

The Best of the Best in Wheat and Barley Research
Variety Update: Barley, Durum and Spring Wheat

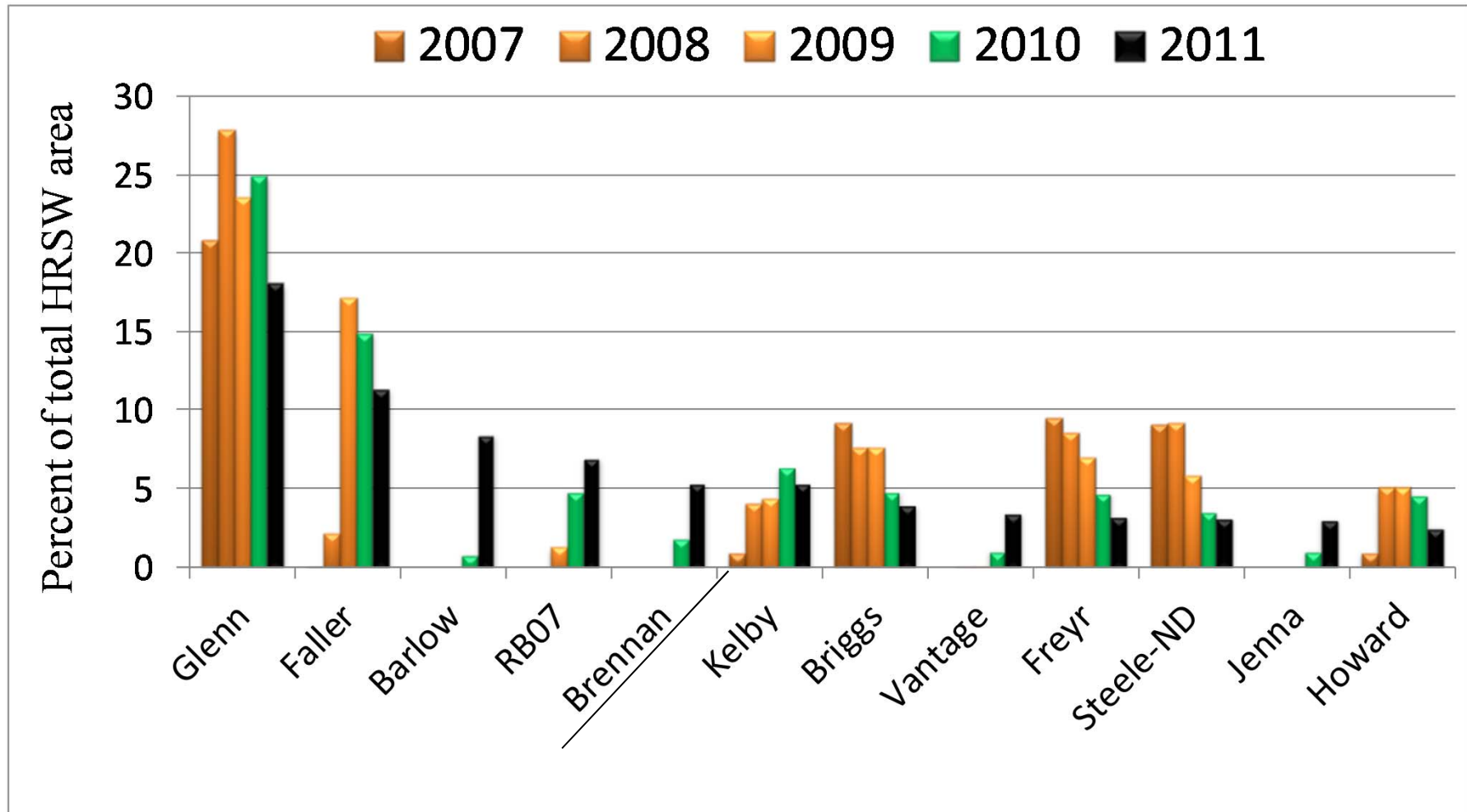


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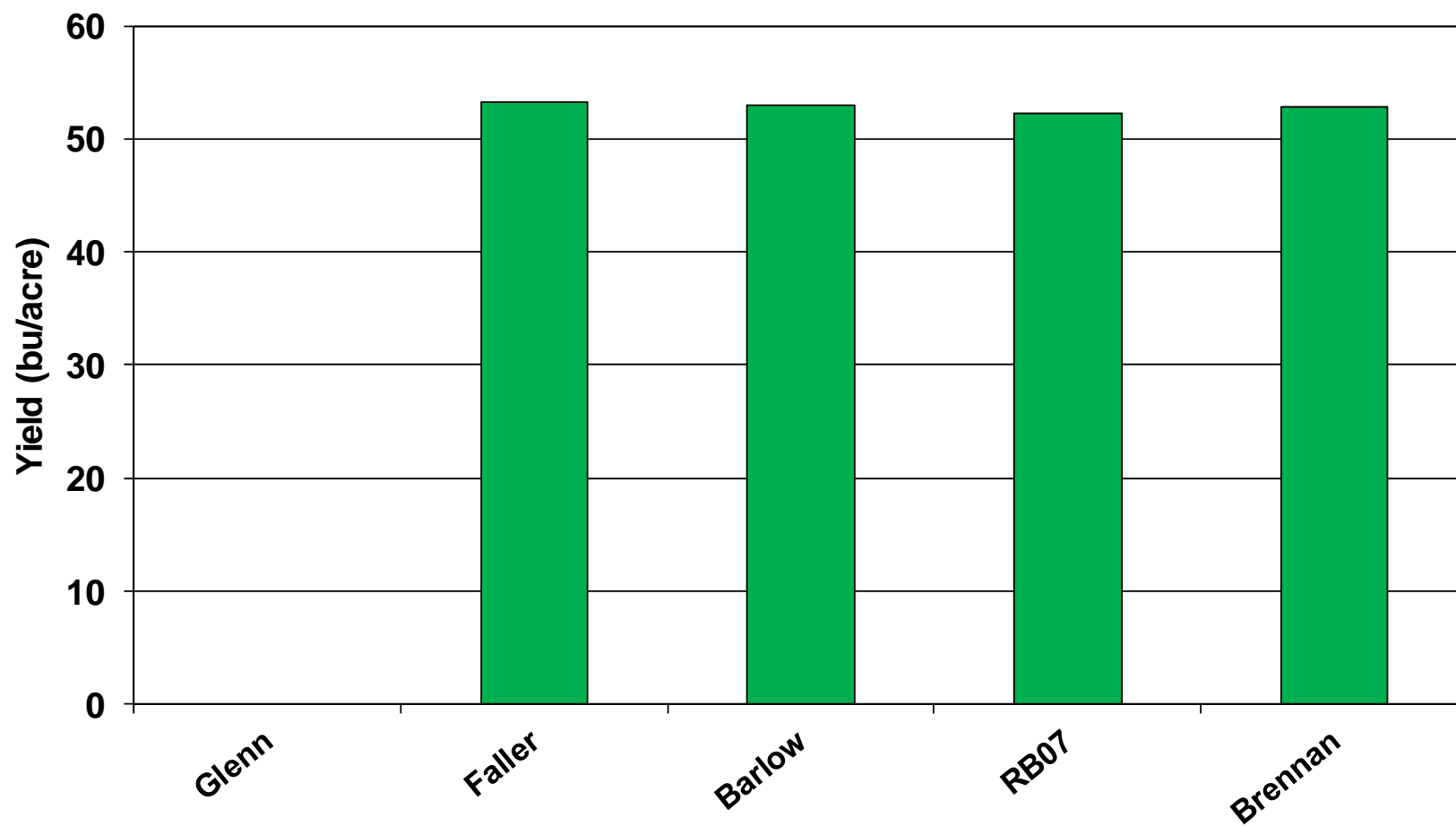
Contributor:
Joel Ransom, Extension agronomist

HRS WHEAT Varieties

ND HRS Wheat Varietal Acreage (%), 2007-11



Yield of HRS Wheat varieties in western* ND, 2009-11 (12 site-yr)



*Dickinson, Hettinger, Minot and Williston

HRS wheat releases in 2010

Variety	Origin
ND 901CL PLUS	NDSU
Lyn	Westbred
Pivot	Westbred
Select	SDSU

HRS wheat releases in 2011

Variety	Origin
WB Gunnison	Monsanto/WestBred
Powerplay	Limagrain
Prosper	NDSU
Rollag	Univ of Minn
WB Mayville	Monsanto/WestBred
SY Soren	AgriPro
SY Tyra	AgriPro

