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ICDC
Variety/Agronomy Program
2012 Field Season Overview

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ICDC Variety/Agronomy Program

- Primary Objective
  - Varietal evaluations
  - Publication of “Crop Varieties For Irrigation”
- Secondary Objective
  - Agronomic Investigations

2012 ICDC Testing Program – Trials Conducted

Cereals

Project Trial	# Varieties 2012 (2011)	Test Location
1. Irrigated Wheat Regional	30 (32)	CSIDC - main CSIDC - off station
2. SVPG CWRS Wheat Regional	25 (24)	CSIDC - main
3. SVPG High Yield Wheat Regional	16 (14)	CSIDC - main
4. SVPG CWAD Wheat Regional	10 (6)	CSIDC - main CSIDC - off station
5. Soft White Spring Wheat Coop	16 (16)	CSIDC - main

2012 ICDC Testing Program – Trials Conducted

Cereals

Project Trial	# Varieties 2012 (2011)	Test Location
6. SVPG Barley Regional (2-row & 6-row)	22 (6) 2-row (26) 14 (6) 6-row (12)	CSIDC - main
7. ICDC Hybrid Corn Silage Performance Trial	8 each Irrigated vs Dry Land	CSIDC - main
8. Wheat Seeding Rate Trial	2 Varieties (CWAD/ SWSW) 5 Seeding Rates	CSIDC - main
9. Nitrogen Fertility of Oats on Alfalfa Breaking	2 Varieties 6 Nitrogen Rates	CSIDC - main

2012 ICDC Testing Program – What was conducted

Oilseeds

Project Trial	# Varieties 2012 (2011)	Test Location
10. ICDC Irrigated Canola Evaluation Trial	17 (36)	CSIDC – main CSIDC – off station
11. Canola Coop (XNL1 & XNL2)	51 total (50)	CSIDC - main
12. Canola Performance Trial	22 (24)	CSIDC - main
13. Canola Seeding Rate Trial	2 Hybrids 7 Seeding Rates	CSIDC - main
14. Flax Regional Trial	8	CSIDC - main CSIDC – off station
15. U of S AMF Flax Study	4 Inoculation Rates 2 P_2O_5 Rates	CSIDC – main

2012 ICDC Testing Program – What was conducted

Pulses

Project Trial	# Varieties **2012 (2011)**	Test Location
16. Dry Bean Narrow Row Regional	18 (17)	CSIDC - main CSIDC – off station
17. Pea Regional Variety Trial	29 (27)	CSIDC – main CSIDC – off station

2012 Trials now AAFC Responsibility

- ACC Hybrid Corn Silage Performance Trial (Dale T.)
- Soybean Variety Adaptation Trial (Dale T.)
- Irrigated Bean Variety Trial - Wide & Narrow Row (Dale T.)
- Dry Bean Wide Row Co-op (Dale T.)
- Switch Grass & Big Bluestem Biomass Variety Trial (Dale T.)
- Durum Salinity (Dale T.)
- Historic Durum

2012 Climatic Conditions - Precipitation

Growing Season Precipitation vs Long-Term Average			
	Year		
Month	2012 mm (inches)	1931 – 2009 mm (inches)	% of Long-Term
May	115.2 (4.5)	36.5 (1.4)	316
June	135.4 (5.3)	64.4 (2.5)	210
July	53.4 (2.1)	51.3 (2.0)	104
August	43.6 (1.7)	36.7 (1.4)	119
Total	347.6 (13.7)	188.9 (7.4)	184

2012 Climatic Conditions - Temperature

Growing Degree Days (Base 0°C) vs Long-Term Average			
	Year		
Month	2012 mm (inches)	1931 – 2009 mm (inches)	% of Long-Term
May	177	227	78
June	666	711	94
July	1286	1305	99
August	1848	1861	99

Climatic Conditions vs Consequences

Early Season Establishment

- All crops adversely affected:
  - pulses ≥ oilseeds > cereals

Pulses

- Pea emergence sporadic, observed seed rot and seedling damping off/root rot
- Dry Bean and Soybean very slow seedling growth
- Wireworm damage to dry bean at CSIDC

Climatic Conditions vs Consequences

Early Season Establishment

Oilseeds

- Both flax regional trials lost
- Canola exhibited “abnormal” development

Cereals

- ☺

Climatic Conditions vs Consequences

Mid Season - Harvest

- Two hail occurrences
  - June 22nd resulted in foliage damage and all crops set back.
    - Resulted in “loss” of the Canola Performance Trial
  - August 4th caused greater damage
    - Broken stems and branches, damaged pods and cereal heads
- Diseases
  - Aster Yellow in canola and wheat
  - Tan spot, scald, spot blotch, FHB

And Then!

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Crop Varieties For Irrigation 2013

What's New in Wheat

CWRS

Variety	Yield as % of AC Barrie	Lodging Rating	Height (cm)	Days to Maturity	Protein +/- AC Barrie
CDC Kernen	113	G	96	104	-0.2
CDC Utmost VB	112	G	91	103	-0.7
CDC Stanley	109	G	91	104	-0.3
CDC Thrive	105	G	96	103	-0.2
AC Barrie	100	G	94	104	15.8%

What's New in Wheat

CWAD

Variety	Yield as % of AC Barrie	Lodging Rating	Height (cm)	Days to Maturity	Protein +/- AC Barrie
AC Avonlea	107	G	91	106	-0.2
Navigator	103	G	81	107	-1.2
Transcend	99	G	97	107	-0.2
AC Barrie	100	G	94	104	15.8%

What's New in Barley

Barley – Table in Variety Guide has been Altered

- **Prior both malt and feed separated and subdivided by 2 & 6-row.**
- **Now malt and "feed and food" still subdivided, but malt varieties are separated by the following:**
  - **Malting Acceptance: Recommended**
  - **Malting Acceptance: Under Test**
  - **Other: A malting market may exist, review CMBTC recommendation list for updates**
- **2 & 6-row malt varieties intermingled within these categories in order of yield potential.**

What's New in Barley

New Malt Barley

Variety	2 or 6-row	Yield as % of AC Metcalfe	Lodging Rating	Height (cm)	Days to Maturity
Malting Acceptance: Recommended					
Major	2	110	G	89	94
Steller ND	6	105	VG	86	95
Celebration	6	104	VG	89	94
AC Metcalfe	2	100	F	92	96

