

# Winter Wheat Production & Economics

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Western Winter Wheat Initiative



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Ducks Unlimited Canada  
Conserving Canada's Wetlands



Bayer CropScience



# Why Grow Winter Wheat



- Time management (seeding and harvest)
- Weed management/lower herbicide reliance
- Other pest management
  - Wheat midge
  - Fusarium head blight
- More acres with existing equipment (decreased fixed costs)
- Excellent soil conservation properties
- Higher yields
- Habitat/environmental benefits

Why Grow Winter Wheat

**PROFITABILITY**



WINTER WHEAT - SASKATCHEWAN'S MOST PROFITABLE CROP

	Winter Wheat	Canola	Green Peas	Flax	CPS Wheat	CWRS Wheat	Oats	Malt Barley	Yellow Peas	Feed Barley	Red Lentil	Large Gr Lentil
Estimated Yield (bus/ac)	<b>60.1</b>	39.5	37.1	23.7	53.6	47.8	99.1	64	37.1	76.8	1298	1189.6
Estimated Market Price	<b>\$ 5.50</b>	9.8	\$ 9.00	\$ 12.90	\$ 5.25	\$ 5.75	\$ 2.60	\$ 4.10	\$ 7.00	\$ 3.00	\$ 0.20	\$ 0.21
Estimated Gross Revenue (\$/ac)	<b>\$ 330.55</b>	387.1	\$ 333.90	\$ 305.73	\$ 281.40	\$ 274.85	\$ 257.66	\$ 262.40	\$ 259.70	\$ 230.40	\$ 259.60	\$ 249.82
Total Variable Expenses	<b>\$ 154.25</b>	\$ 212.59	\$ 163.72	\$ 148.14	\$ 161.88	\$ 156.46	\$ 140.59	\$ 147.37	\$ 153.00	\$ 149.40	\$ 173.64	\$ 178.22
Total Other Expenses	<b>\$ 74.07</b>	\$ 74.07	\$ 83.04	\$ 74.07	\$ 74.07	\$ 74.07	\$ 74.07	\$ 74.07	\$ 83.04	\$ 74.07	\$ 83.04	\$ 83.04
Total Expenses	<b>\$ 228.32</b>	\$ 286.66	\$ 246.76	\$ 222.21	\$ 235.95	\$ 230.53	\$ 214.66	\$ 221.44	\$ 236.04	\$ 223.47	\$ 256.68	\$ 261.26
Net Returns (\$/acre)	<b>\$ 102.23</b>	\$ 100.44	\$ 87.14	\$ 83.52	\$ 45.45	\$ 44.32	\$ 43.00	\$ 40.96	\$ 23.66	\$ 6.93	\$ 2.92	\$ (11.44)



Western Winter Wheat Initiative

Source: Saskatchewan Ministry of Agriculture

Crop Planning Guide 2014 - Black Soil Zone

# Western Producer

Dec. 19<sup>th</sup>, 2013  
issue

crop-to-crop profitability comparisons, but Caron said preliminary work shows no crop other than winter wheat having substantial profits above total costs.

"A lot of it is break-even or below break-even in terms of current (fall 2014) prices and current projections for costs," said Caron.

Many farmers don't include a return for land in their calculations when looking forward, but in terms of economics and business analysis, it needs to be included to find a true level of profitability.

Caron said he often discusses profits over operating costs because that's what they focus on, but total costs are important as a way to determine how much the situation has changed.

Farmers will need to assess their options carefully now that high prices have disappeared, at least temporarily, and most production costs have risen.

Winter wheat returns in Manitoba have been outstanding in the past few years, and that doesn't change for 2014-15, Caron said.

"Winter wheat's the winner, by far," he said.

"Unfortunately, you can't go back and (seed) more winter wheat."

Huge returns on winter wheat have



## BREAK-EVEN YIELDS ABOVE OPERATING COSTS

Marginal returns after operations for 2013-14 crop year:

Cash	average yields	break-even yields	price estimate	returns after operations
Spring wheat	42 bu. /acre	25 bu. /acre	\$7.50/bu.	\$123 /acre
Winter wheat	60 bu. /acre	27 bu. /acre	\$7.00/bu.	\$240 /acre
Malt barley	60 bu. /acre	28 bu. /acre	\$6.00/bu.	\$190 /acre
Feed barley	70 bu. /acre	40 bu. /acre	\$4.25/bu.	\$128 /acre
Oats	110 bu. /acre	55 bu. /acre	\$2.75/bu.	\$150 /acre
Corn	95 bu. /acre	60 bu. /acre	\$5.10/bu.	\$182 /acre
Canaryseed	1,200 lb. /acre	585 lb. /acre	\$0.25/lb.	\$154 /acre
Hybrid canola	38 bu. /acre	21 bu. /acre	\$11.50/bu.	\$208 /acre
Nexera canola	38 bu. /acre	18 bu. /acre	\$12.50/bu.	\$243 /acre
Flax	28 bu. /acre	12 bu. /acre	\$12.50/bu.	\$193 /acre
Soybeans	32 bu. /acre	14 bu. /acre	\$12.25/bu.	\$217 /acre
Peas	45 bu. /acre	24 bu. /acre	\$6.75/bu.	\$140 /acre
Lentils	1,300 lb. /acre	775 lb. /acre	\$0.21/lb.	\$110 /acre
Sunflowers	1,400 lb. /acre	840 lb. /acre	\$0.25/lb.	\$140 /acre