HRS wheat releases in 2012

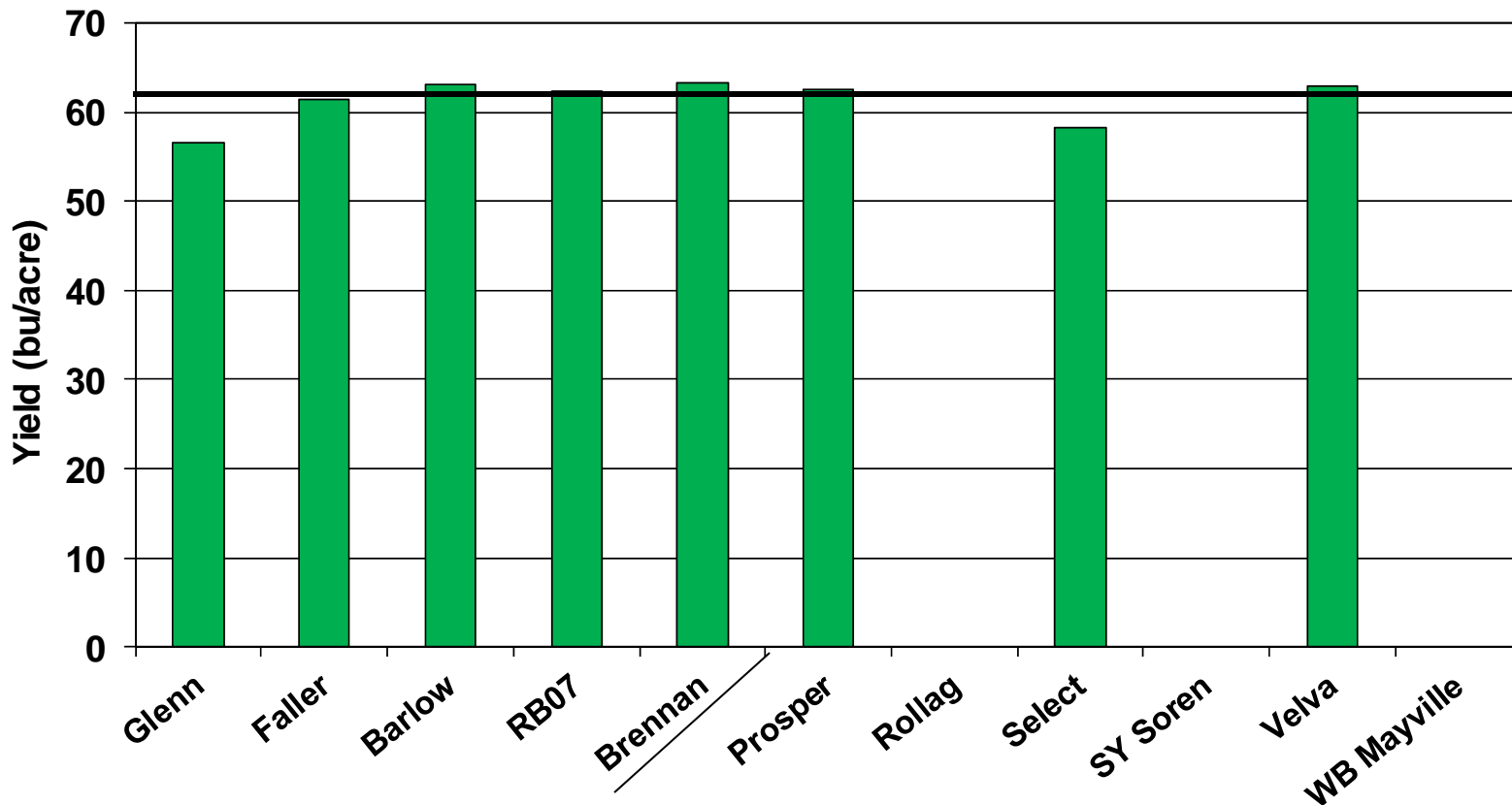
Variety	Origin
Velva (Dapps/2*Reeder)	NDSU
MN03196	Minnesota
Forefront	South Dakota
Advance	South Dakota

and probably others...?

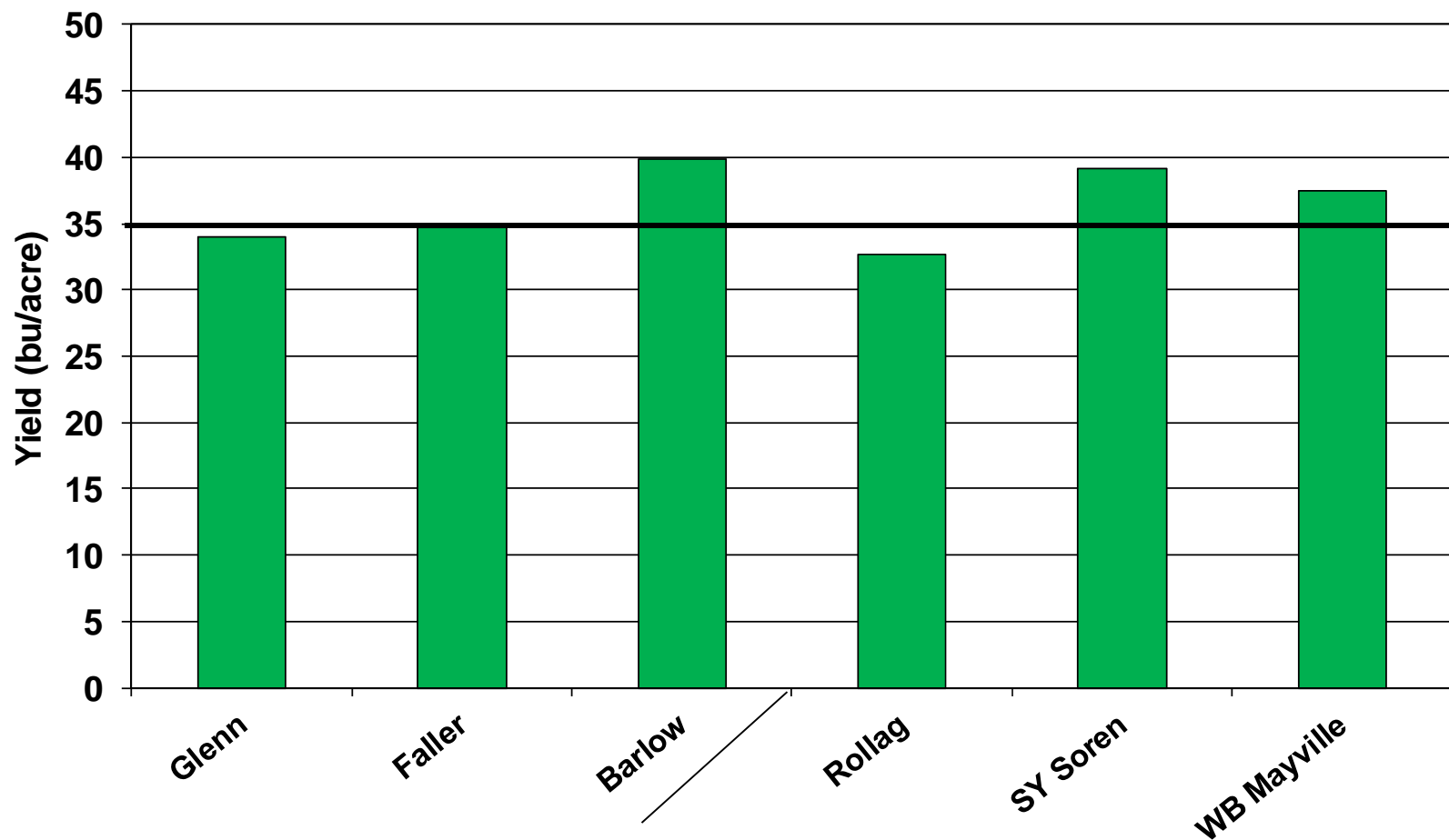
Velva versus Reeder

- **Higher yield**
- Similar heading date
- Slightly less straw strength
- Similar TW and protein
- Better overall disease package
 - but MS scab

Yield of HRS Wheat varieties, Dickinson, 2009-11 (3 site-yr)