What's New in Barley

New Malt Barley

Variety	2 or 6-row	Yield as % of AC Metcalfe	Lodging Rating	Height (cm)	Days to Maturity
Malting Acceptance: Under Test					
Cerveza	2	108	VG	88	96
CDC Kindersley	2	102	G	90	93
CDC Anderson	6	102	G	87	98
AC Metcalfe	2	100	F	92	96
Feed and Food					
TR07728	6	112	VG	89	95

What's New in Canola

Variety	System	Yield as % of 45H21	Lodging Rating	Height (cm)	Days to Maturity
6060 RR	RR	112	VG	126	101
45H26	RR	107	G	124	99
5070	LL	106	G	127	100
45H21	RR	100	G	122	99

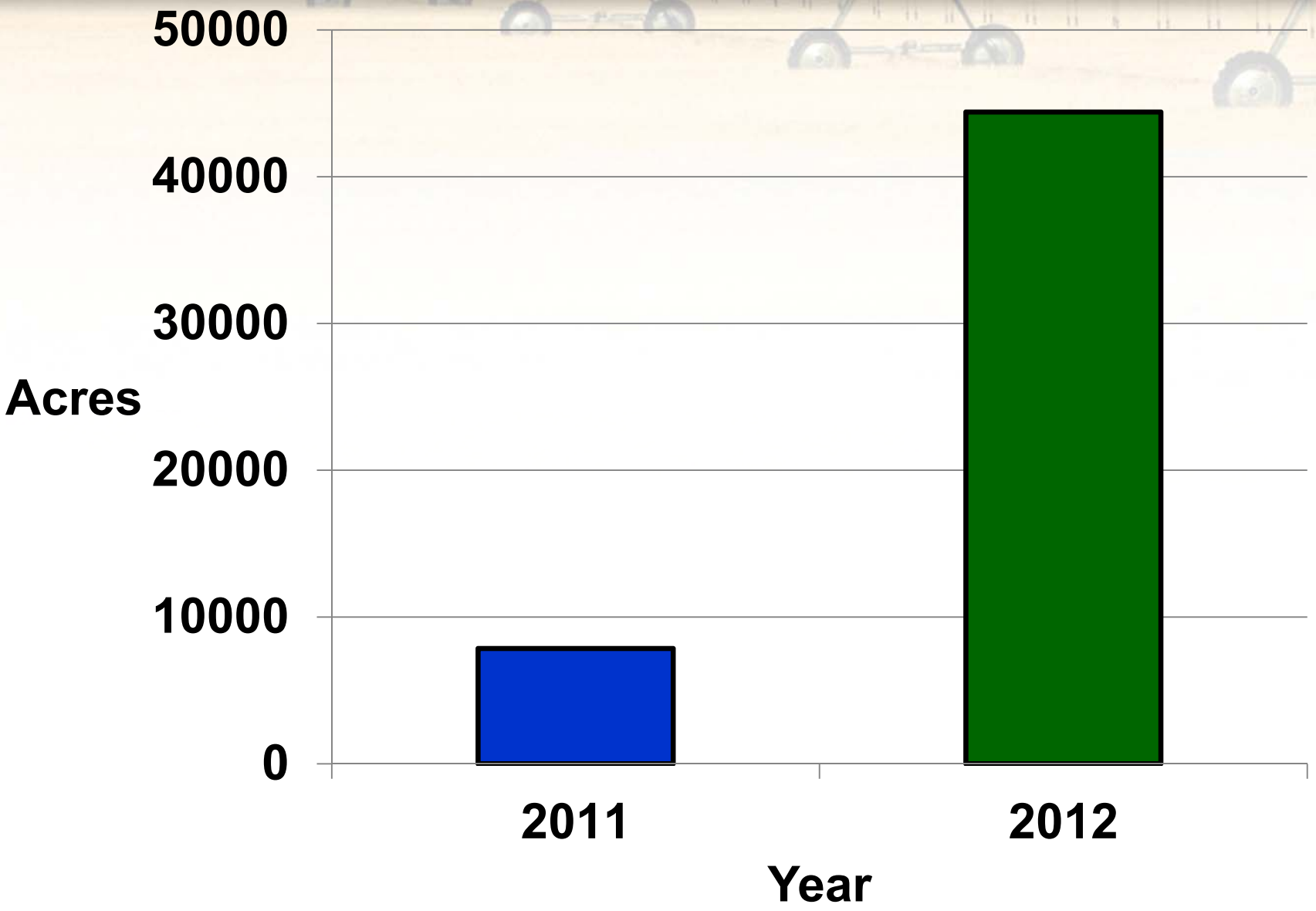
Soybean Pre-2012

Variety	Site Years	Yield as % of RR Rosco	Corn Heat Units*	Height (cm)	Lodge Rating	Seed Weight (g/1000)	Hilum Colour
Apollo RR	9	110	2375	75	VG	139	BR
NSC Warren RR	6	110	2375	79	VG	136	BR
LS 0036RR	6	106	2425	71	VG	129	BR
RR Rosco	9	100	2450	76	G	148	IY
Isis RR	4	92	2400	79	VG	136	BR
NSC Argyle RR	4	90	2450	73	G	140	BR
LS 0028RR	4	89	2400	62	VG	114	BR

New - Soybean 2012

Variety	Type	Site Years	Yield as % of 23-10RY	Corn Heat Units*	Days to Maturity	Height (cm)	Lodge Rating	Seed Weight TKW	Hilum Colour
TH 32004R2Y	RR2	4	116	2425	131	82	VG	205	BL
Sampsa RR	RR2	4	114	2425	132	79	VG	207	IB
24-10RY	RR2	4	114	2425	134	81	VG	207	IB
004R21	RR2	4	114	2425	136	84	VG	203	BL
HS 006RYS24	RR2	2	111	2450	133	NA	VG	207	BL
900Y61	RR1	4	101	2425	134	81	VG	203	BR
23-10RY	RR2	4	100	2325	127	79	VG	204	IY
900Y71	RR1	4	98	2450	134	80	VG	202	IY
Pekko R2	RR2	4	91	2325	125	83	VG	204	BL