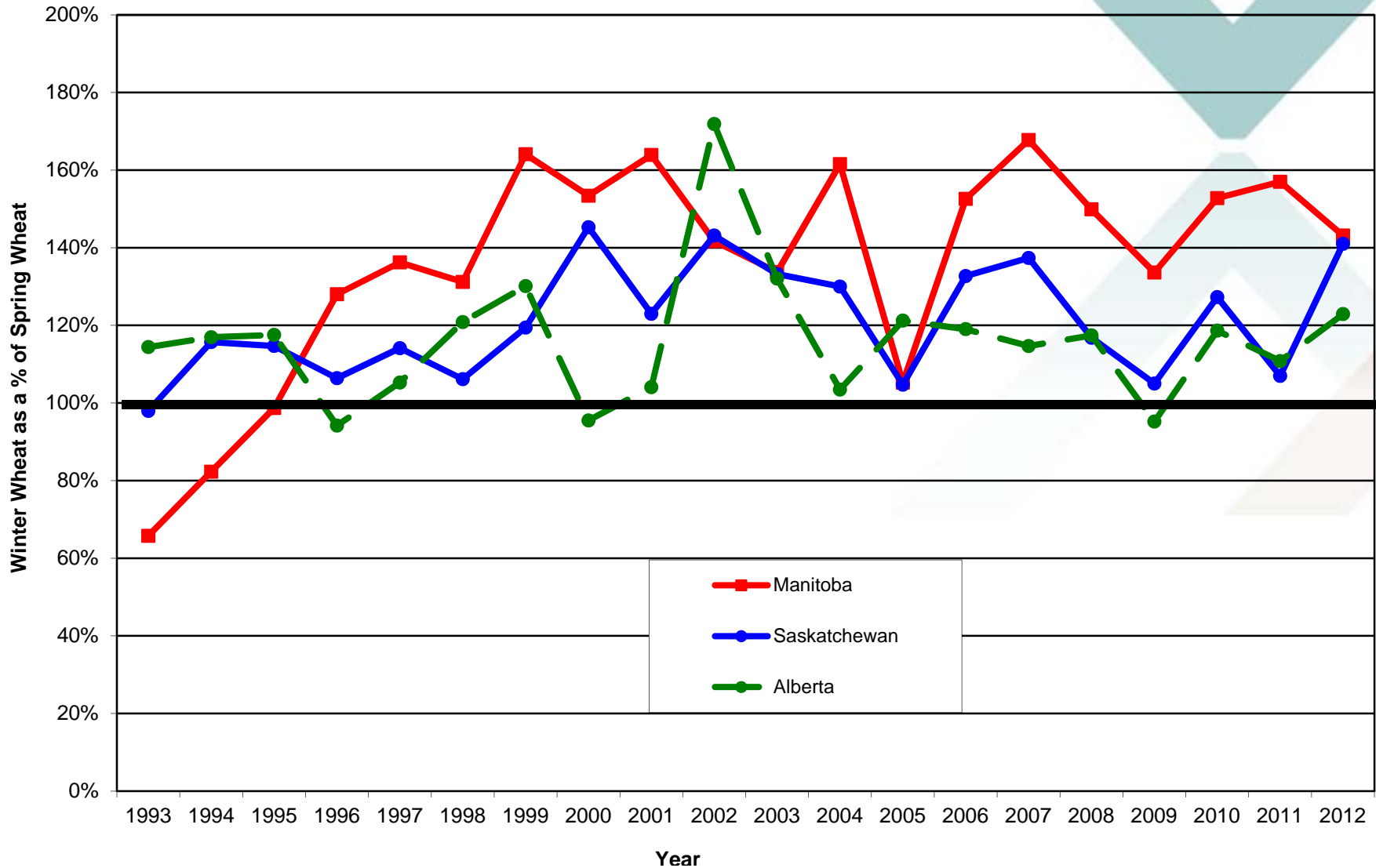
Note: Operating costs do not include land, machinery or its depreciation, or off-farm storage; prices are estimates; each farming region and farm will have its own costs that will vary significantly.

Source: Staff research, provincial agriculture departments, Statistics Canada | WP GRAPHIC



# WHERE DO THE PROFITS COME FROM?

Winter Wheat vs. Spring Wheat Yield  
Source: Stats Canada





# AGRONOMICS 'THE ABCs'



# Seeding

## 1. Seed early



# 1. Seed Early (Aug. 20 – Sept. 15)

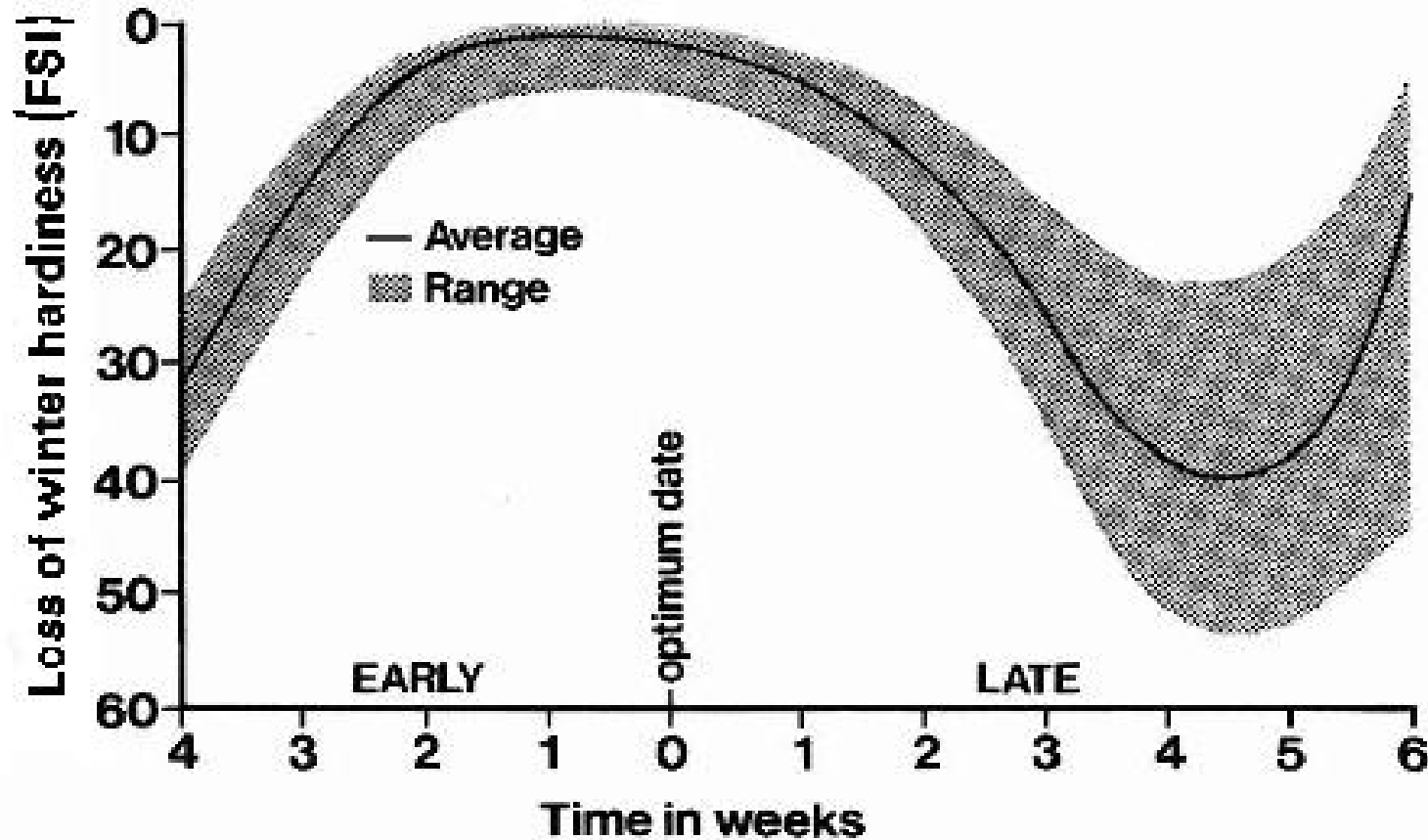


Figure 1. Influence of seeding date on winter hardiness of winter wheat. See table 1 for optimum seeding date.

