

Crop Opportunity and Scott Research Update

WARC Research Update

Blaine Davey

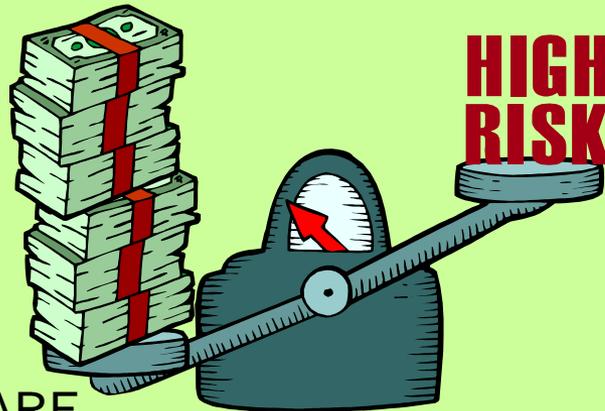
WARC Research Assistant

Canola Projects

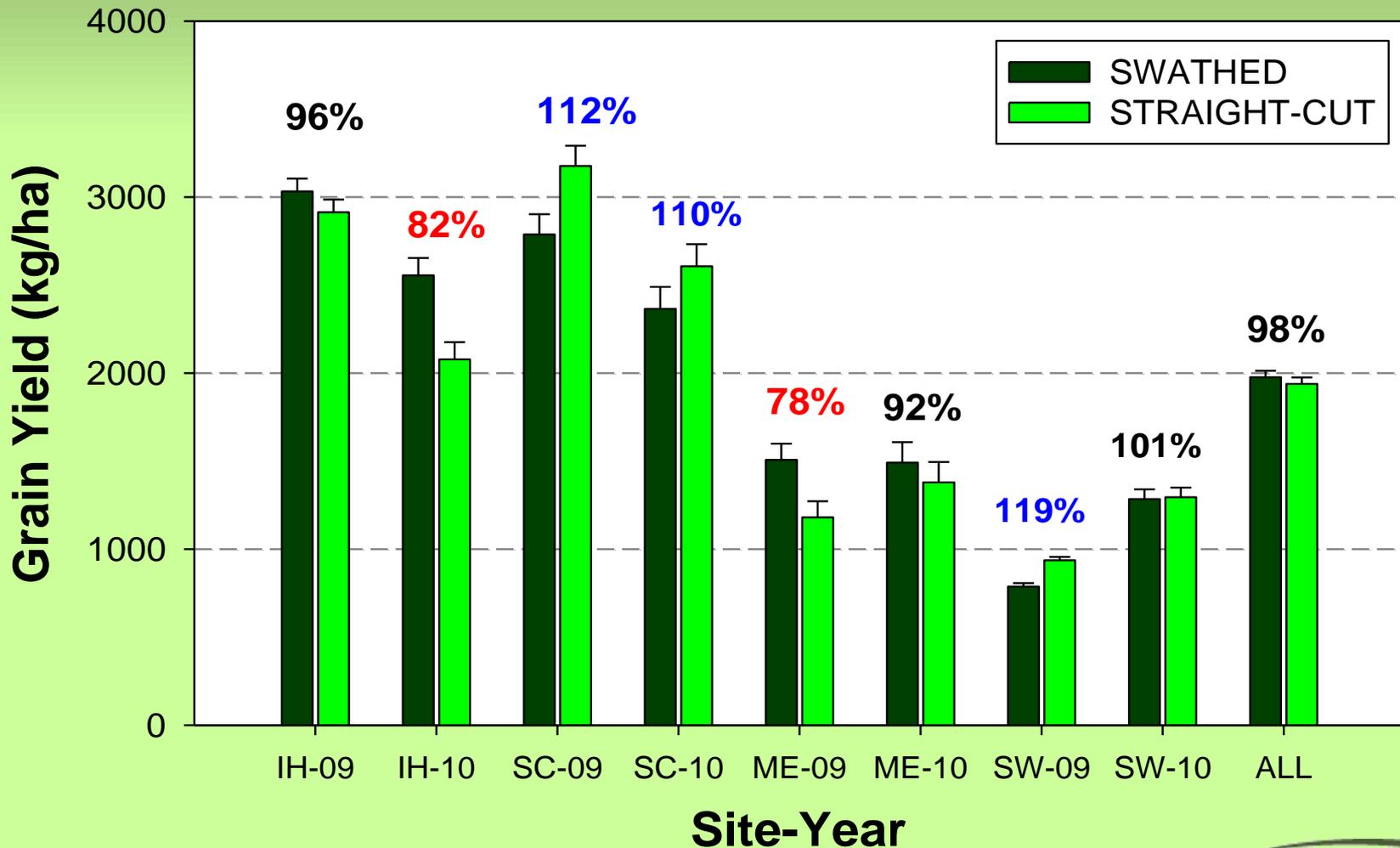
- Podsealant study: 2009-2010
- Estimating variety shatter: 2011-2012
- Low canola seeding rates: 2010-2012
- Canola type for reseeding: 2010-2012
- Effect of the Ultra roller to “normal” seed roller in seeders on canola emergence and yield: 2012-2013