Saskatchewan Soybean Acreage



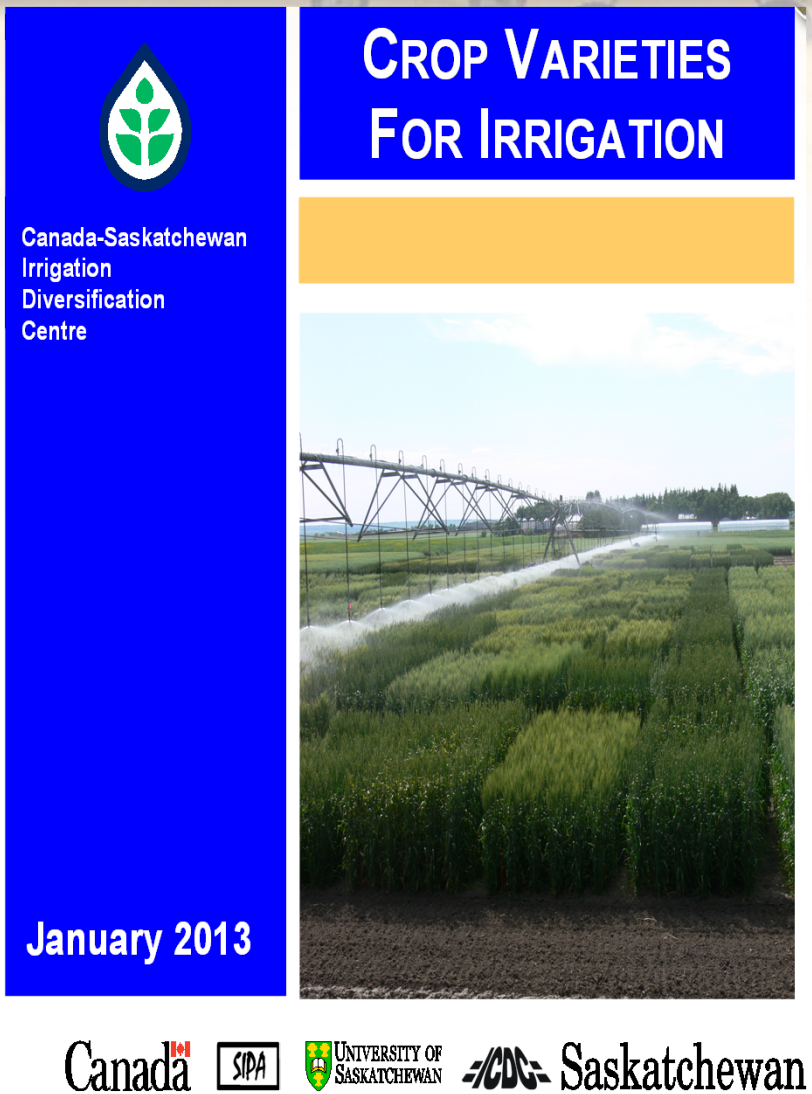
New - Silage Corn Hybrid Varieties

Hybrid	Company	CHU Rating	Site Years	Yield (T/ac)	% of Baxxos RR Check	Whole Plant Moisture (%)	Days to Anthesis	Days to Silking
HL R219 RR	Hyland	2350	5	6.9	119	61.4	78	79
SilEx Bt RR	Pickseed	2200	4	6.7	116	63.9	77	80
P7443R	Pioneer	2100	3	6.6	114	53.8	75	79
HL 3085 RR	Hyland	2400	3	6.6	113	62.0	79	82
39M26 RR	Pioneer	2100	3	6.5	113	58.4	69	77
HL B22R	Hyland	2400	3	6.0	104	69.4	78	83
39F57	Pioneer	2200	4	6.0	103	60.2	76	79
Baxxos RR	Hyland	2250	8	5.8	100	61.6	72	77
N05C-GT	Syngenta	2250	4	5.8	100	60.9	74	78
HL 2093	Hyland	2300	5	5.6	97	58.3	72	77
DKC26-78	Monsanto	2150	3	5.6	96	59.2	70	75
39D95	Pioneer	2150	5	5.2	90	60.5	75	79
39F45	Pioneer	2000	3	5.2	90	51.0	65	71
HL SR06	Hyland	2250	4	5.1	88	66.4	73	80

Crop Varieties for Irrigation

- Few or no changes in guide with respect to;
  - Field Pea
  - Wide-row Dry Bean
  - Faba Bean
  - Forages
  - Potato

Crop Varieties For Irrigation



- Proofing completed and publication finalized.
- To printer by weeks end, available for the Crop Production Show.
- Expanded from 16 to 20 pages.