# 1. Seed Early (Aug. 20 – Sept. 15)

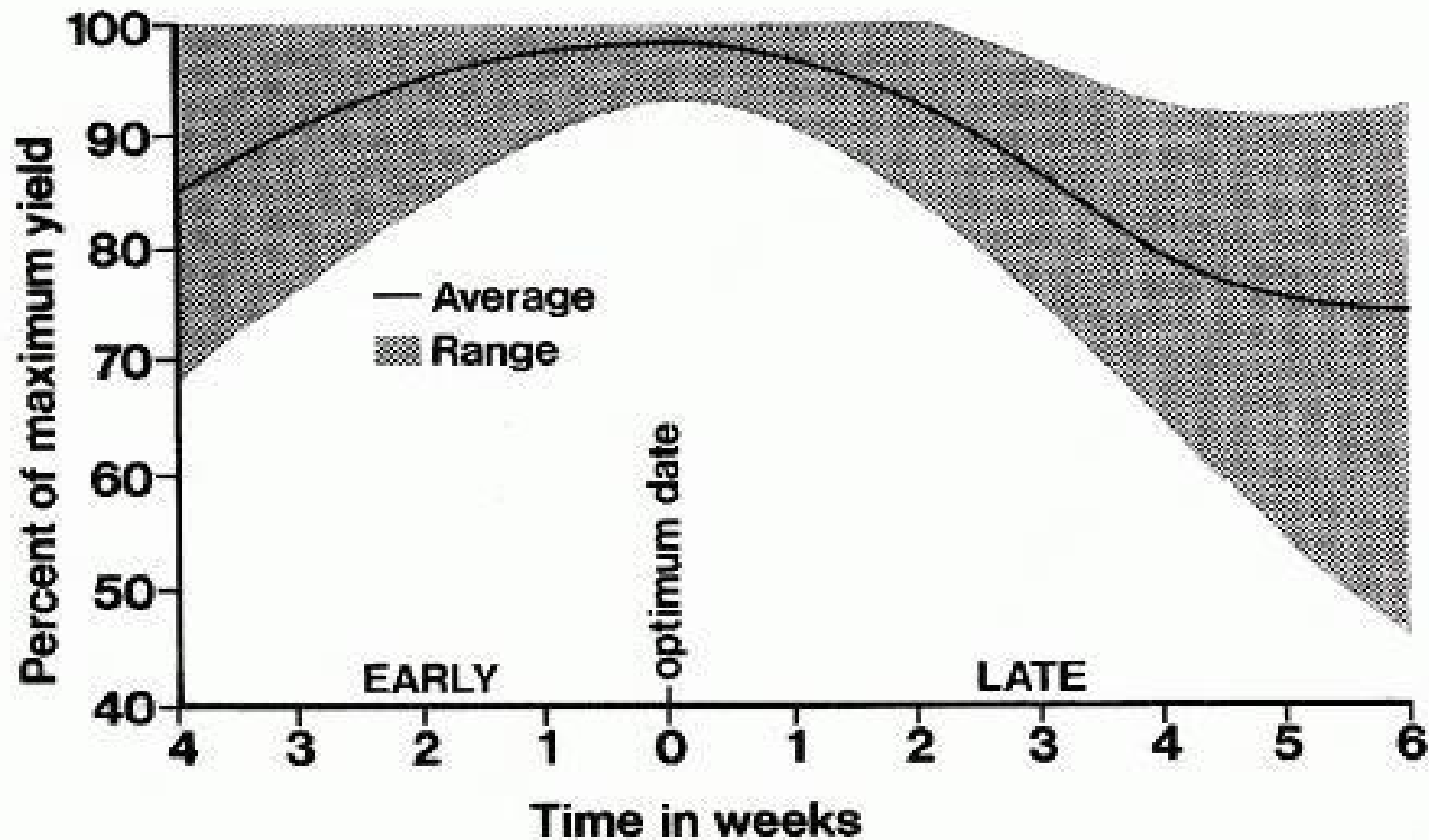
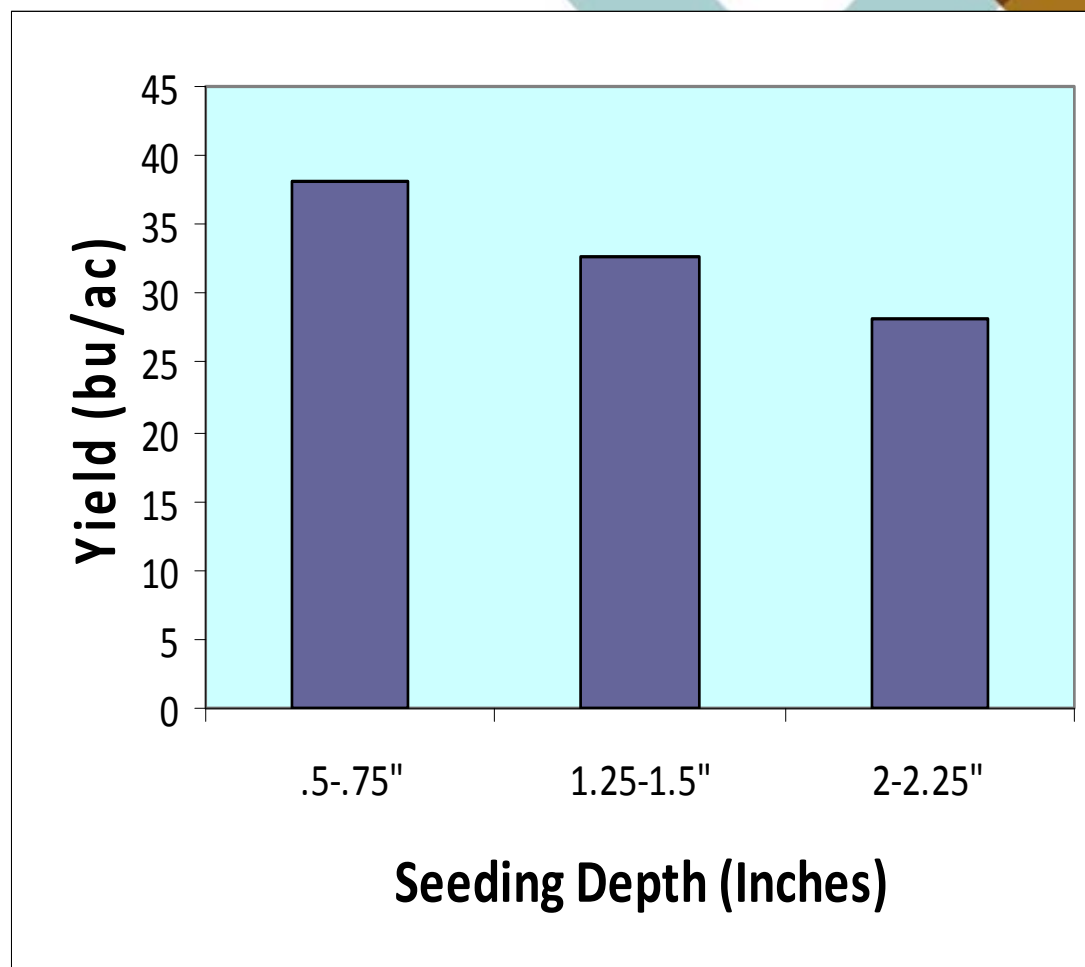