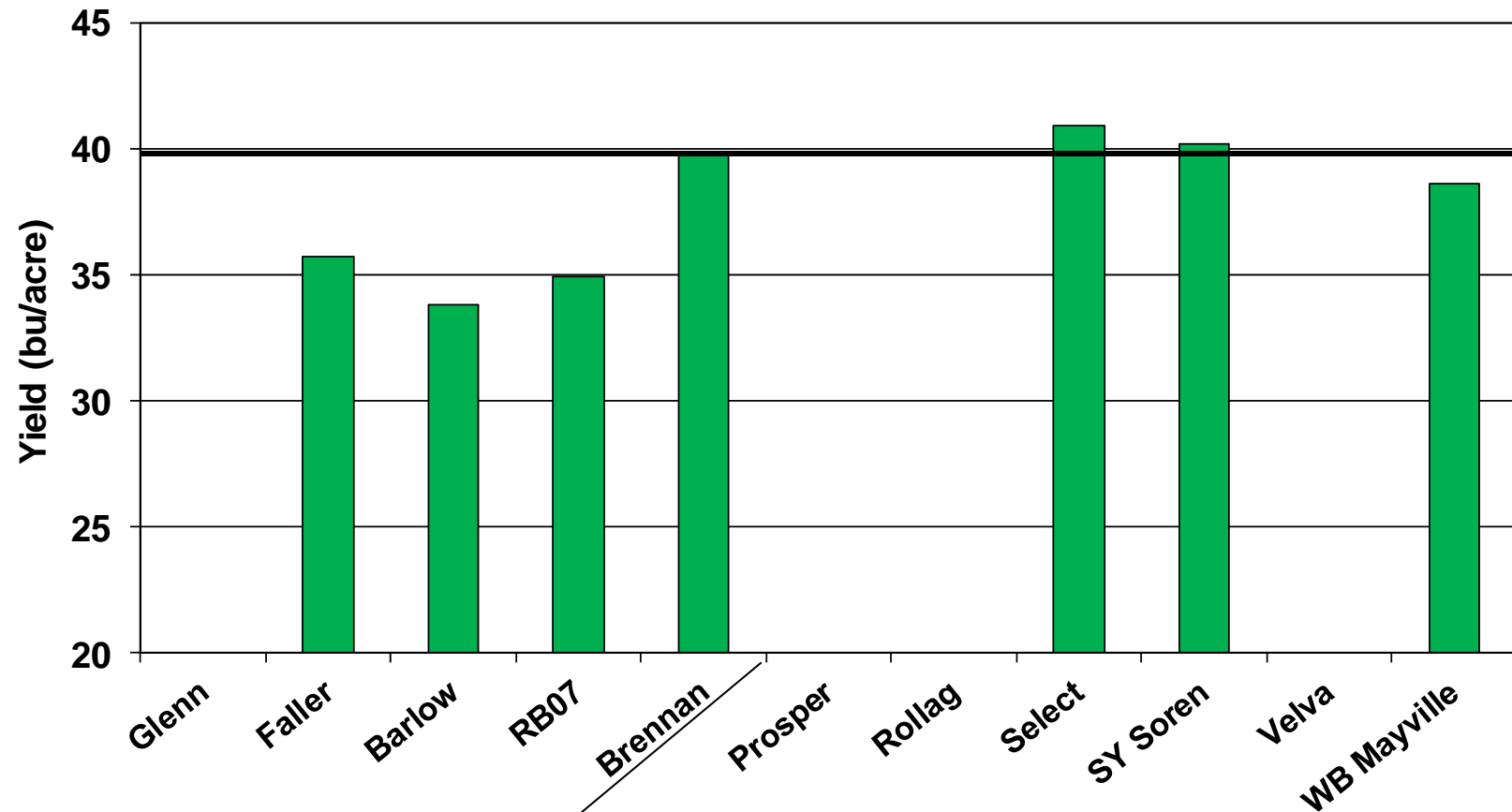


Yield of HRS Wheat varieties in western* ND, 2011 (2 site-yr)



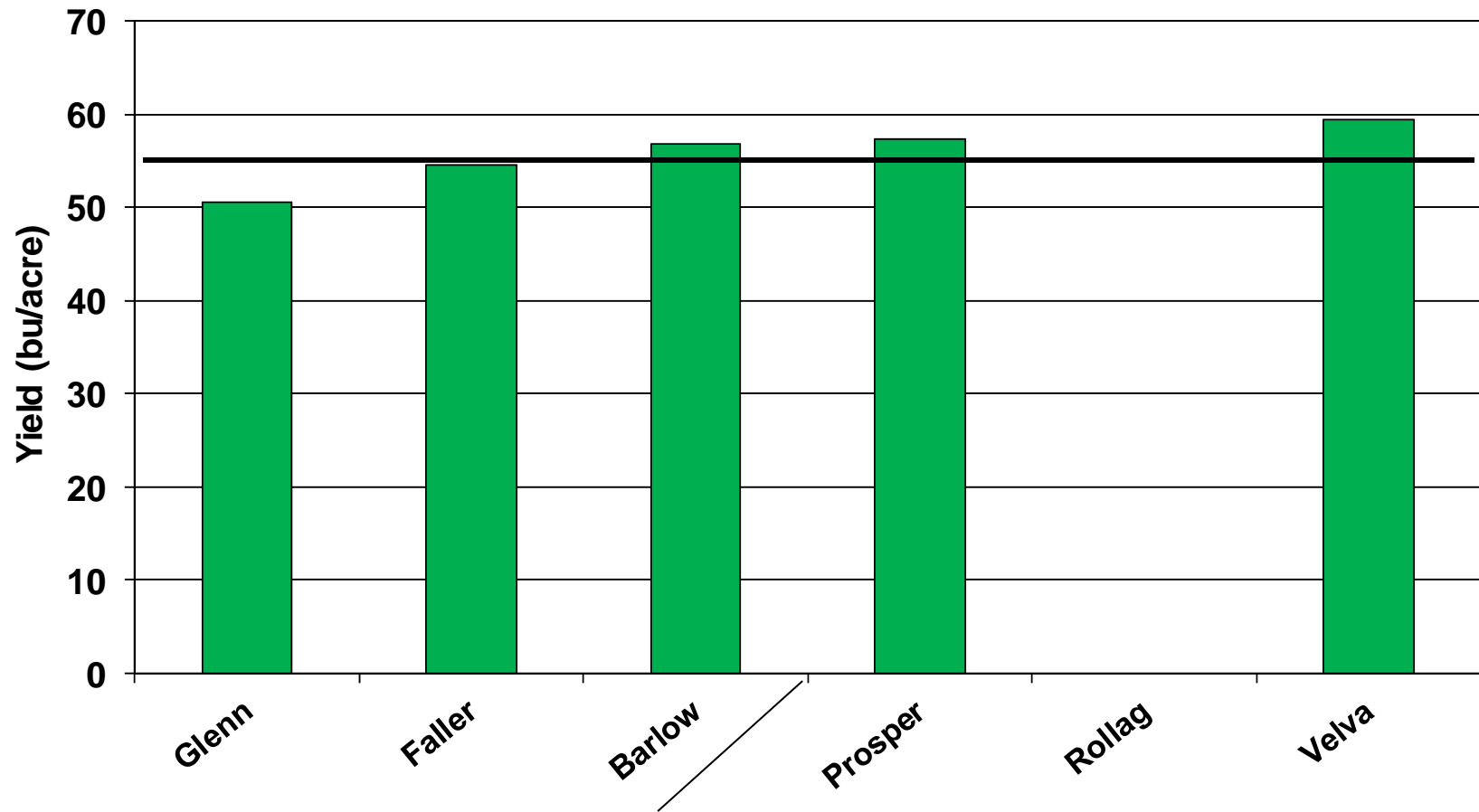
*Hettinger and Williston

Yield of HRS Wheat varieties in western* ND, 2011 (4 site-yr)



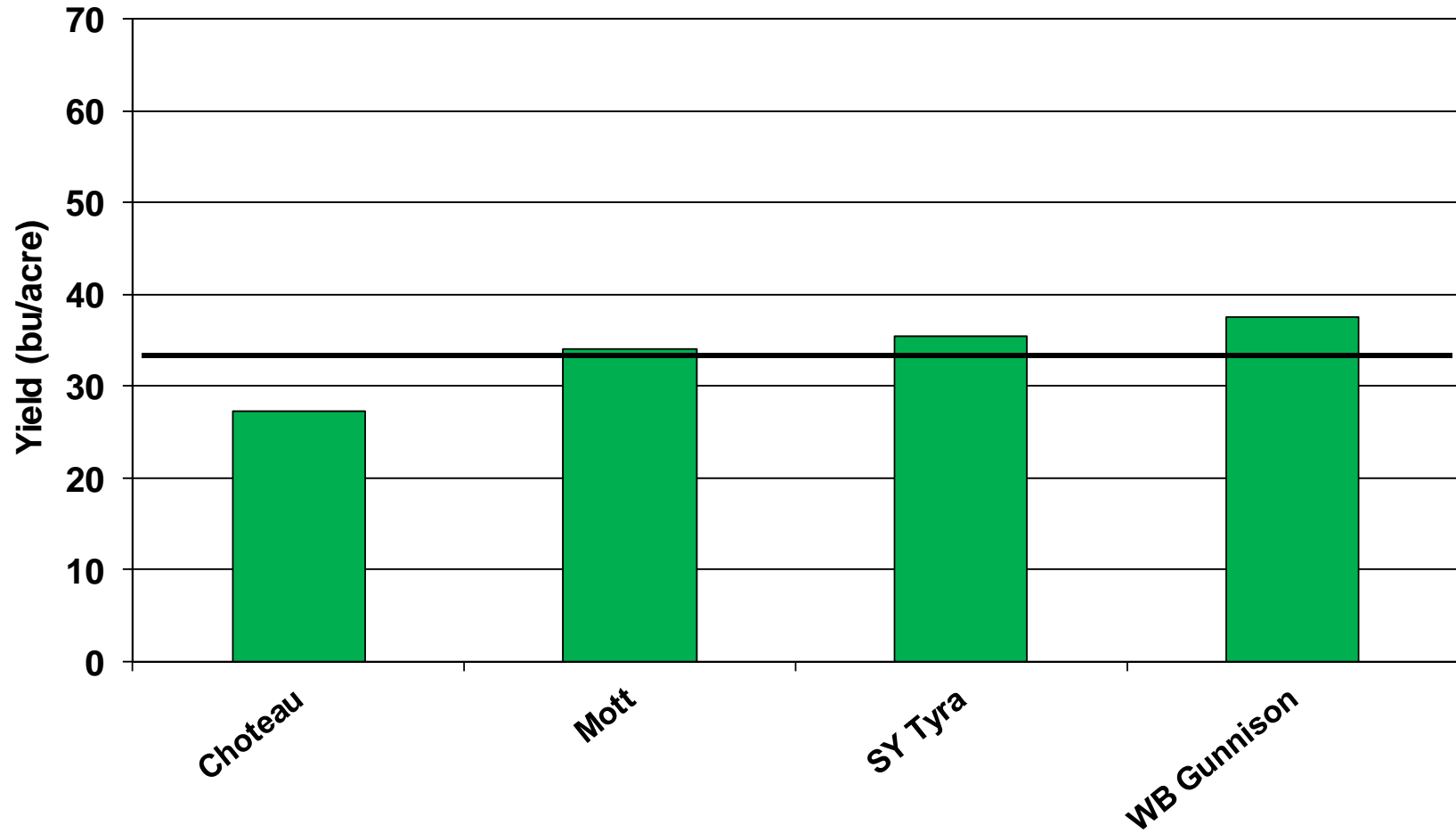
*Dickinson, Hettinger, Minot and Williston

Yield of HRS Wheat varieties in western* ND, 2009-11 (6 site-yr)