WHAT ARE GROWERS DOING?

- 2009 CCC Agronomy Survey says...
 - 14.6% straight-combine
 - 13.8% want to increase straight-combined acres
- Early research from CCC Canola Production Centers reported straight-combined yields ranging from 50% to > 100% of swathed yields



STRAIGHT-COMBINED VERSUS SWATHED (SMALL PLOT TRIALS 2009-2010)



Current Research

- Trials initiated in 2011 at Indian Head, Scott & Swift Current to further investigate importance of cultivar selection for straight combining
- Evaluating potential yield loss and measuring pod drop/shatter in 12 modern cultivars from various breeding programs / herbicide

InVigor 5440	Pionner HiBred 45H29	Dekalb 73-45	Pioneer HiBred 46H75
InVigor L130	Pionner HiBred 45H31	Brett Young 6060	Nexera 2012 CL
InVigor L150	Dekalb 73-75	Proven 9553	Brett Young 5525



INDIAN HEAD 2009

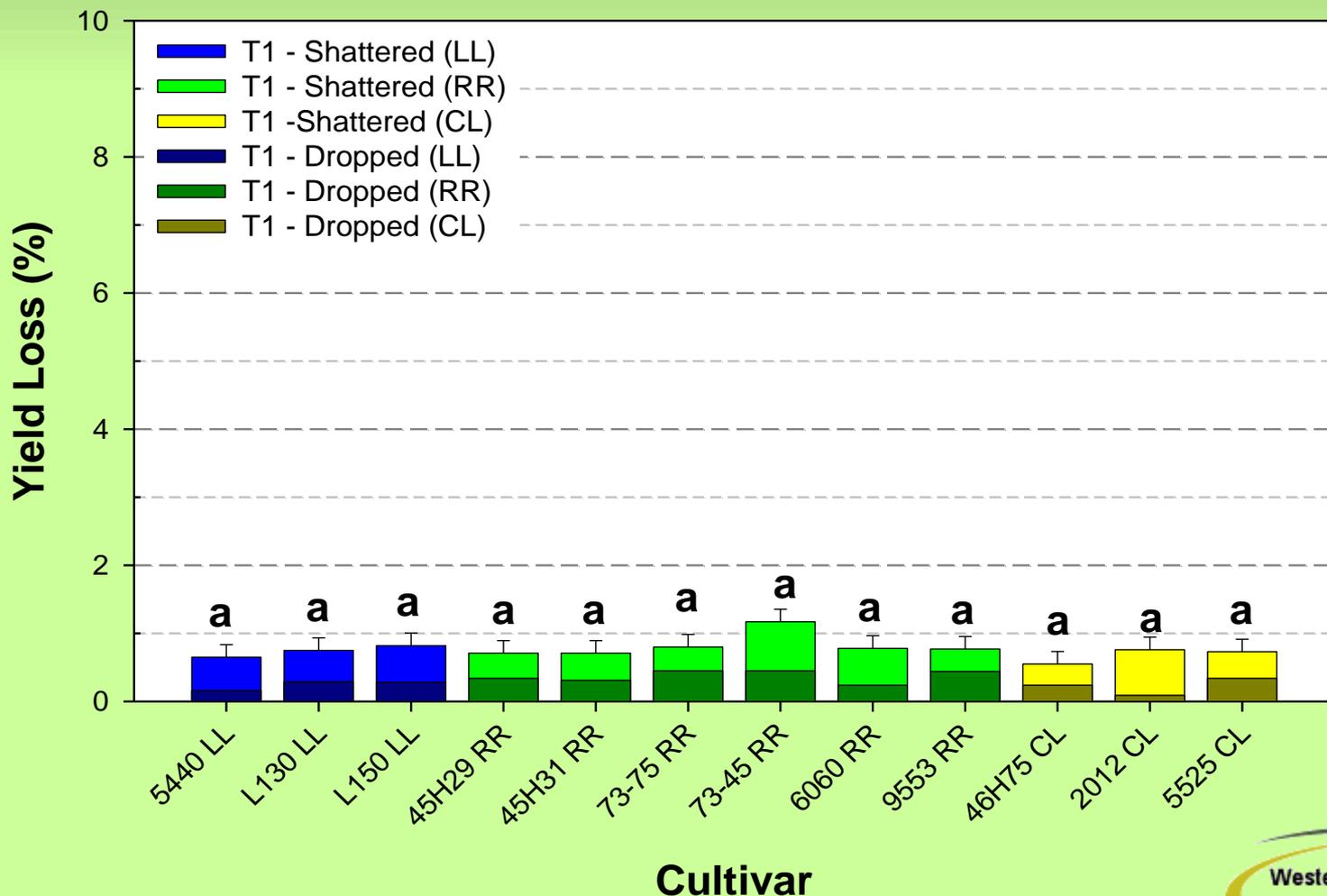


Slide Credit: Chris Holzapfel, IHARF

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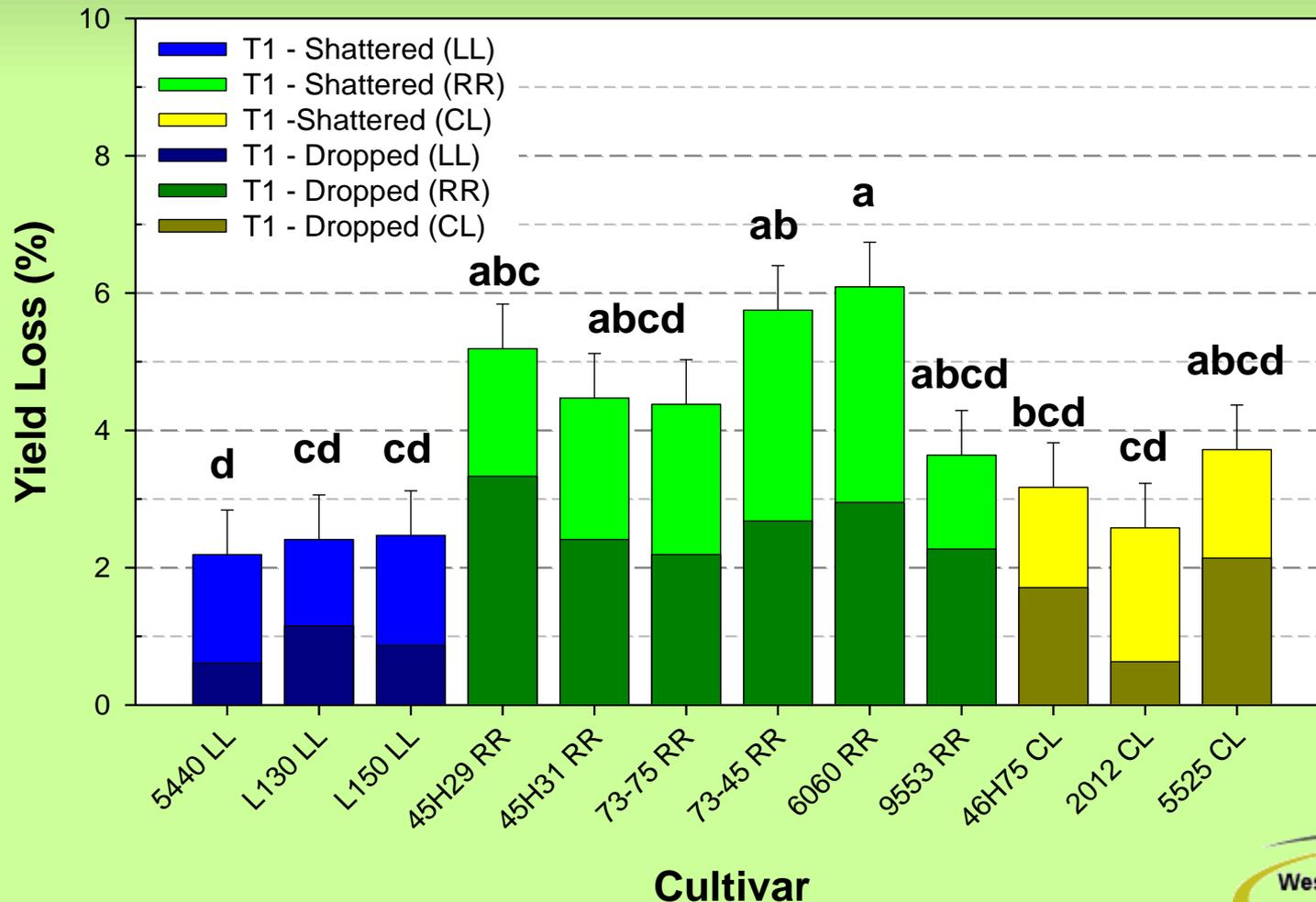
Observed Seed Loss in Percent (early-optimal timing)