Figure 2. Influence of seeding date on yield of winter wheat. See table 1 for optimum seeding date.

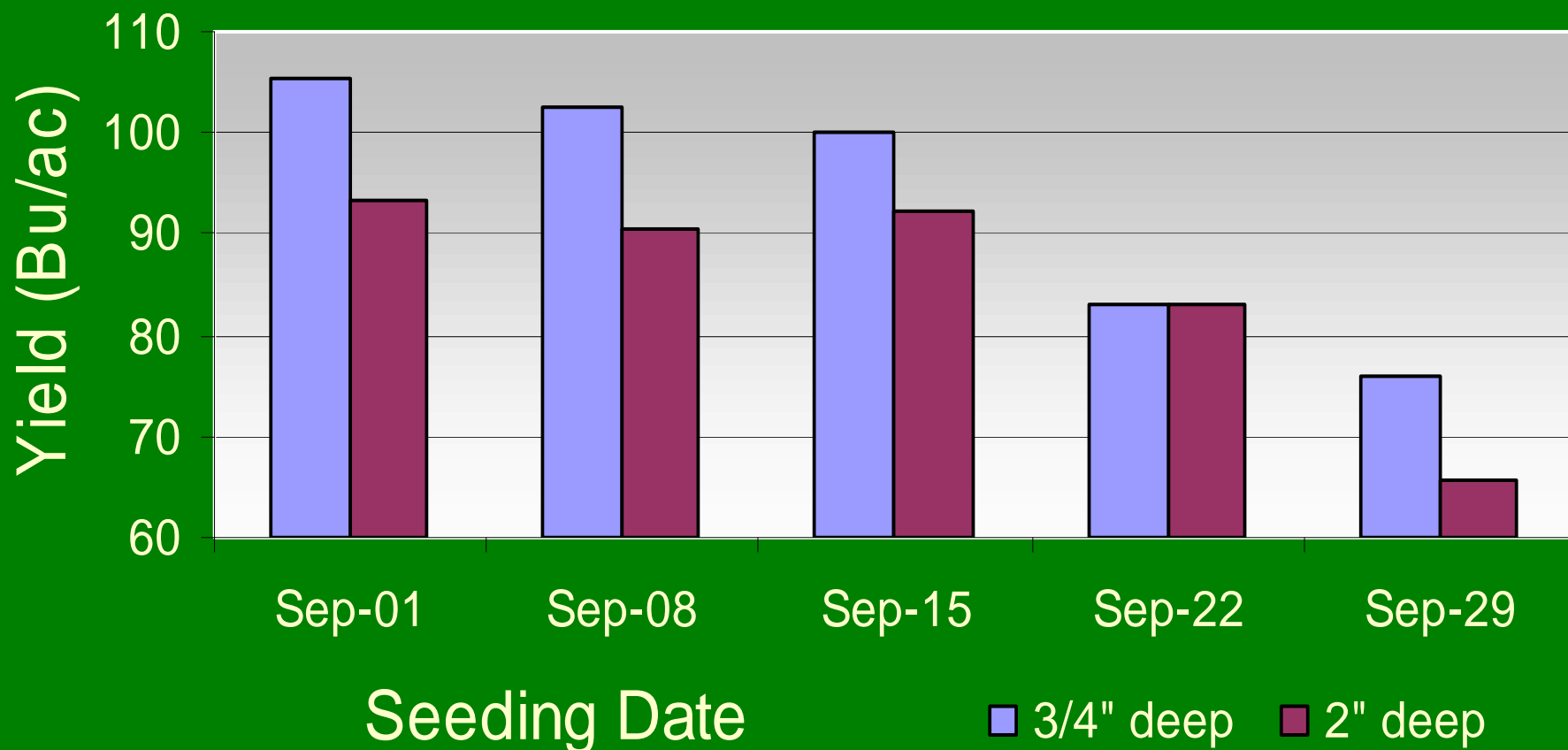


# Seeding

1. Seed early
2. Seed shallow  
–0.5 – 1.0 “ deep



# Effect of Seeding Date and Depth on Winter Wheat Yield



Source: Guy Lafond



July 8<sup>th</sup>, 2008 – Watrous, SK





# Seeding

1. Seed early
2. Seed shallow
  - 0.5 – 1.0 “ deep
3. Seed into standing stubble