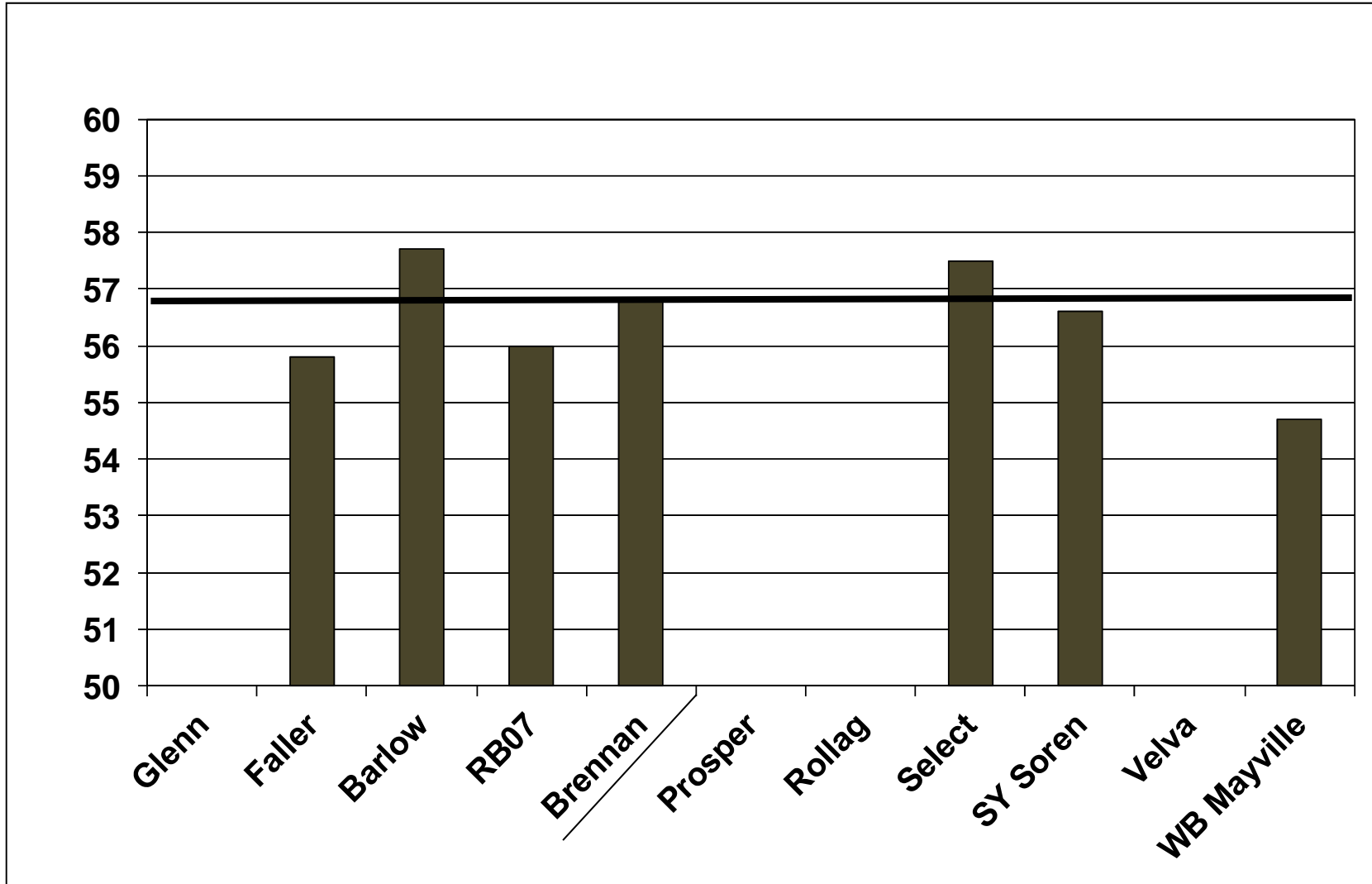
*Dickinson and Hettinger

Yield of Solid-Stem HRS Wheat varieties in western* ND, 2011 (2 site-yr)