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Seeding Rate Studies

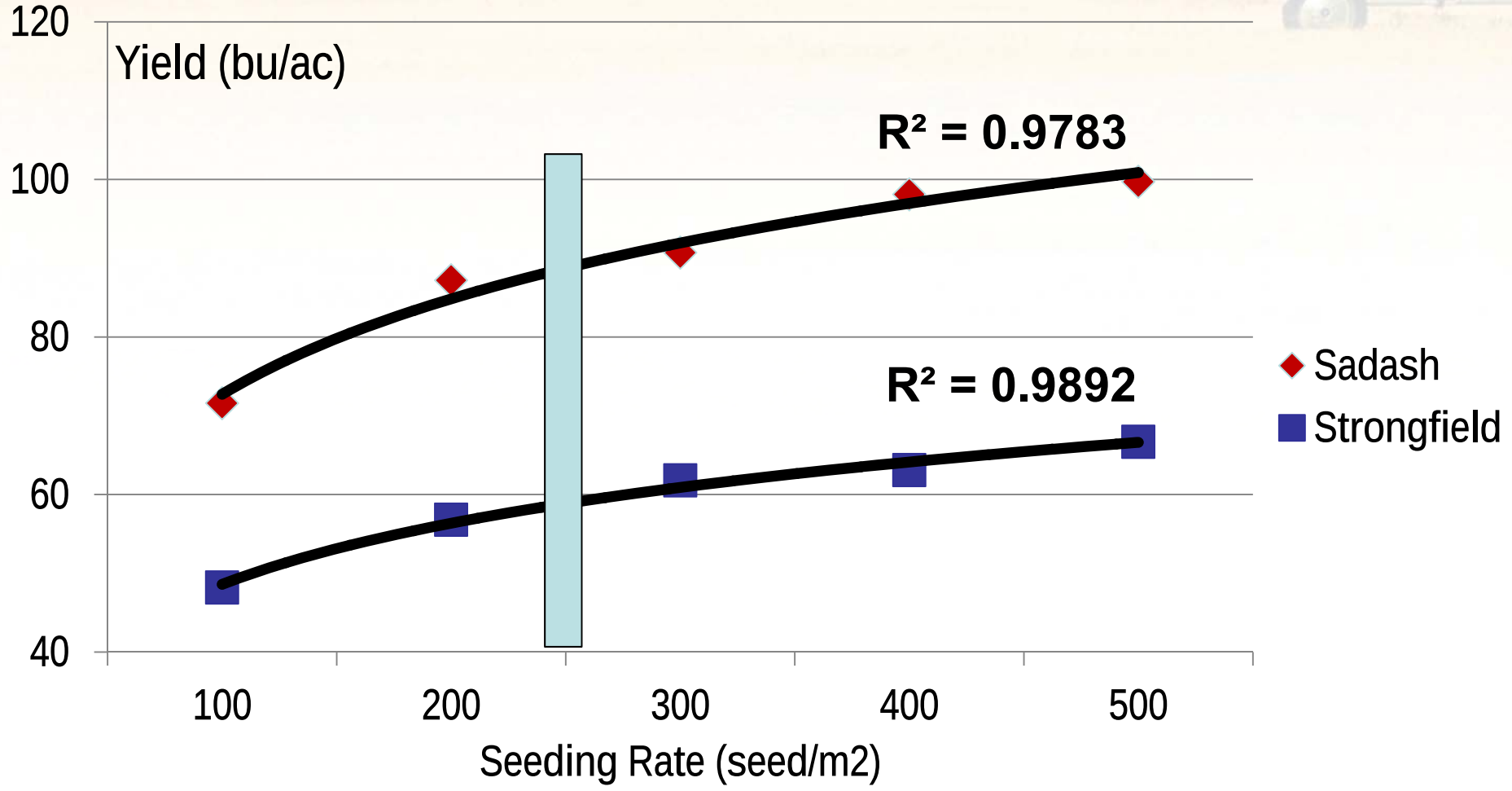
Seeding Rate - Wheat

Seeding Rate (plants/m^2)	Strongfield Seeding Rate kg/ha (lb./acre)	Sadash Seeding Rate kg/ha (lb./acre)
100	51 (57)	40 (45)
200	102 (114)	80 (90)
300	153 (172)	120 (135)
400	204 (229)	160 (179)
500	256 (287)	200 (224)

Seeding Rate - Wheat

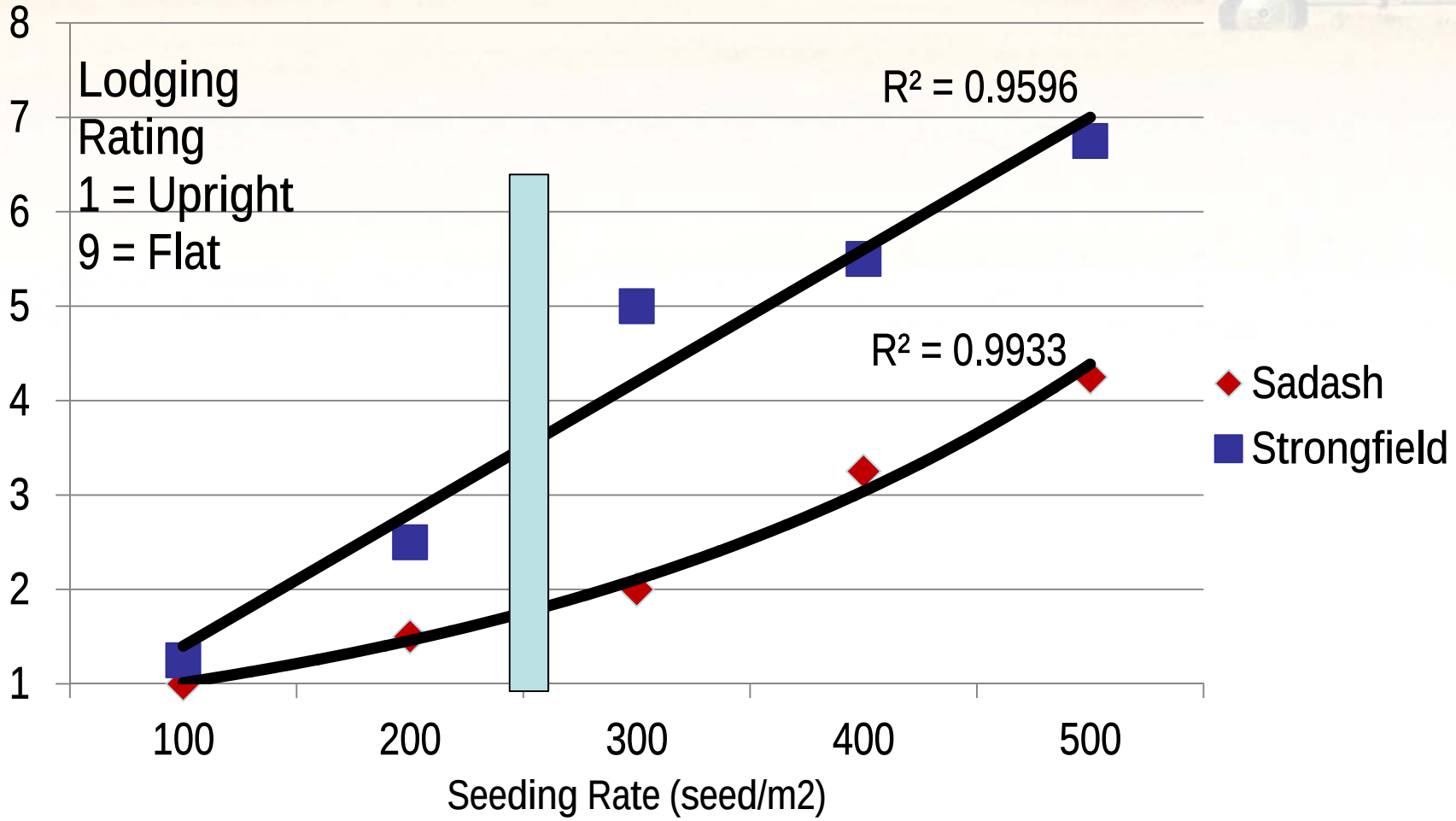
Treatment	Yield (bu/ac)	Protein (%)	Test Weight (gm/hl)	TKW (gm)	Maturity (days)	Plant Height (cm)	Lodging (1-9)
Variety							
Strongfield	59.3	16.8	75.3	37.5	100	90	4.2
Sadash	89.5	12.5	76.3	33.7	100	85	2.4
LSD (0.05)	5.8	0.7	0.8	NS	NS	4.0	0.7
CV (%)	5.6	3.9	0.8	16.7	0.9	4.4	27.4
Seeding Rate							
100 seed/m^2	59.9	15.5	75.0	33.0	103	81	1.1
200 seed/m^2	72.0	14.6	75.8	37.5	100	87	2.0
300 seed/m^2	76.3	14.4	76.0	36.2	100	90	3.5
400 seed/m^2	80.6	14.4	76.2	36.1	99	90	4.4
500 seed/m^2	83.2	14.3	76.0	35.4	99	91	5.5
LSD (0.05)	4.3	0.6	0.6	NS	1	4.0	0.9
Variety x Seeding Rate Interaction							
LSD (0.05)	NS	NS	NS	NS	NS	NS	S