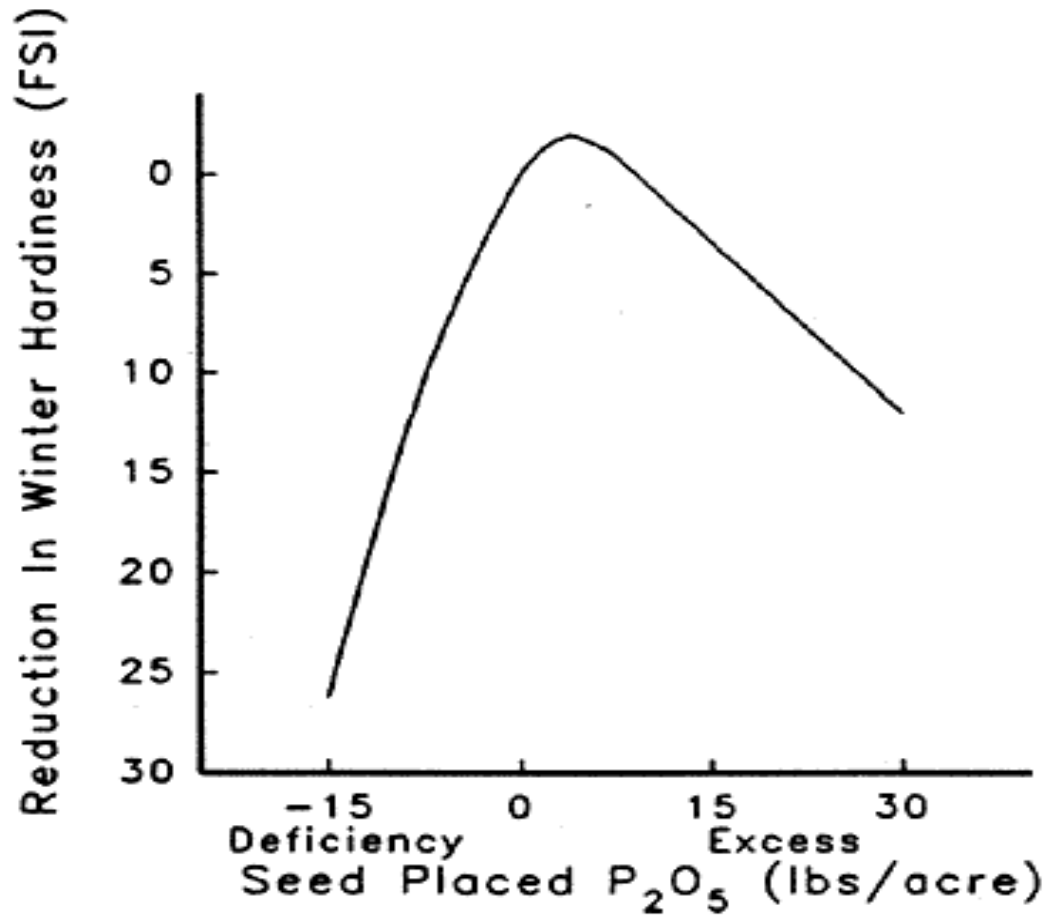


# Seeding

1. Seed early
2. Seed shallow
  - 0.5 – 1.0 “ deep
3. Seed into standing stubble
4. Use seedplaced phosphorus



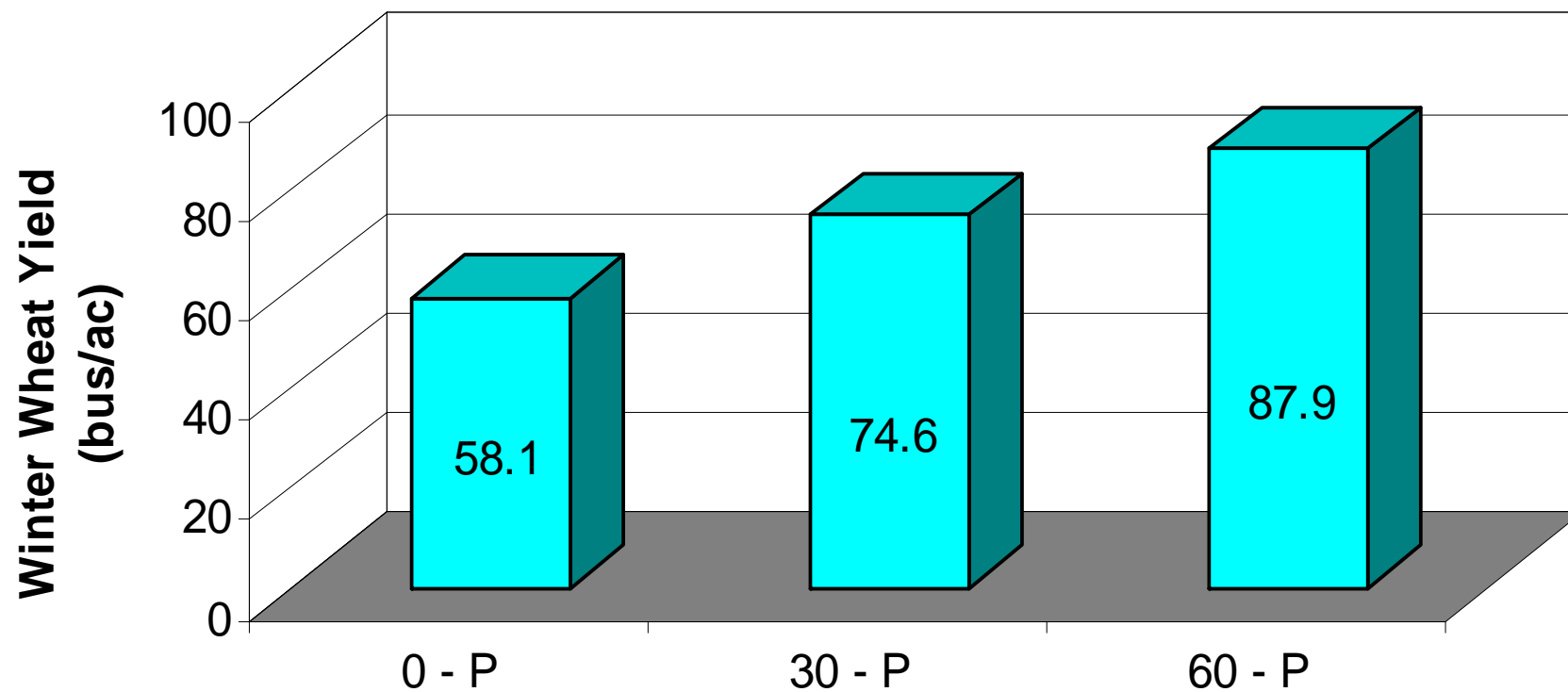
# Seedplaced P



(Fowler and Brydon, 1991)



## Winter Wheat Yield Response to P fertilizer Thornhill, MB



Westco Fertilizers, 2003

- Soil test levels only 5 lbs/ac  $P_2O_5$  (0-6")
- No visual differences in winter hardiness observed