All Locations (2011)



Observed Seed Loss in Percent (2-4 weeks past optimal timing)

All Locations (2011)



Take-Home Messages

- Growers should not be afraid to try straight-combining canola but must understand the risks
 - Harvesting at optimal stage critical relative to swathed canola
 - Limit straight-cut acres to what is manageable & swath the rest
 - Header extensions may be worthwhile investment for growers who are serious about straight-combining canola
- **Variety matters!**
 - Significant differences in shatter-resistance demonstrated amongst *napus* varieties
 - More information on relative shattering resistance of varieties would be useful to growers planning to straight-combine

Take-Home Messages

- **Pod sealants and/or dessicants**
 - Pod sealants unlikely to be cost effective over time but a yield benefit was observed 13% of the time (**leave a check-strip!!**)
 - Pre-harvest glyphosate is not a necessity but can accelerate harvest and provide weed control benefits into the next season



Canola Yield Response to Low Plant Populations

- 2010-2012
- Sites are Scott, Swift Current, Saskatoon, Melfort, and Indian Head
- Seeded plots at 5, 10, 20, 40, 80, 150, 300 seeds m⁻²
- Variety is 5440LL

Canola Emergence

Seeding Rate	2010	2011
(seeds m⁻²)	Emergence (%)	Emergence (%)
5	145	100
10	111	68
20	83	45
40	98	38
80	94	36
150	88	34
300	70	34