Seeding Rate vs Yield - Wheat



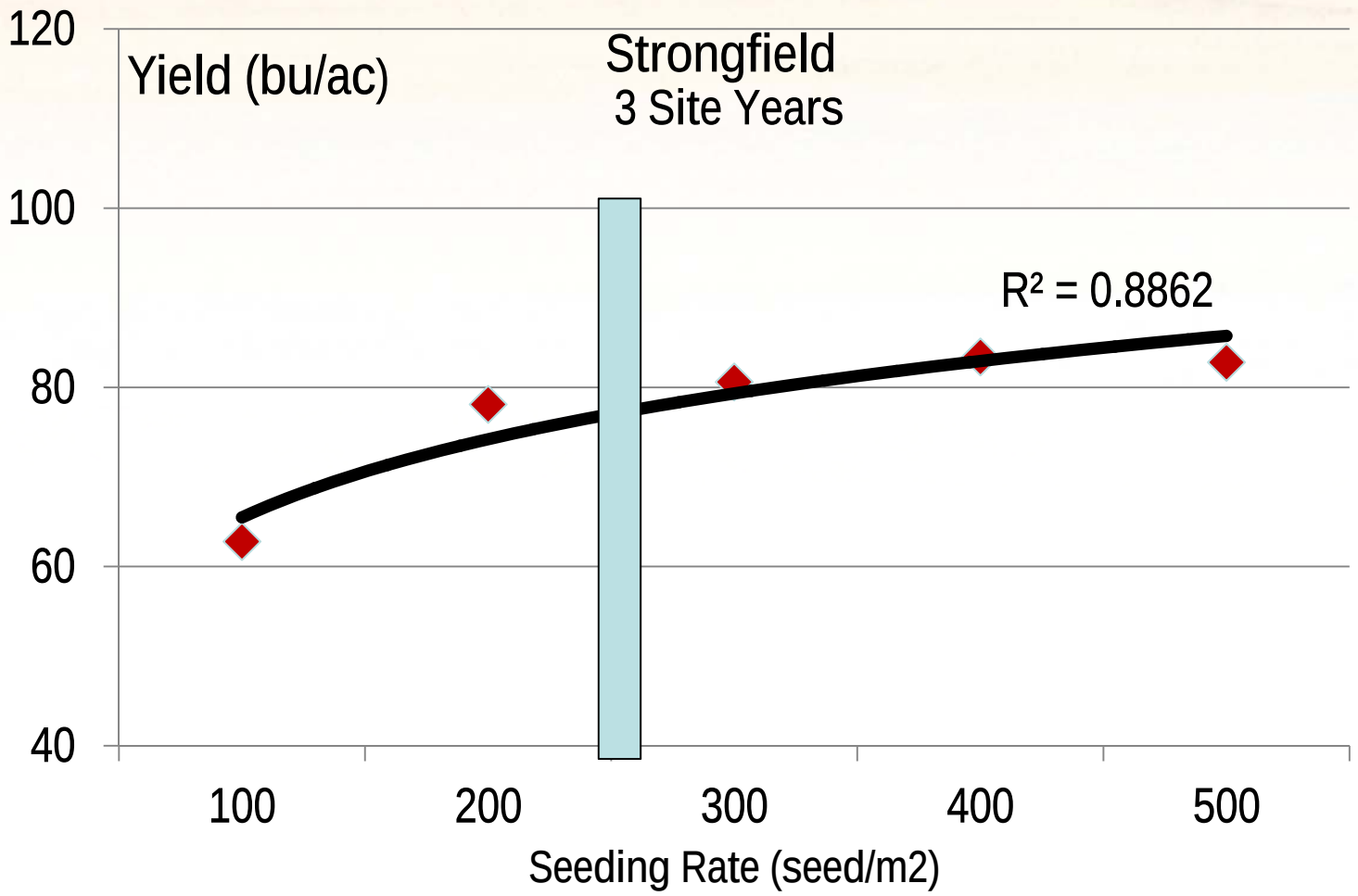
Sadash	**45**	**90**	**135**	**180**	**225**
Strongfield	**60**	**120**	**180**	**240**	**300**