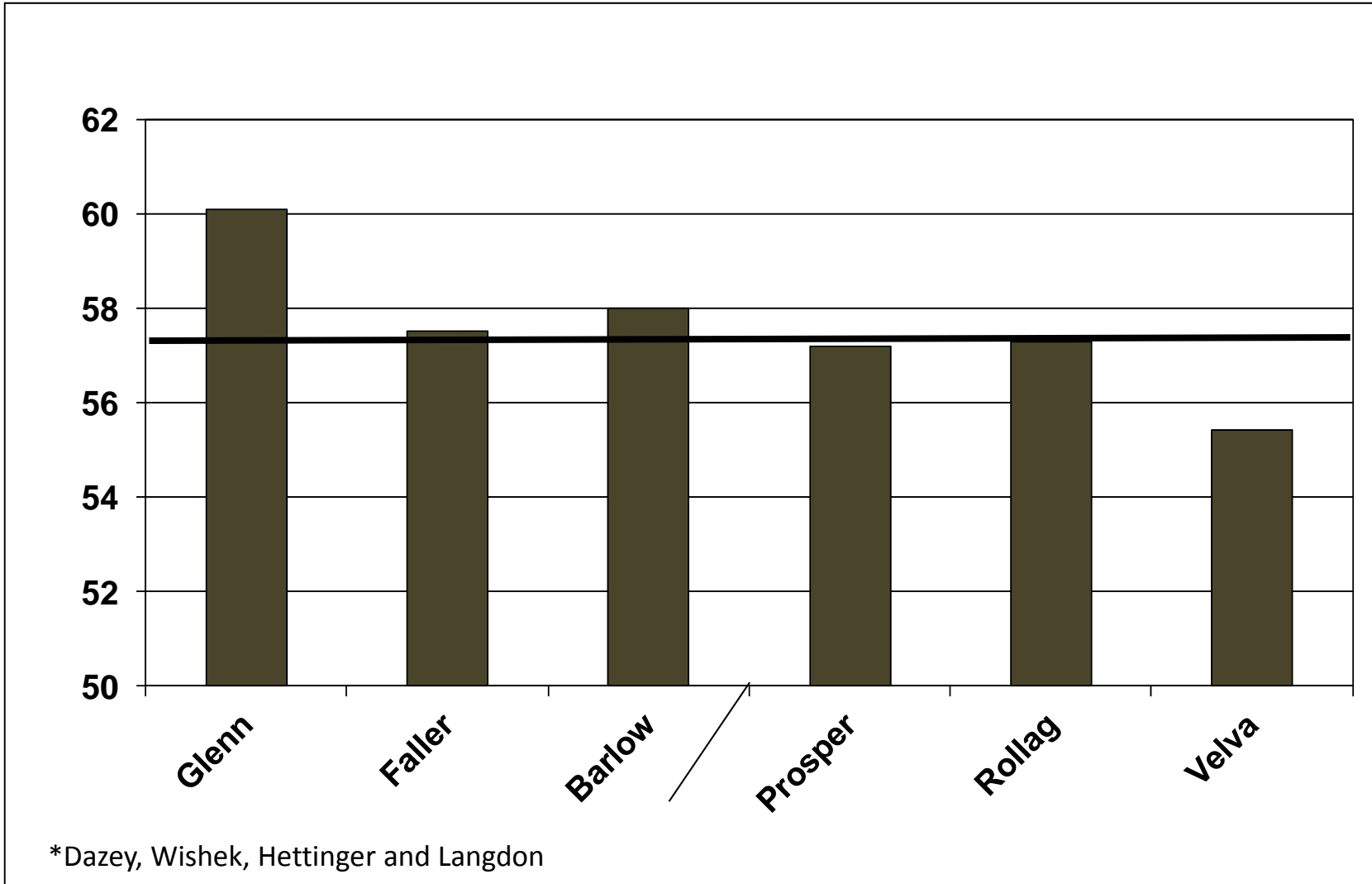


*Hettinger and Williston

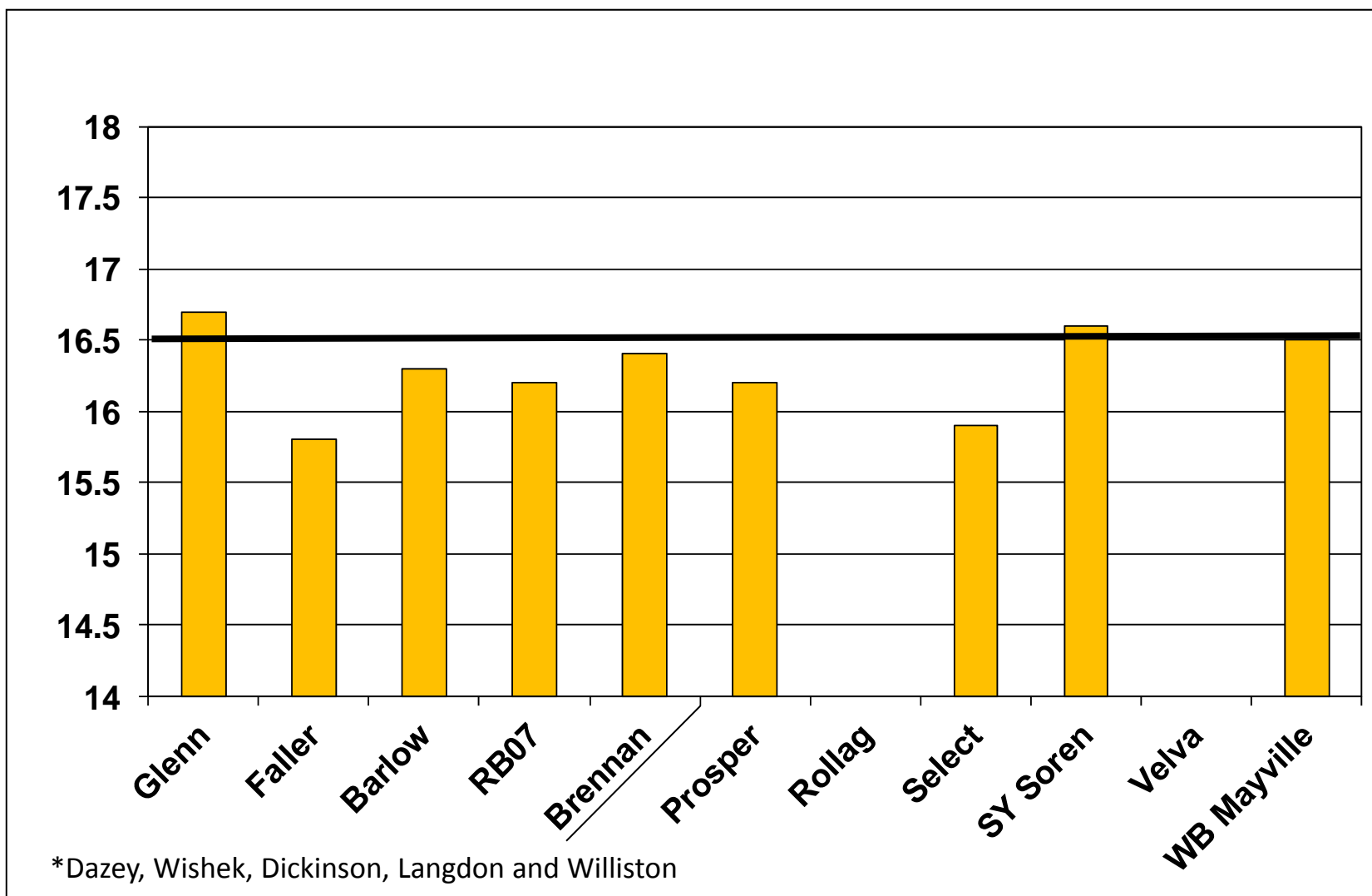
TEST WEIGHT (lb/bu) of HRS Wheat varieties, average of 7 ND locations, 2011



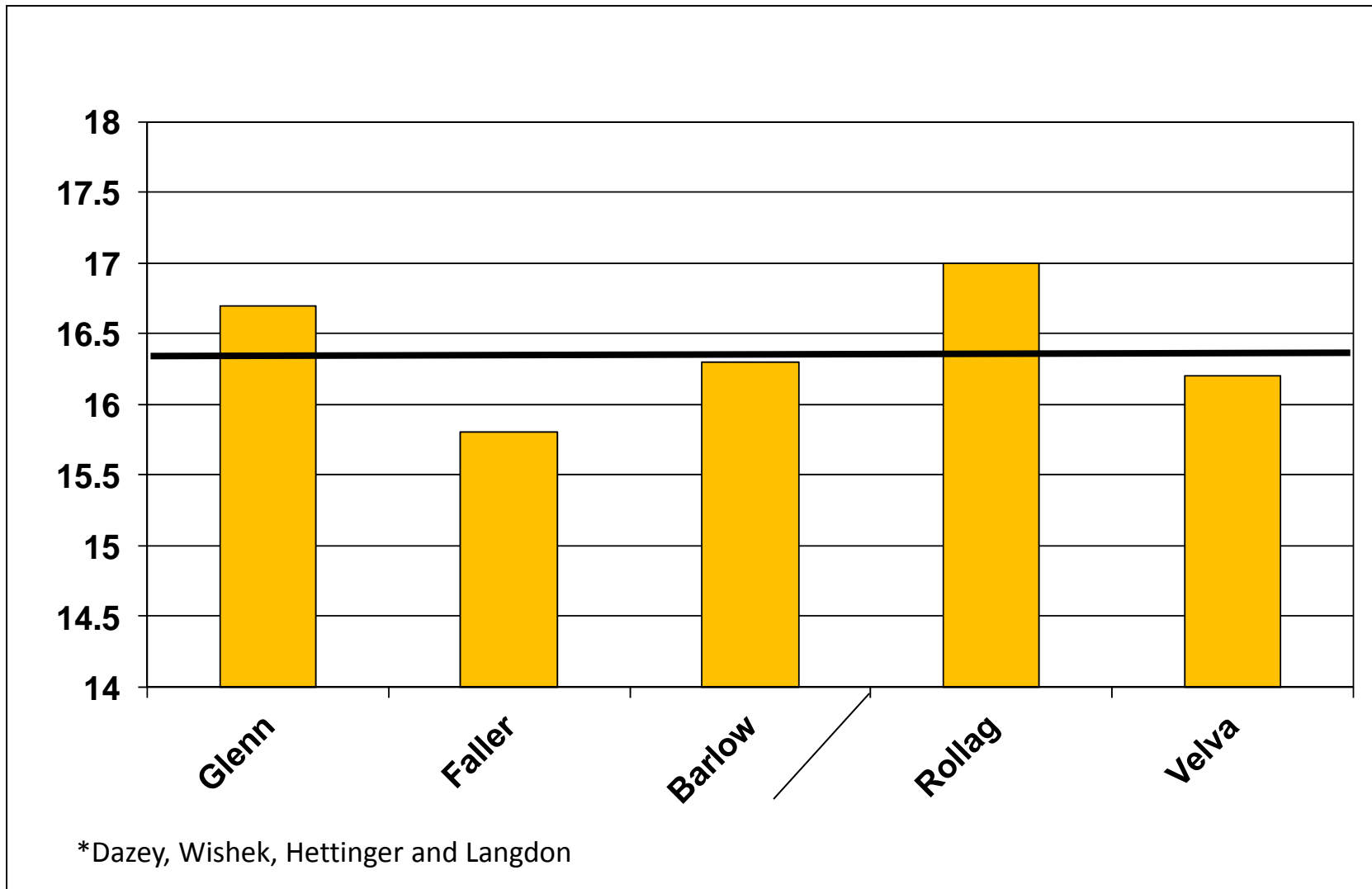
TEST WEIGHT (lb/bu) of HRS Wheat varieties, average of 4 ND locations*, 2011



PROTEIN (%) content of HRS Wheat varieties, average of 5 ND locations*, 2011



PROTEIN (%) content of HRS Wheat varieties, average of 4 ND locations*, 2011



Straw strength

- Criteria:
 - Scale: 1-9 (NDSU ratings)
 - 3 = **Rollag**
 - 4 = **Glenn, Brennan, SY Soren, Velva, WB Mayville**



Disease tolerance

- Criteria:
 - MR for scab and leafspot (NDSU ratings)
 - **Rollag and Select**



Comments on spring wheat

Yield Leaders

- Albany
- Faller
- Prosper
- Select*
- Barlow
- Brick*
- Jenna**
- SY Soren*

Protein notables

- Vantage
- Glenn
- Rollag
- SY Soren
- Brennan
- Barlow
- WB Mayville

* Leaders in western ND

Consider 2 or more varieties from the following list for 2012:

- **Glenn** - complement to a high-yielding variety due to high TW, protein and quality; straw, MR scab
- **Barlow or Brennan** - yield x TW x protein

- **Select** - yield and protein; MR scab and leafspot
- **SY Soren** - yield and protein; straw strength
- **Velva** - yield; straw strength

Performance of HRS Wheat cultivar mixtures

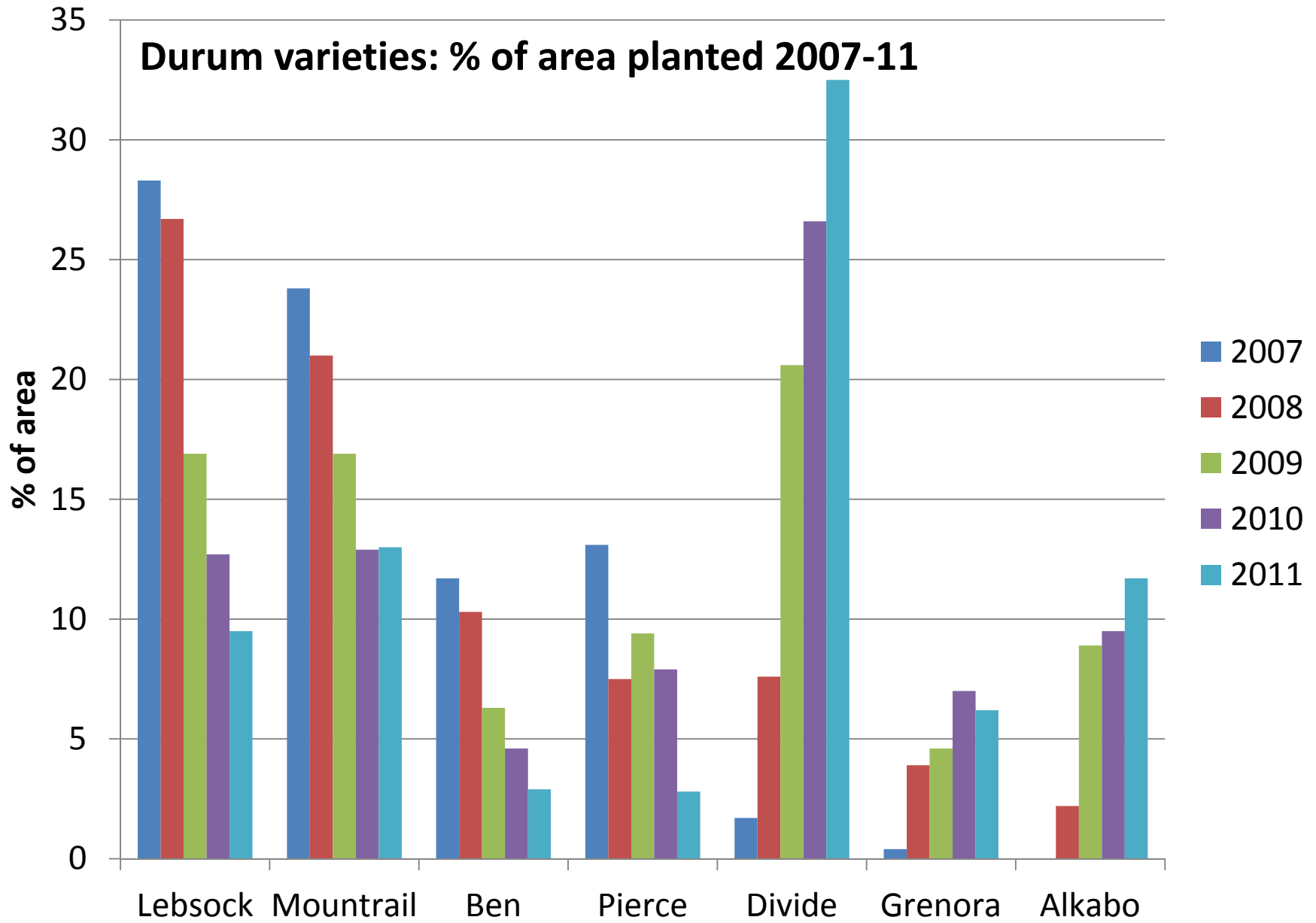
Dai, Wiersma and Holen, Univ. of Minn (Agron. J. 2012)