2 plants m⁻²



3 plants m⁻²



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6 plants m⁻²

17 plants m⁻²



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34 plants m⁻²

61 plants m⁻²



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1 plant m⁻²

3 plants m⁻²



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7 plants m⁻²

21 plants m⁻²



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30 plants m⁻²

70 plants m⁻²



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1 plants m⁻²



52 plants m⁻²

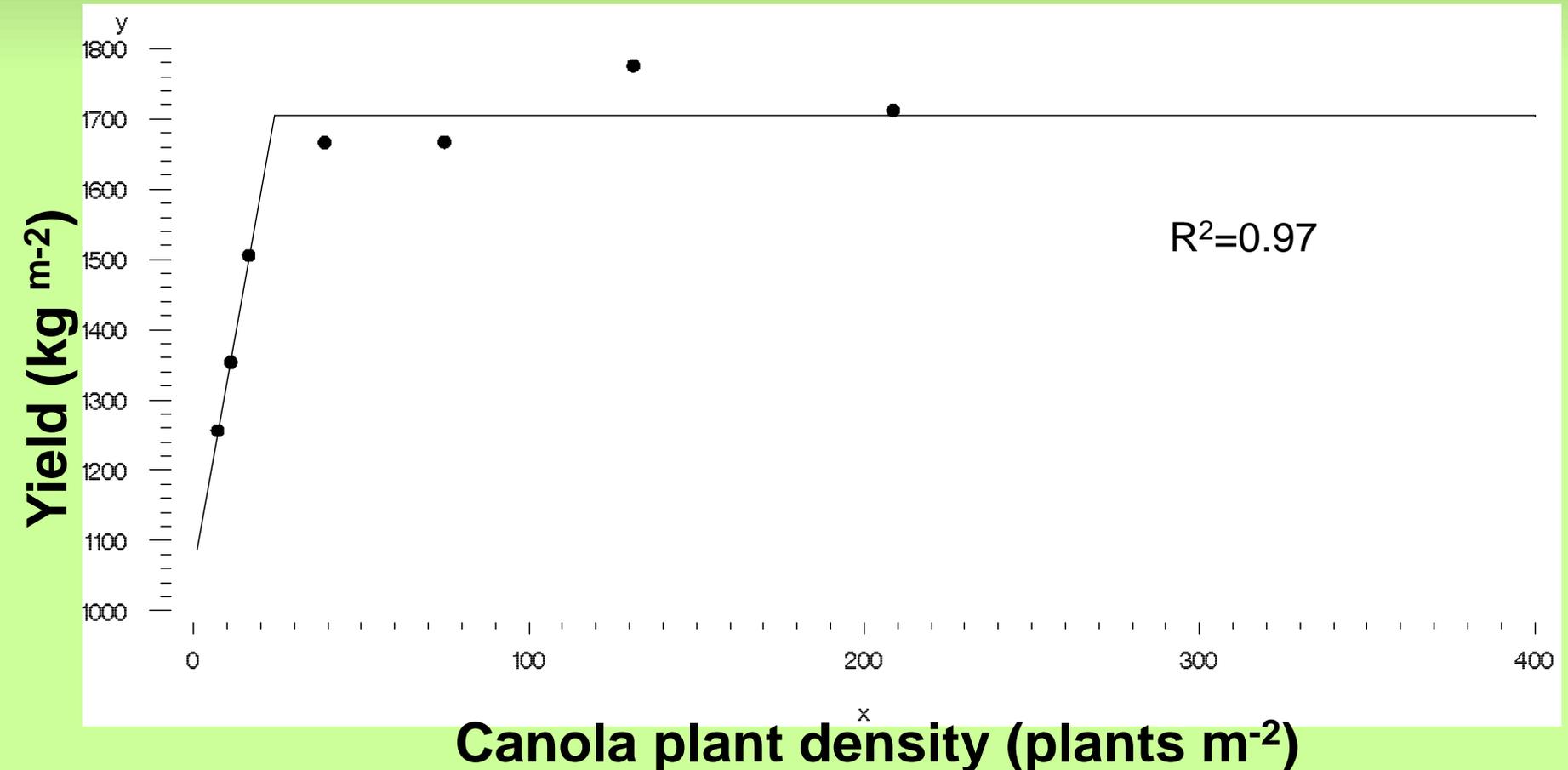


Aug 23, 2011

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2010 All Sites

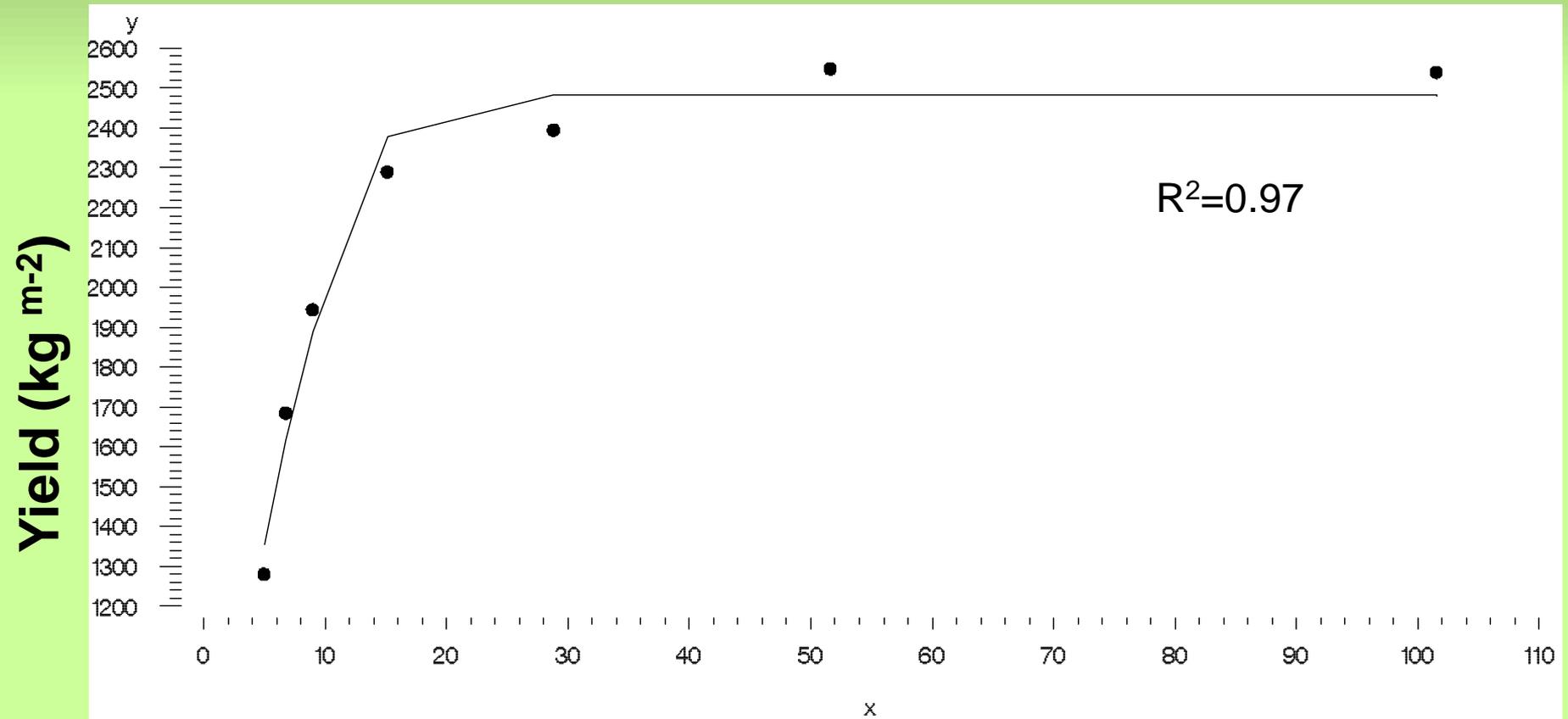


Canola plant density (plants m⁻²)