Seeding Rate vs Lodging - Wheat



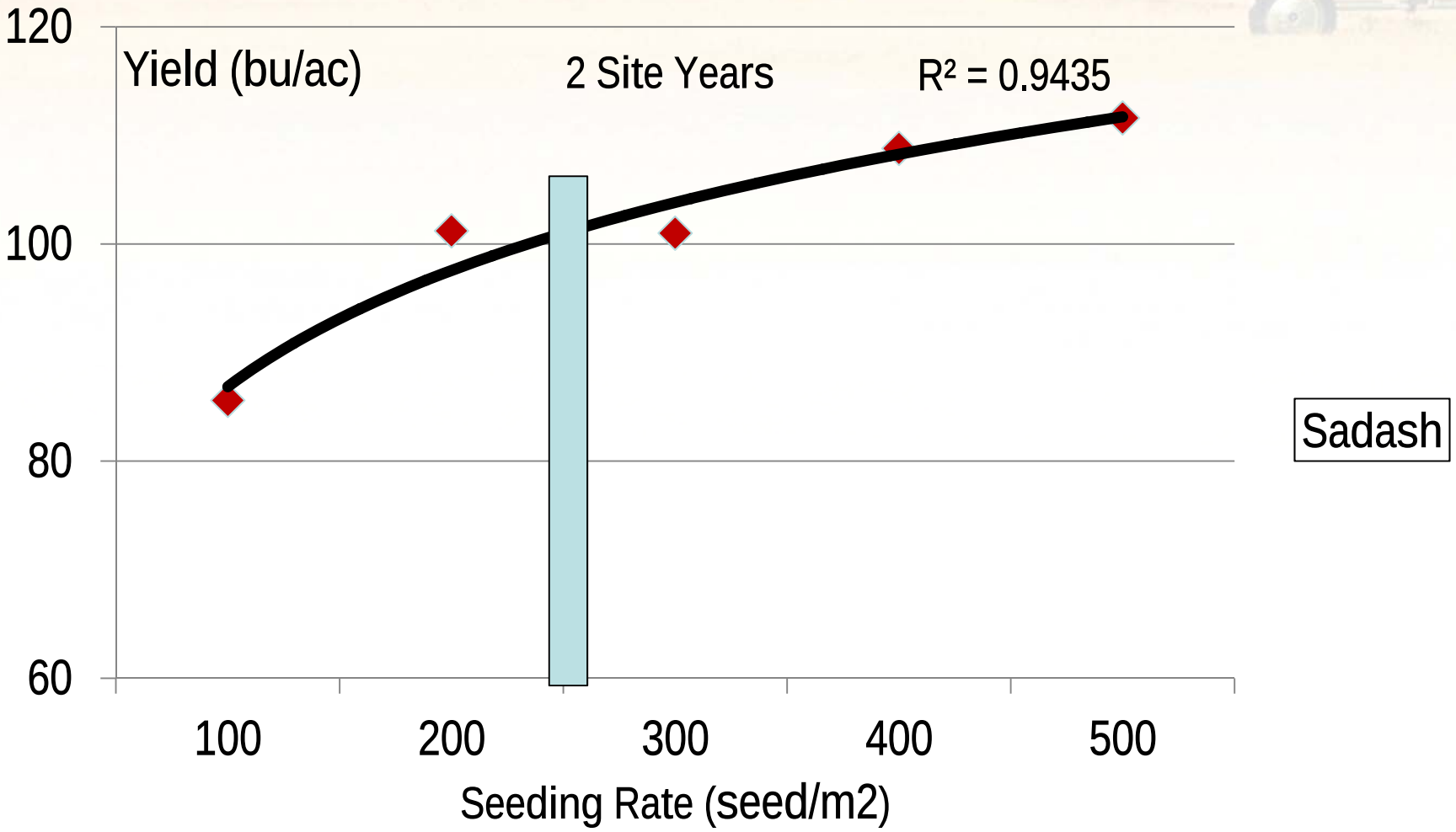
Sadash	**45**	**90**	**135**	**180**	**225**
Strongfield	**60**	**120**	**180**	**240**	**300**

Seeding Rate vs Yield – Durum (2010-2012)



Strongfield	**60**	**120**	**180**	**240**	**300**

Seeding Rate vs Yield – Soft White (2010/2012)



Sadash	**45**	**90**	**135**	**180**	**225**

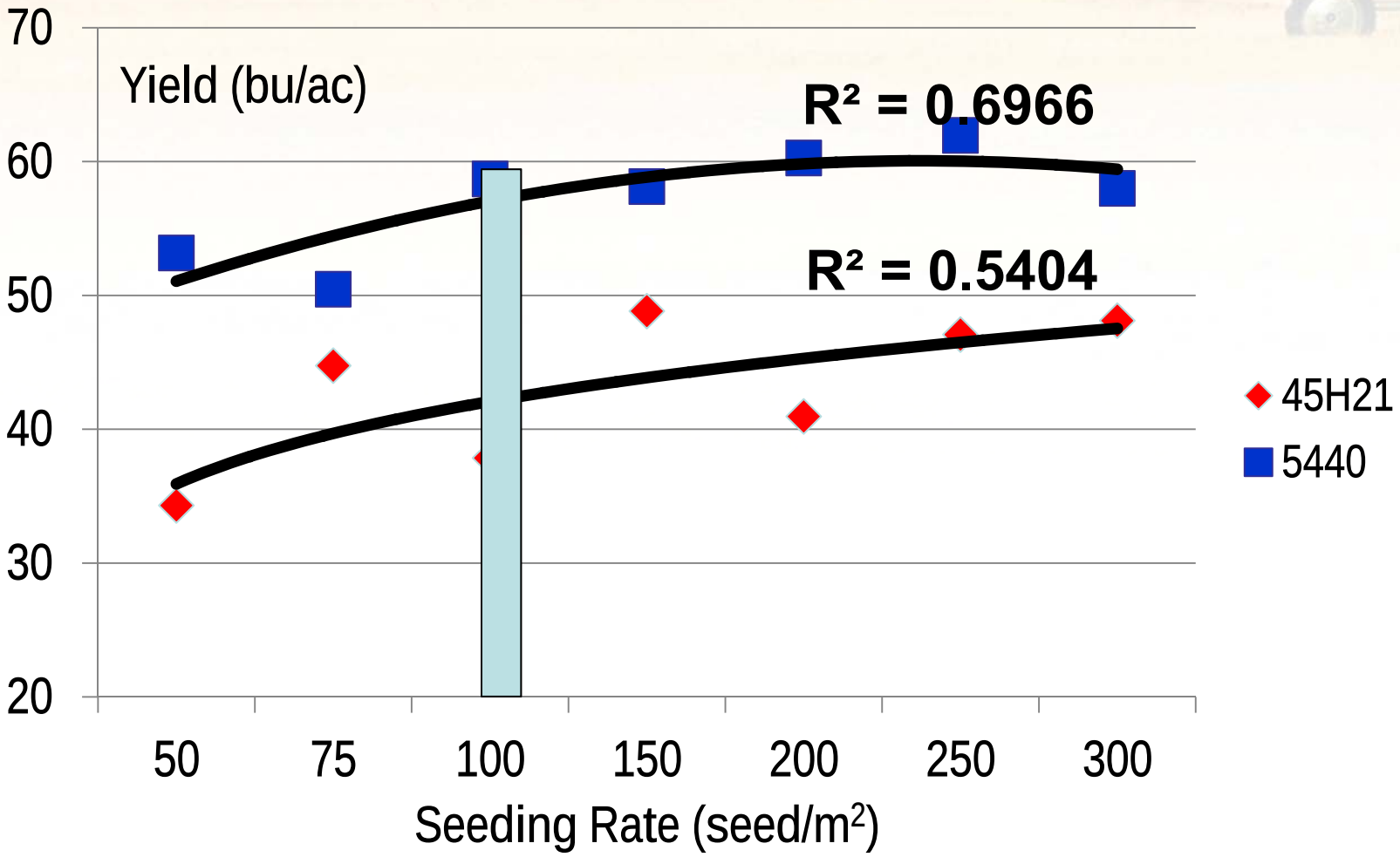
Seeding Rate - Canola

Seeding Rate (plants/m^2)	45H21 Seeding Rate kg/ha (lb./acre)	5440 Seeding Rate kg/ha (lb./acre)
50	2.7 (3.0)	2.2 (2.5)
75	4.0 (4.5)	3.3 (3.7)
100	5.3 (5.9)	4.4 (4.9)
150	8.0 (9.0)	6.7 (7.5)
200	10.7 (12.0)	8.9 (10.0)
250	13.3 (14.9)	11.1 (12.4)
300	16.0 (17.9)	13.3 (14.9)