*Source*

*Timing*

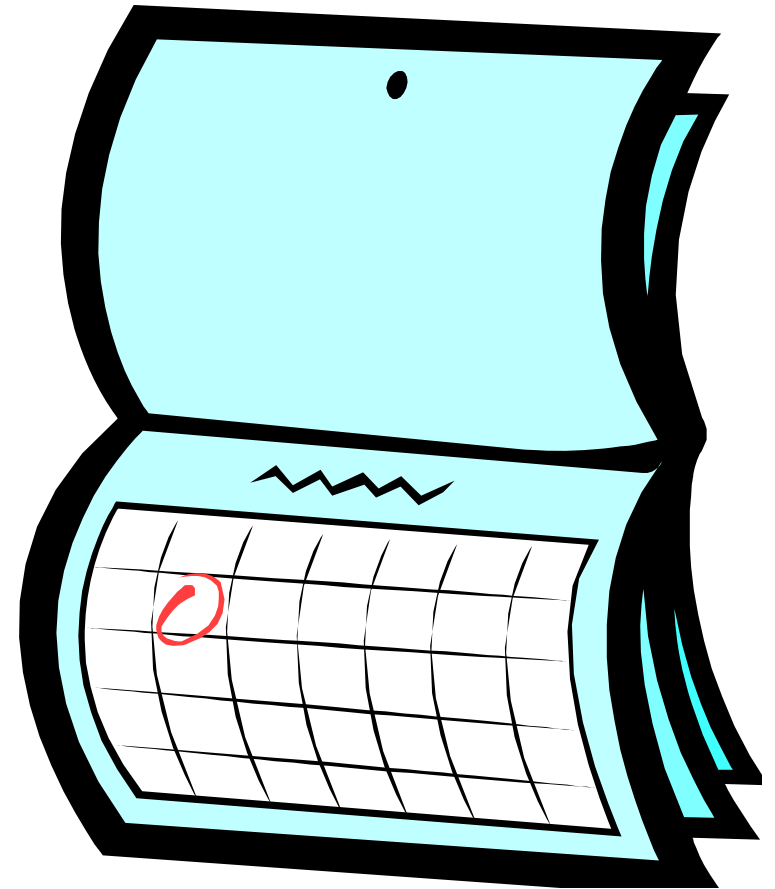
**Nitrogen**

**Placement**



# Timing

- Lots of Options
  - At seeding
  - Late fall
  - Early spring
  - Other?

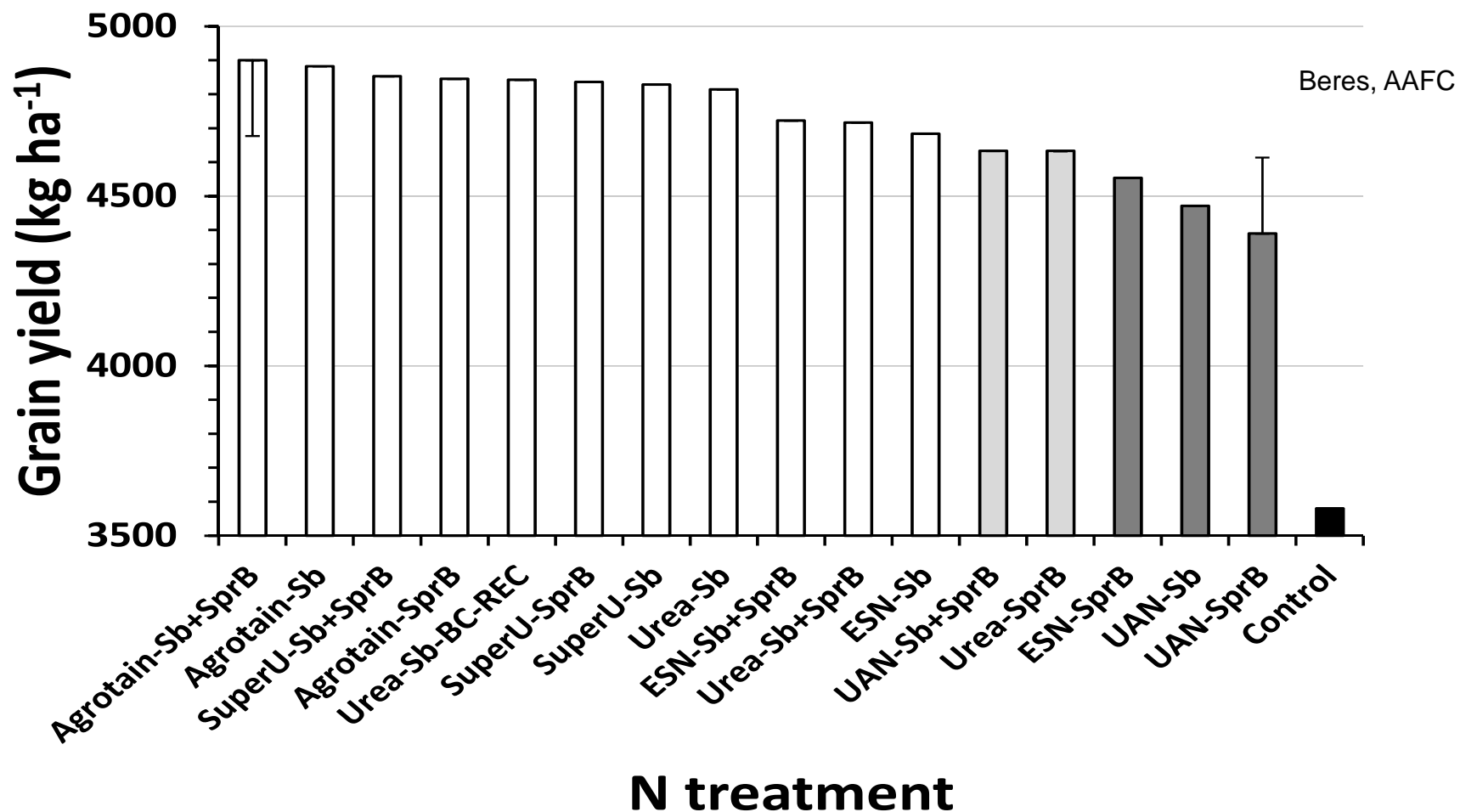


# Source/Placement/Timing

- Decision should be based on:
  - Assessment of potential for losses
  - Equipment available
  - Sources available
  - Costs