- 5 site-yr (2008-10), RRV
- ‘Faller’ and ‘Glenn’, ‘RB07’ and ‘Bigg Red’, and ‘Rush’ and ‘Traverse’
 - compatible plant height and maturity; and contrasts in yield, protein, leaf rust S, and lodging R
 - 3:1, 1:1, and 1:3 mixtures of each pair
- ❖ No benefits or penalties to cultivar mixing in study

DURUM

Varieties

Durum varieties: % of area planted 2007-11



Durum variety release, 2009-12

Variety	Agent or Origin	Release year
Westhope	Westbred	2009
Tioga	NDSU	2010
CDC Verona	Canada	2010
WB Belfield	Westbred	2011
Carpio	NDSU	2012

Durum variety release, 2009-11

Variety	Straw strength	Foliar disease	Scab
Westhope	3	MS	S
Tioga	4	M	MS
CDC Verona	4	MR	S
WB Belfield	2	s	S

Durum variety release, 2009-11: ND drill strip trials, 2010

Variety	Test weight (lb/bu)	Protein (%)	Falling number (sec)	Gluten index	Overall quality
Westhope	61.1	14.1	397	74	good
Tioga	60.4	13.8	407	81*	good
CDC Verona	60.5	14.5	431	66	good
WB Belfield	not tested				

*very strong gluten protein

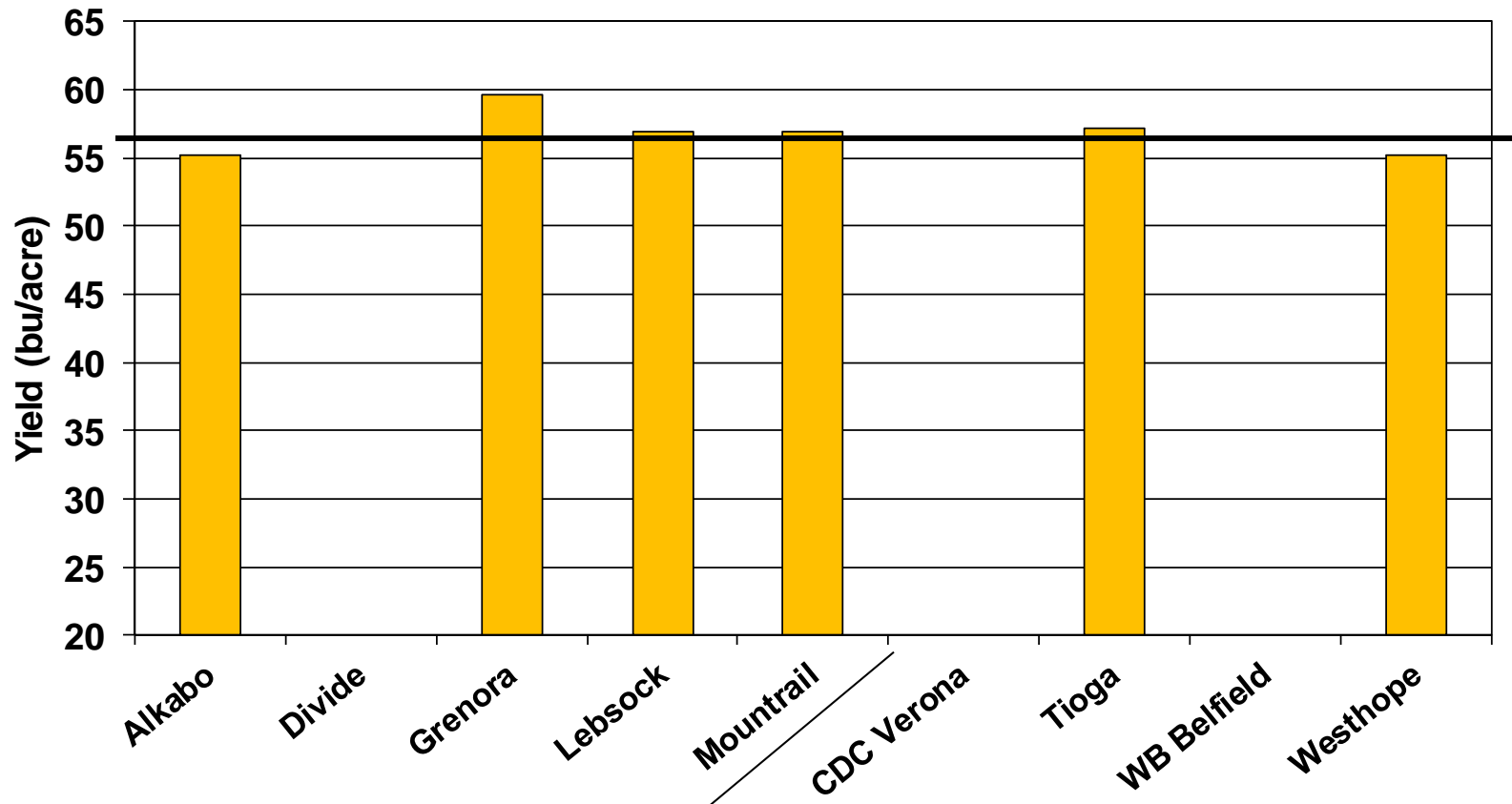
Carpio (D03028)

- Released primarily as a high quality competitor with 'super gluten' Canadian durum varieties
- In general, **grain yield** < Tioga and Mountrail but \geq to others
- Slightly later than other varieties
 - 1 day > Divide and Mountrail
- No distinction (+/-) with other agronomic and disease traits
- **Quality** = strong gluten, high falling numbers and other factors

Yield of Carpio and selected durum varieties, ND, 2007-11 (15 site-years)

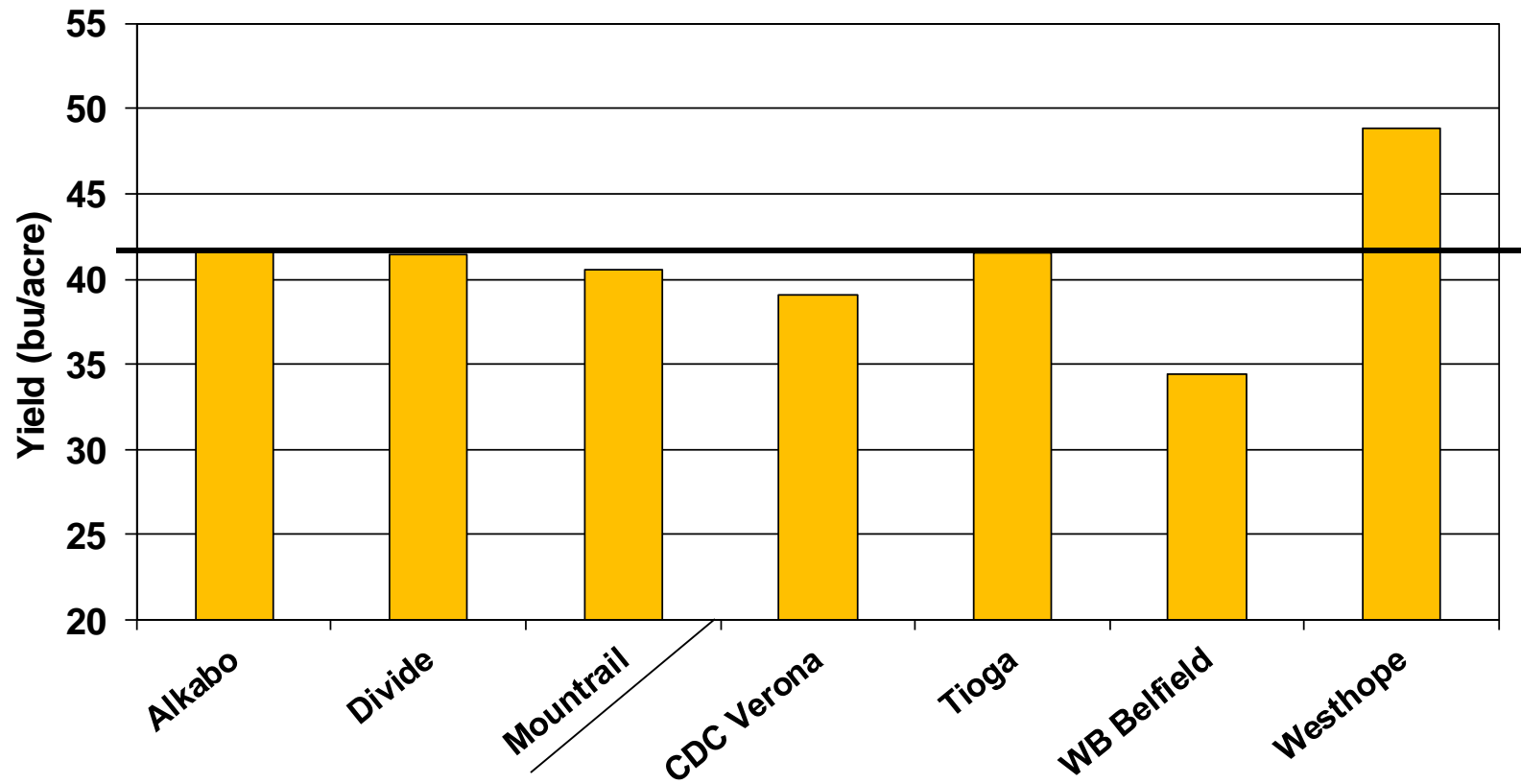
Cultivar	Yield (bu/A)
Carpio	66.3
Tioga	67.8
Divide	63.9
Alkabo	63.7
Grenora	65.5
Mountrail	67.9