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2011 All Sites

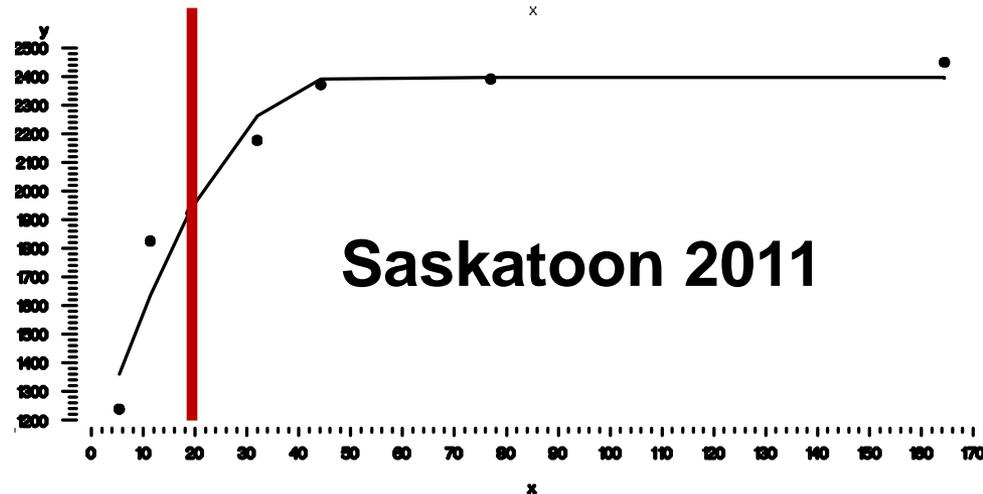
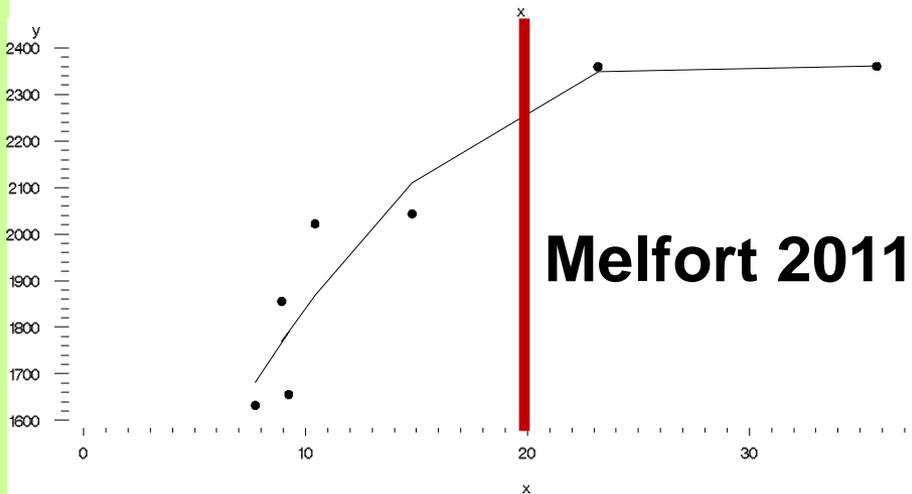
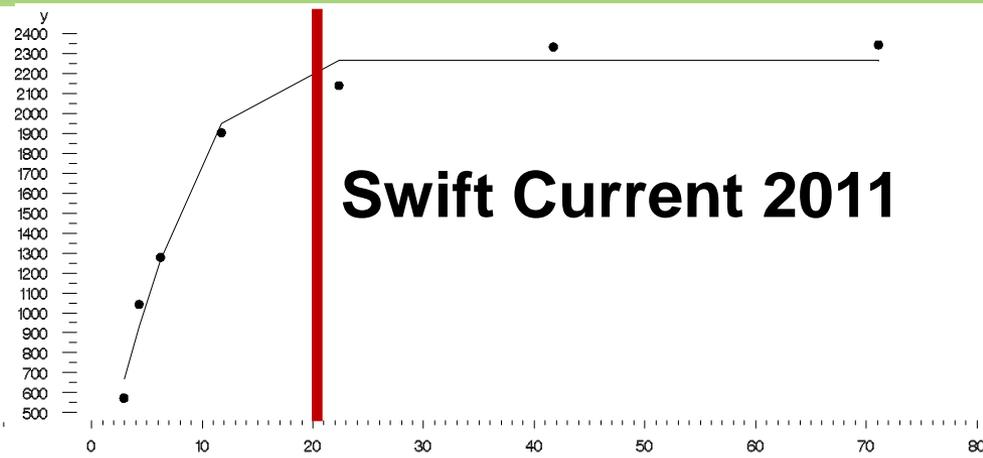
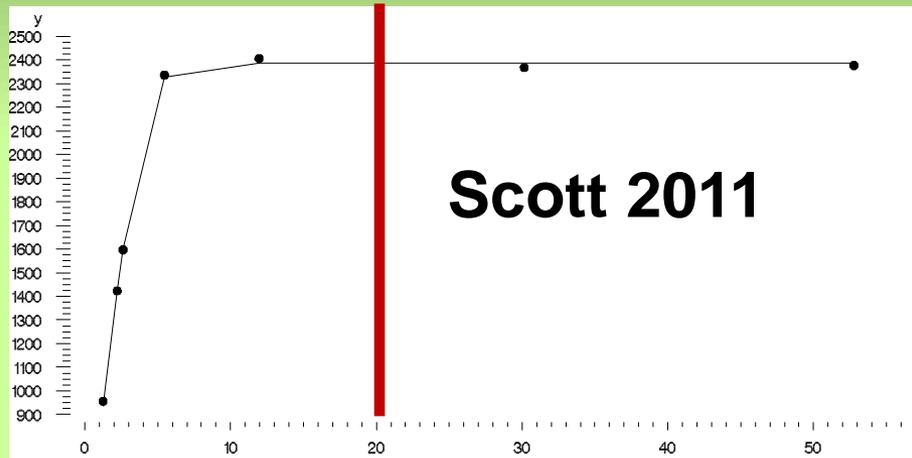


Canola plant density (plants m⁻²)

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2011 Sites



Scott 2011

Seeding Rate (seeds m⁻²)	Days to end of Flower	Seeds/pod (#)	Pods/plant (#)
5	90	29	1547
10	88	29	897
20	86	29	637
40	82	29	438
80	79	28	325
150	76	29	147
300	73	28	105

Summary

- Low plant population study will continue in 2012
- Each site had different plant populations that produced max yield
 - Range from 7-47 plants m⁻² to maximize yield
- In general very low plant densities had longer days to maturity and more branches and pods/plant
- Environmental stress may increase the number of plants required to reach max yield

Acknowledgements



Saskatchewan
Ministry of
Agriculture



AGRICULTURAL DEMONSTRATION OF TECHNOLOGIES & PRACTICES



Questions??

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