# W. Canada Research (18 site years) 2008 to 2010



*Source*

*Timing*

**RATES**

**Placement**

# Rates

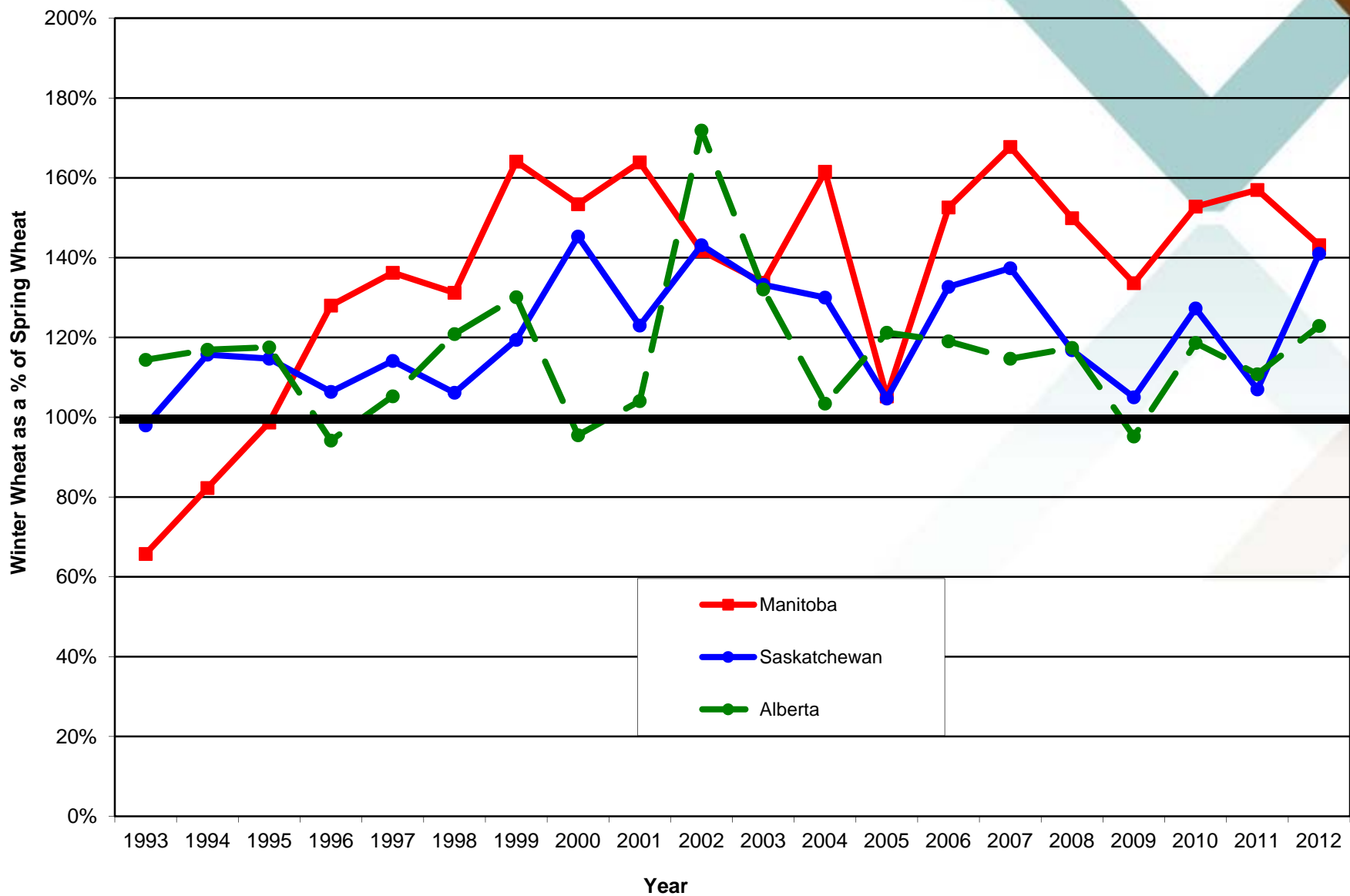
**Rates should be determined based on:**

1. Soil test
2. Realistic yield targets
3. Protein objectives



# Winter Wheat vs. Spring Wheat Yield

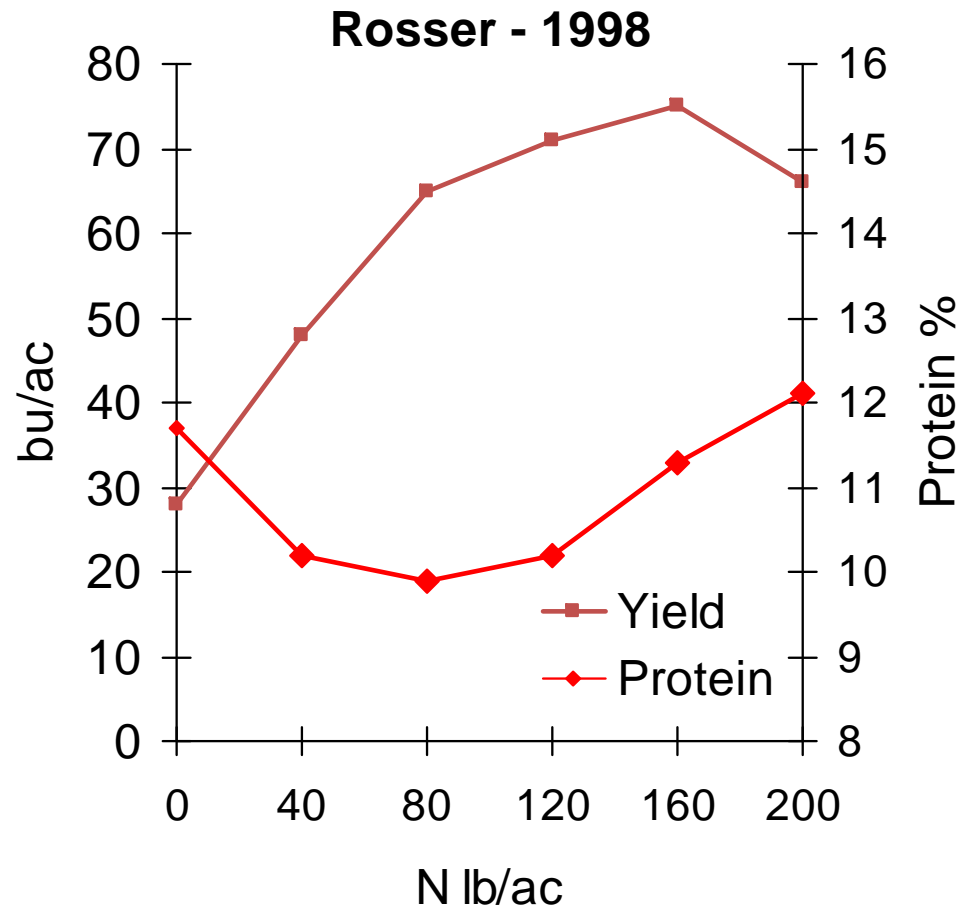
Source: Stats Canada



# Protein

- Rates of N
- Timing of N uptake
  - Early = yield
  - Late = protein
- Weather

Use 11.5% protein as a rule of thumb for N sufficiency



# N Fertilization Summary

**USE LOTS!!**

# WEED MANAGEMENT



# WEED MANAGEMENT



1. Perennial weeds
2. Winter annual weeds
3. Fall volunteers

**NO OPPORTUNITY FOR NON-SELECTIVE  
HERBICIDE APPLICATION IN SPRING!**



# 1. Perennial Weeds

## A. Grassy perennials (foxtail barley)

- Don't seed winter wheat unless confident you can adequately control prior to seeding