Yield of DURUM varieties ND*, 2009-11 (12 site-yr)



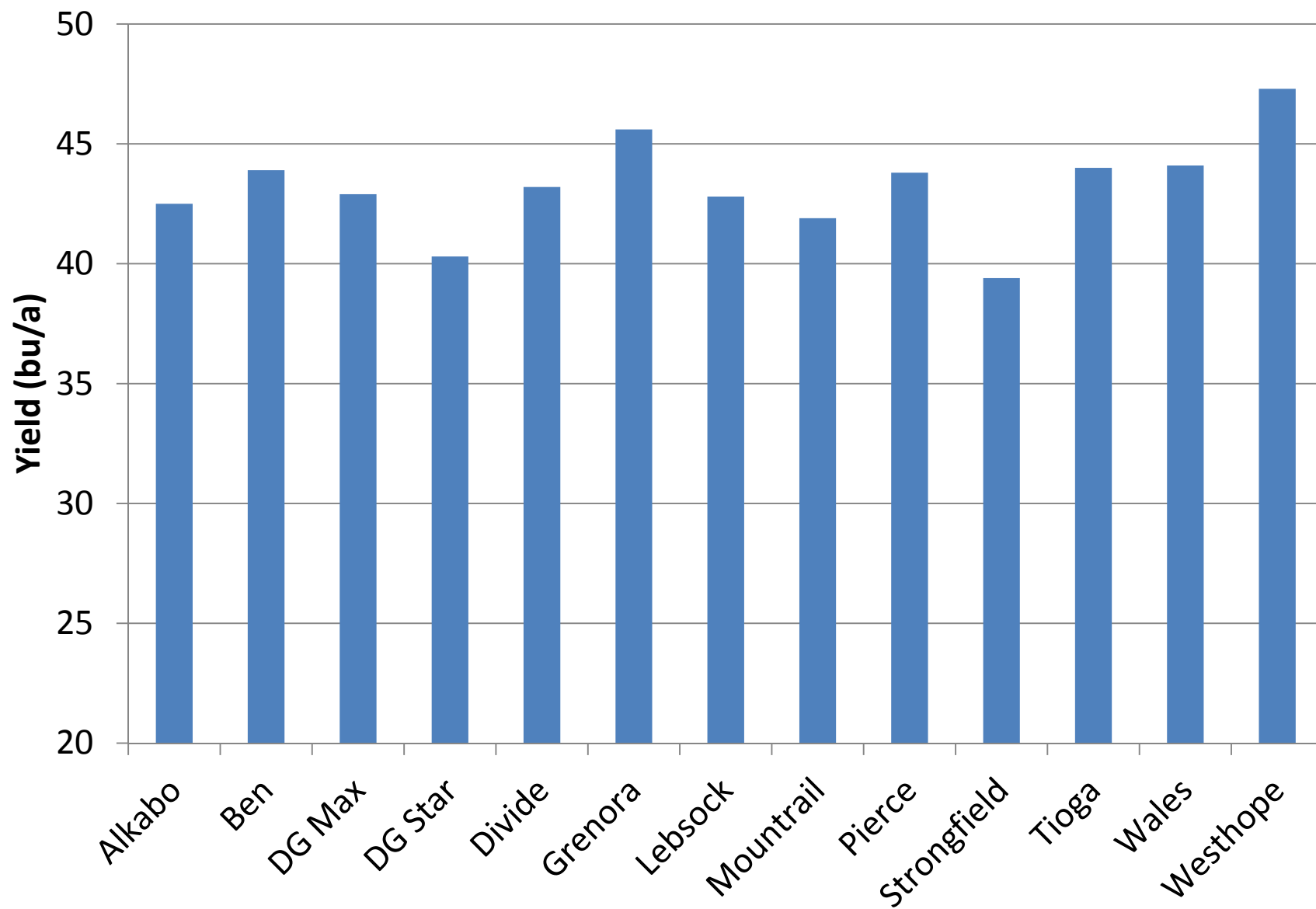
*Hettinger, Langdon, McClusky and Williston

Yield of DURUM varieties ND*, 2011 (3 site-yr)



*Hettinger, Langdon and Williston

Yield of durum varieties, average of four locations, 2011.



Durum Variety Summary

- Yield Leaders
 - Westhope
 - Grenora
 - ~2 bu difference in top 10 varieties*
- Protein notables
 - Strongfield
 - DG Star
 - DG Max
 - Ben
 - Divide
 - Tioga

BARLEY

Varieties

Barley in 2012?

- Industry contract
- Seed

2012 Barley Industry Contracts:

– Cargill

- Tradition and Lacey

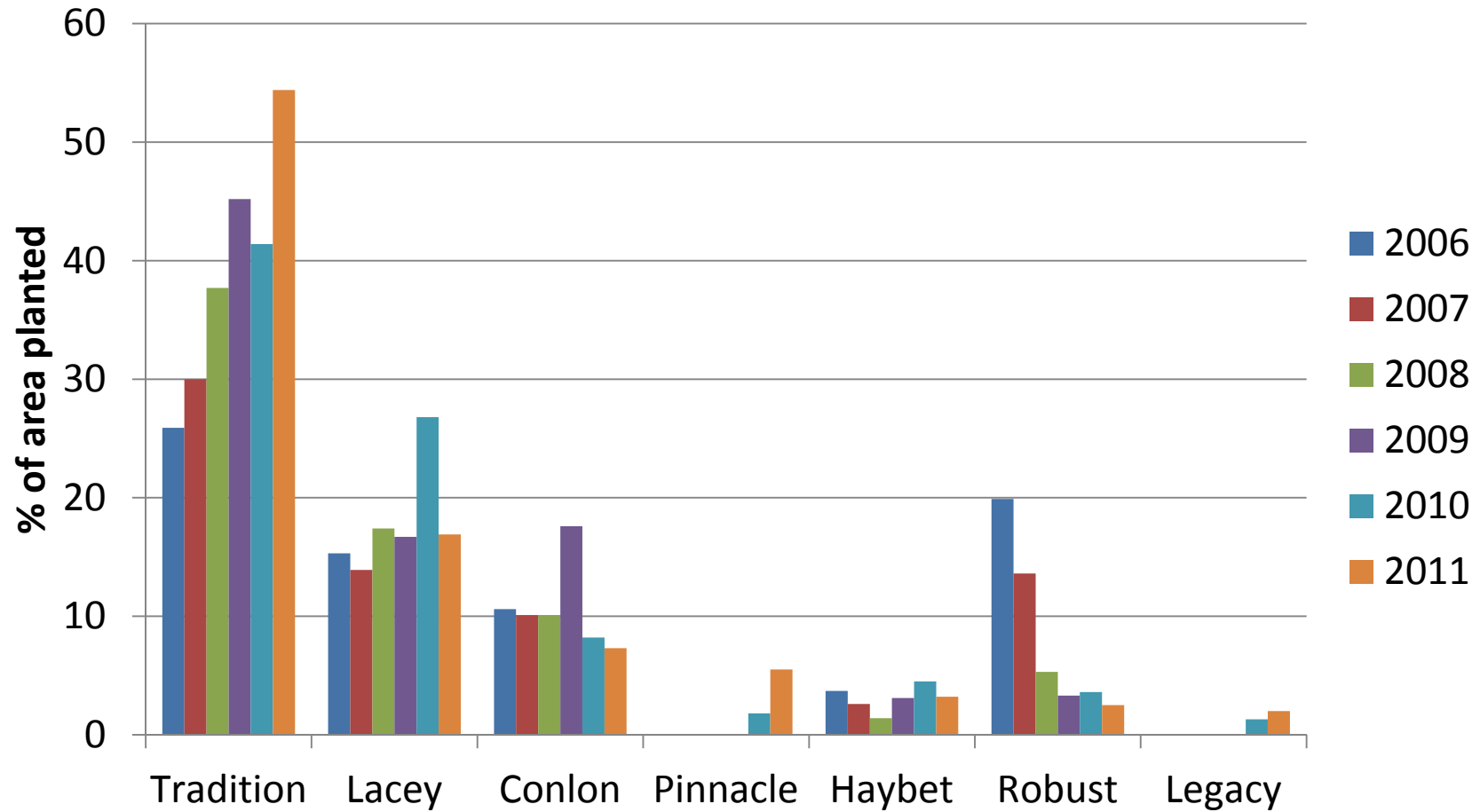
– Busch Ag Resources

- Tradition, Lacey, Celebration, Stellar-ND and Quest
- Conrad, Hockett, M-57 and AC Metcalfe