Seeding Rate - Canola

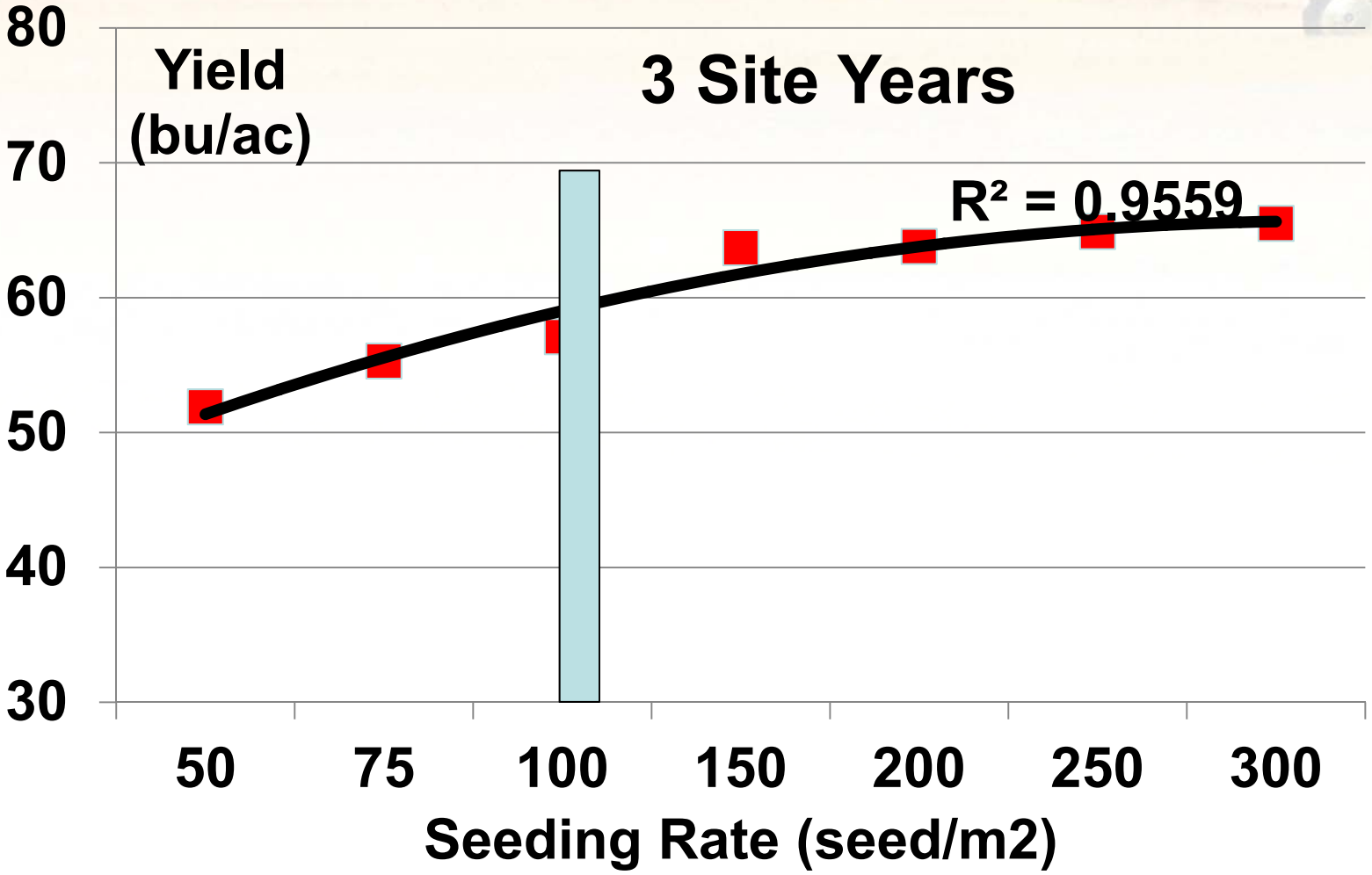
Treatment	Yield kg/ha	Yield bu/ac
Hybrid		
45H21	2417	43.1
5440	3209	57.2
LSD (0.05)	626	11.2
CV (%)	11.9	11.9
Seeding Rate (plants/m^2)		
50	2452	43.7
75	2669	47.6
100	2706	48.3
150	2998	53.5
200	2837	50.6
250	3056	54.5
300	2974	53.1
LSD (0.05)	339	6.0
Hybrid x Seeding Rate Interaction		
LSD (0.05)	NS	NS

Seeding Rate vs Yield - Canola



45H21	**3.0**	**4.5**	**6.0**	**9.0**	**12**	**15**	**18**
5440	**2.5**	**3.7**	**4.9**	**7.5**	**10**	**12.4**	**14.9**

Seeding Rate vs Yield – Canola (2011/2012)