## B. Broadleaved perennials

- Preharvest burnoff
- Preseed burnoff
- Fall in-crop

## 2. WINTER ANNUAL WEEDS

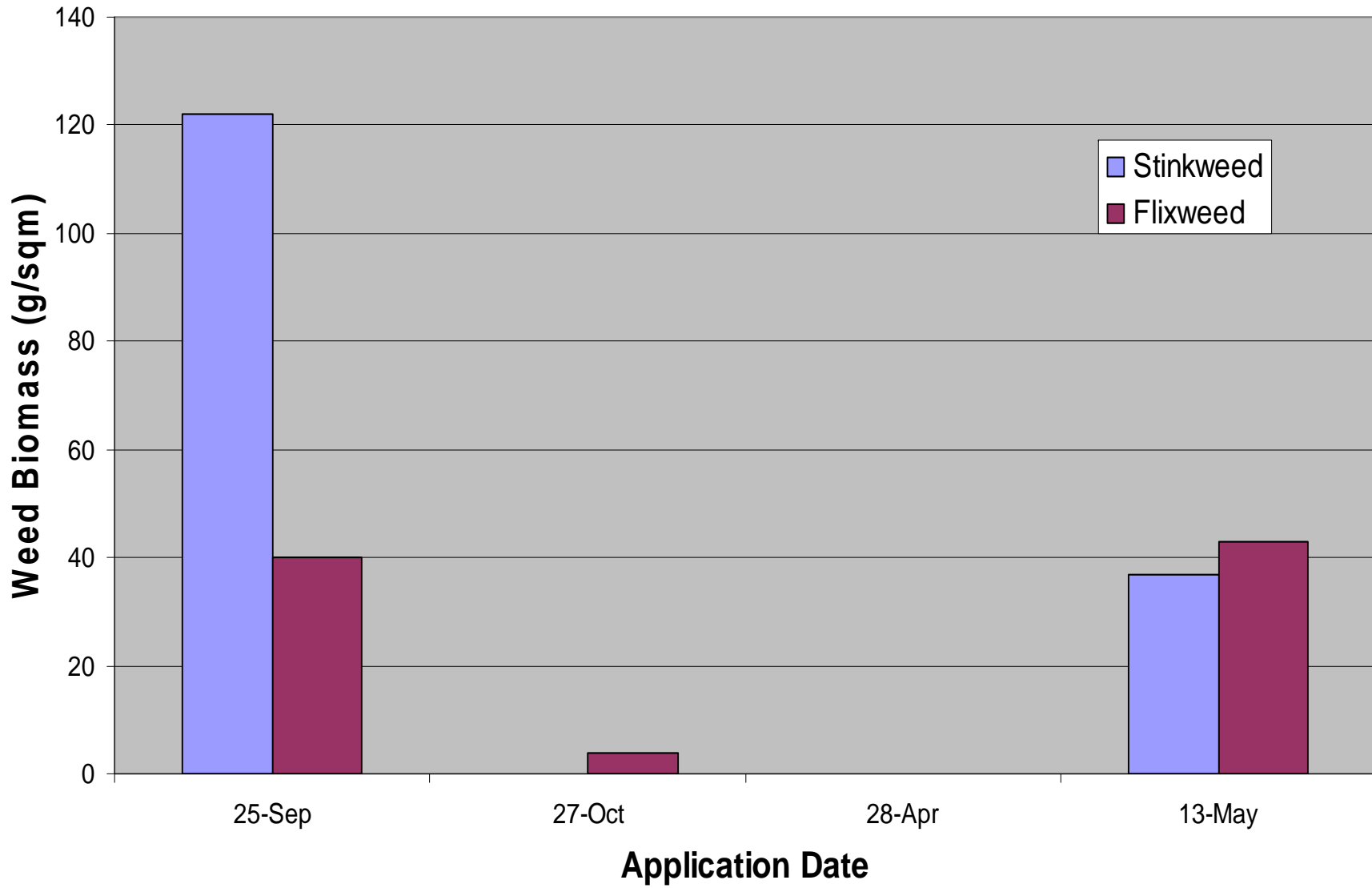
### A. Grassy Winter Annual Weeds (Japanese & Downy Brome)

- Avoid seeding winter wheat in these fields
- Simplicity in fall or spring

### B. Broadleaved Winter Annual Weeds

- Burnoff with residual activity
- Fall in-crop

# Winter Annual Control with 2,4-D



Source: K. Kirkland, AAFC, Scott, SK







### 3. FALL VOLUNTEERS

- Volunteers emerging in fall can be yield robbers



Fall in-crop  
herbicide  
great to  
control  
volunteers and  
winter annuals



### 3. Weed Management

- Spring in-crop... timing is key
  - Remember winter wheat spraying stages occur early in the growing season
  - Spray early (similar to spring burnoff timing) for best control of early emerging weeds... competitive crop will take care of the rest

### 3. Disease Management

- Seed treatment?
- Foliar fungicide... a must to turn a good crop into a great crop

Beres, 2011



CDC Buteo – No seed trt - Lethbridge



CDC Buteo – Raxil WW - Lethbridge

# Bayer Fungicide Strip Trial

## Lanigan, SK - 2009

Treatment	Application Rate	Timing	Net Bu./Ac.	% of Untreated Check	Grade	Bu weight lb/bu	% FDK	% DON
Untreated Check			85	100	1.0	62.9	0	0
Stratego	.202 L/acre	Flagleaf	98.6	116	1.0	63.2	0	0
Folicur EW	.203 L/acre	Flagleaf	99.6	117	1.0	63.3	0	0
Folicur EW	.203 L/acre	Early Heading	98.1	116	1.0	63.8	0	0
Prosaro	.202 L/acre	Early Heading	100.3	118	1.0	63.8	0	0

FINALLY...

- PLAN

- PLAN

- PLAN





# **This is not your grandpa's crop**

Find out more at  
**[GrowWinterWheat.ca](http://GrowWinterWheat.ca)**



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