– Rahr Malting Company

– others

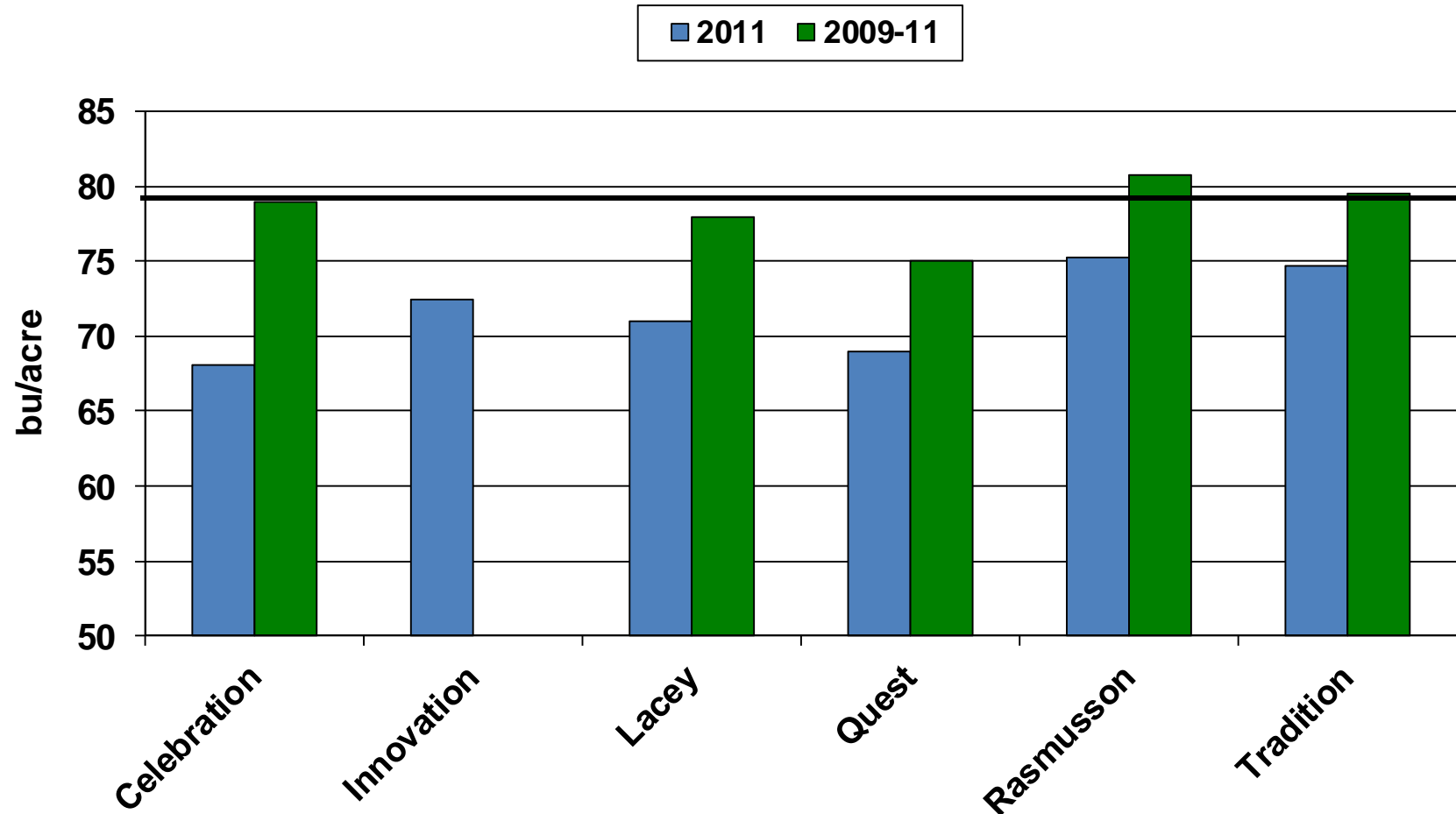
Trends in barley variety use, ND



Barley variety release, 2008-12

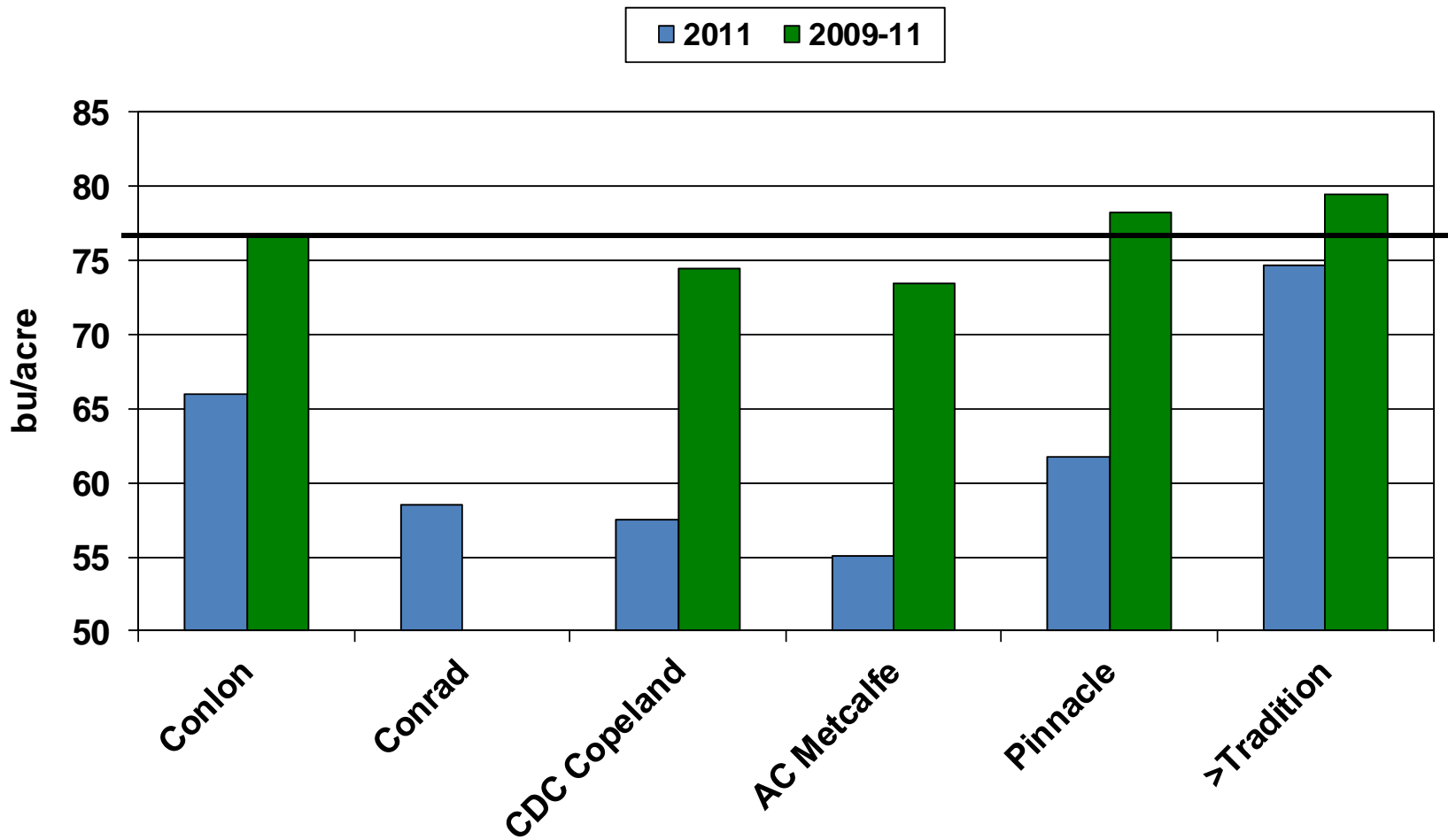
Variety	Agent or Origin	Release year	Rachilla hair length	Straw strength	Scab
Celebration	BARI	2008	S	Strong	
Rasmussen	Minn	2008	S	Strong	
Innovation	BARI	2009	L	Strong	
Quest	Minn	2010	L	Very strong	MR and reduced DON
ND22421	NDSU	?			

Yield of 6-row malting barley varieties in western ND*, 2009-11



*Dickinson, Hettinger, Minot and Williston

Yield of 2-row malting barley varieties in western ND*, 2009-11



*Dickinson, Hettinger, Minot and Williston

Plump and Protein of Barley Varieties, Western ND, 2011

- **Plump**

- Conlon: high (82% vs trial mean of 68%)

- **Protein**

- 6 row

- Celebration: 14.5% compared to other 6-row (13.3-13.7%)

- 2 row

- Pinnacle: 12.9%; Conlon: 13.9% compared to other 2-row malt (14.7-15.0%)

Questions or
Comments?