Rate (lbs/ac)	2.5	3.7	5.0	7.5	10	12.5	15.0

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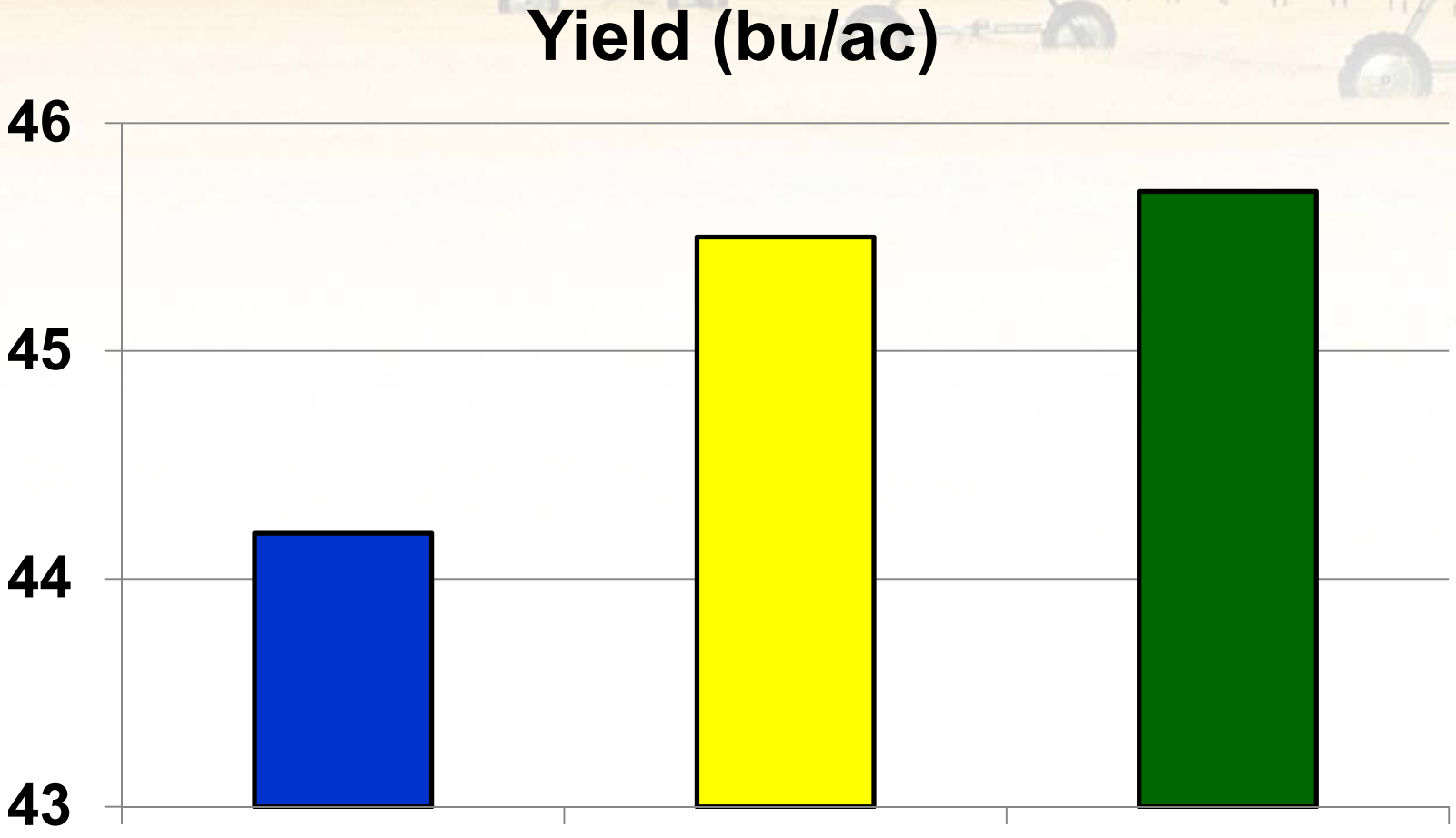
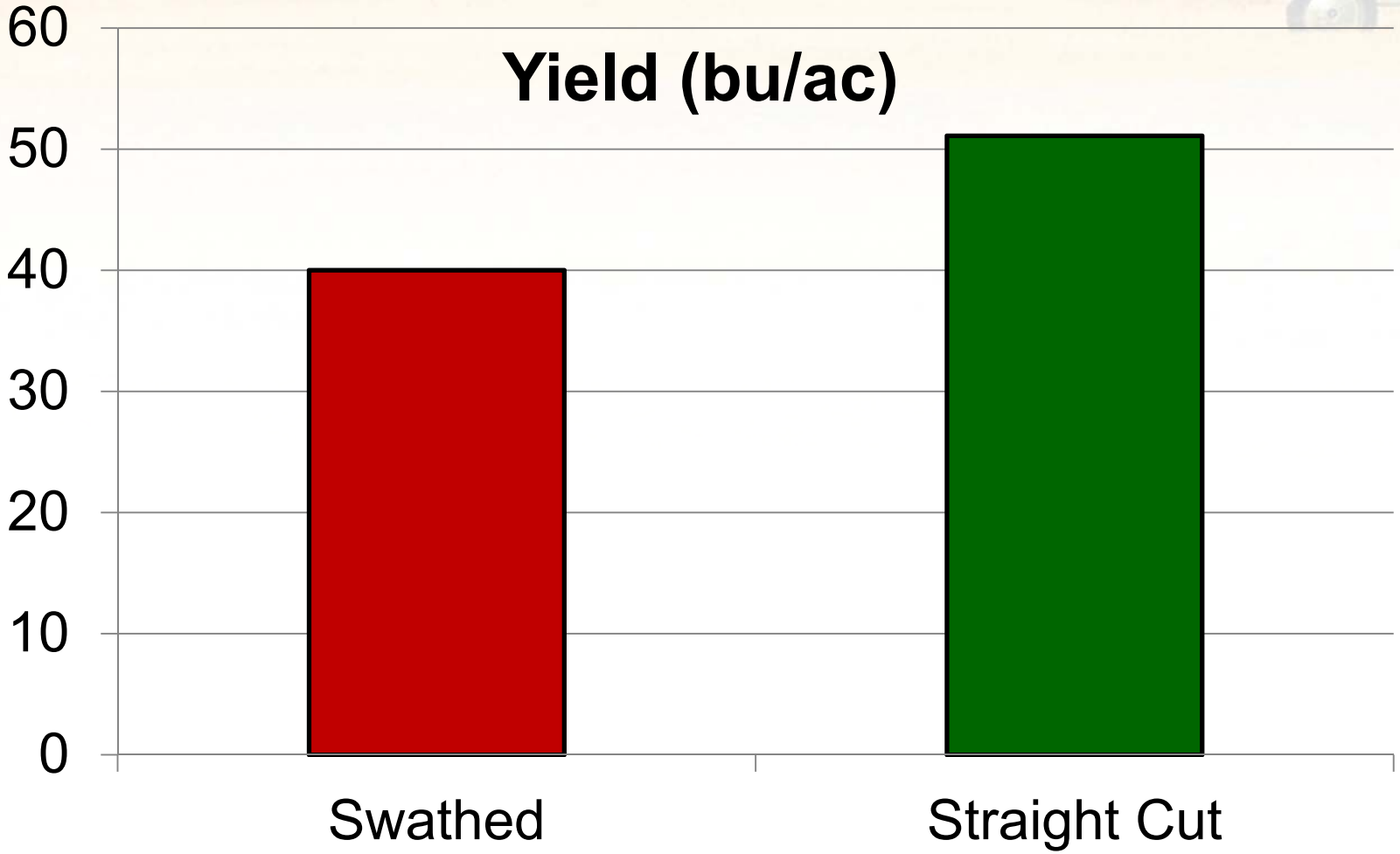
Canola Performance Trial (CPT)

CPT Results



Varieties	3	6	19

CPT – Swathed vs Straight Cut



Thank You ICDC & Partner's