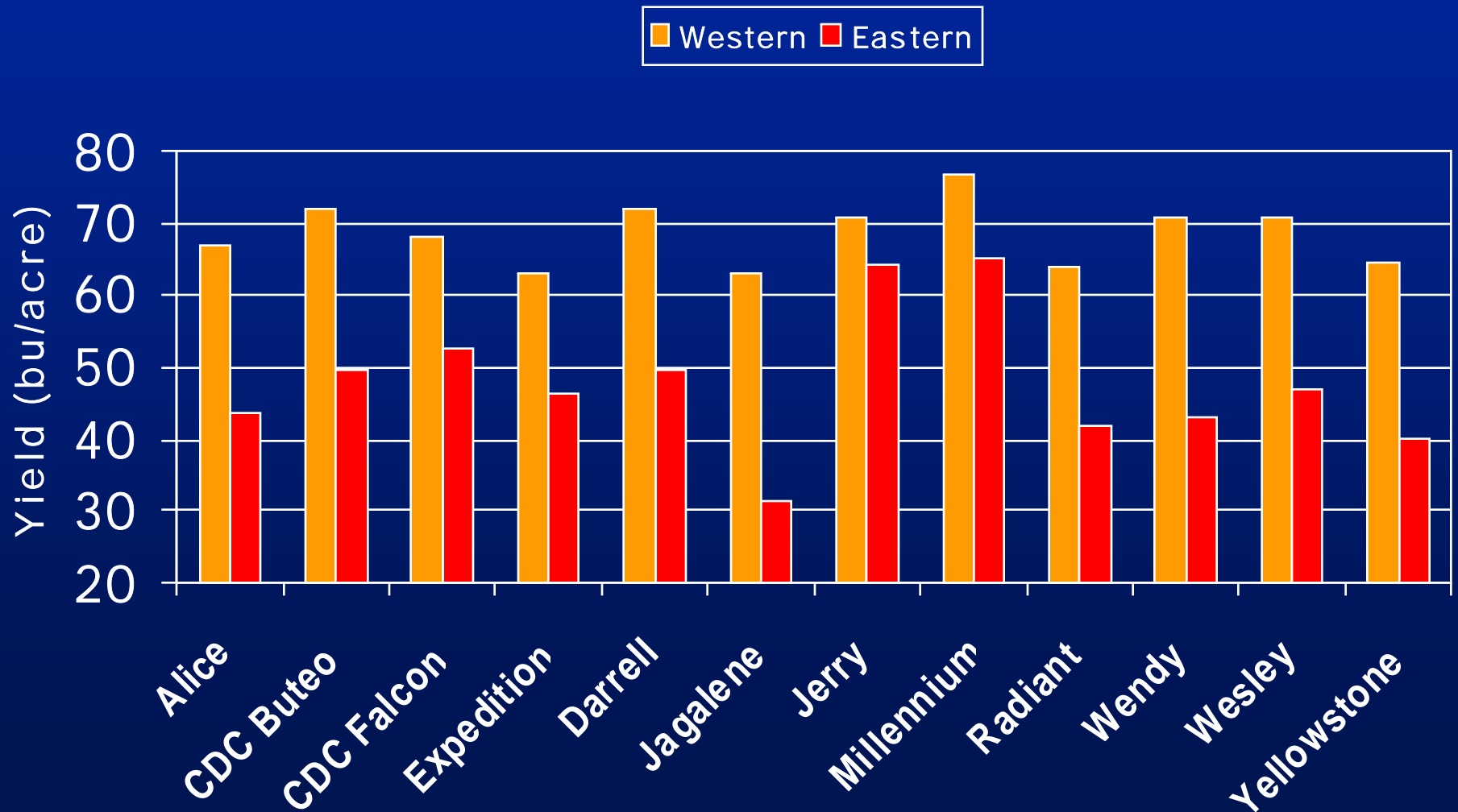
# *Winter wheat area by variety 2007*



**Effect of wheat class on yield and protein, mean of 20 varieties from two adjacent trials, Ransom County, 2007**

	No Fungicide		Prosaro @ Flowering	
<i>Wheat Class</i>	<i>Yield</i>	<i>Protein</i>	<i>Yield</i>	<i>Protein</i>
Spring wheat	57.0	15.5	61.0	15.5
Winter wheat	57.9	13.4	78.5	13.7

# Yield of winter wheat varieties in eastern and western ND, 2007



## *Conclusions*

- 2007 for western ND there was above average for yield for small grains
- Many new varieties of HRSW
  - Variety selection should be based on multi-year and -location data
  - Don't forget disease resistance (2005 data) when deciding
- New durum varieties offer good options
- Winter wheat was severely affected by disease if fungicide was not applied