

Optimizing Harvestability in Oilseeds

*The Saskatchewan Canola
Development Commission*

*Annual meeting
Jan 9th, 2008*

Wheatland Conservation Area Inc
Southwest Agri-ARM Site

Saskatchewan
AgriARM
Applied Research Management



Presentation Outline

- Wheatland Conservation Area / Agri-ARM background
- Swathing vs. Straight Cutting Brassicas
- Improved Straight Cutting Techniques
- Taking the next step- further developments
- Wrap up and acknowledgements

Wheatland Brief History

- Non-profit / producer run since 1982.
- Applied research
- Agri-ARM (8 sites)
- Trials
 - large plots
 - small plots
 - demonstrations
 - business development
 - industry
 - extension
- Environmental Farm Plans (PCAB)



Project Introduction

- Partnered with Saskatchewan Canola Development Commission (SCDC) and others to demonstrate optimum harvesting techniques to improve the harvestability of oilseeds.
- This presentation looks at various management strategies including header types used to straight cut oilseed crops.
- Improving harvest efficiencies and seed quality can benefit consumers, buyers, processors, and producers.

Swath Timing vs. Straight Cutting

Project Objectives

- Optimize harvesting efficiencies.
 - when is the best time to swath?
 - can we straight cut oilseed crops (B.Junceae)?
- Improve seed quality.
 - increase seed size and reduce green seed count.
- Minimize harvest losses.



Swath Timing vs. Straight Cutting

Three treatments

- Early swathing (20-30% color change).
- Late swathing (50-60% color change).
- Straight cutting.

Four Crops

- Argentine canola
- Polish canola
- Oriental Mustard
- Brassica juncea

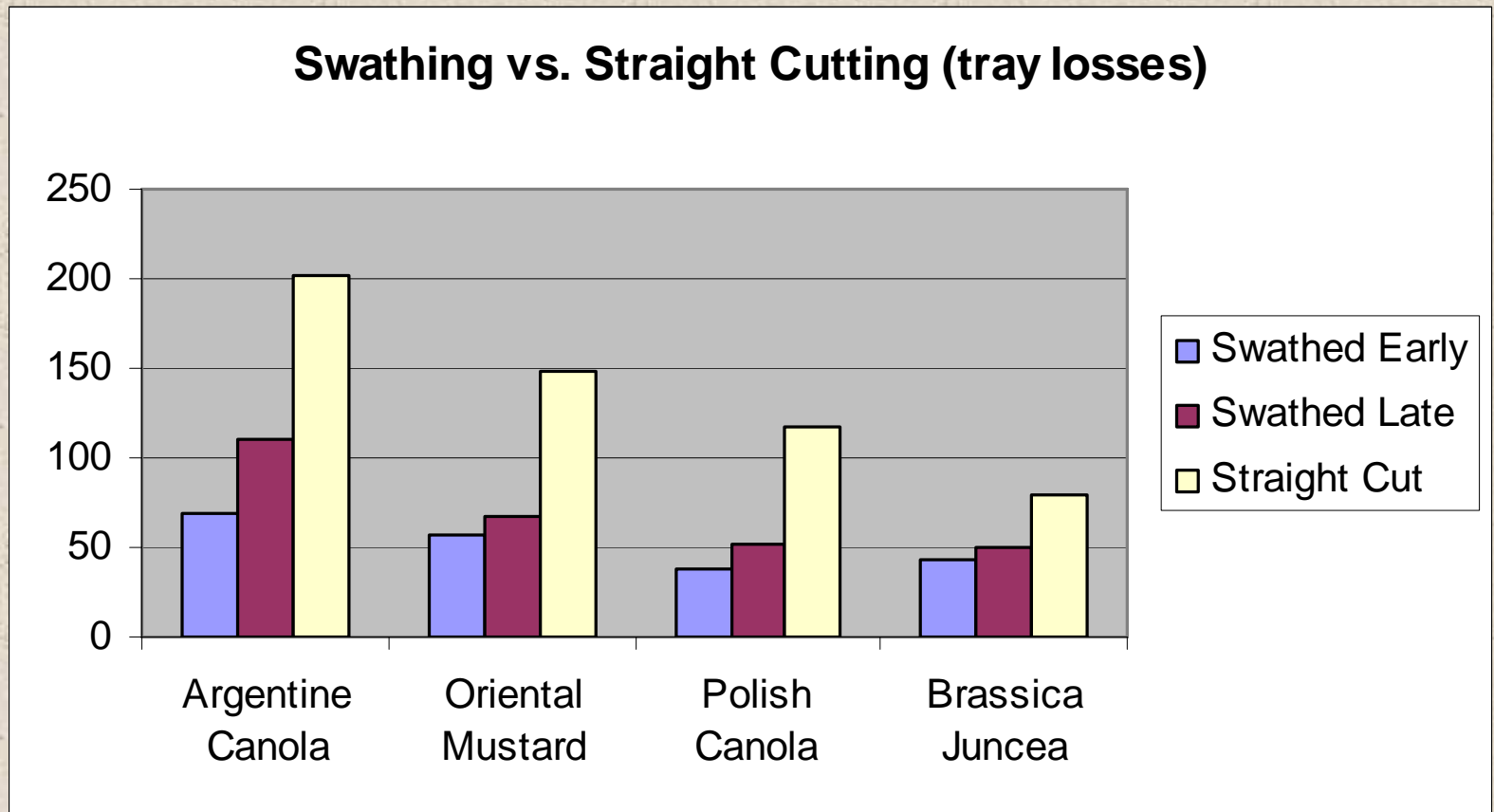


Data Collected on Four Reps

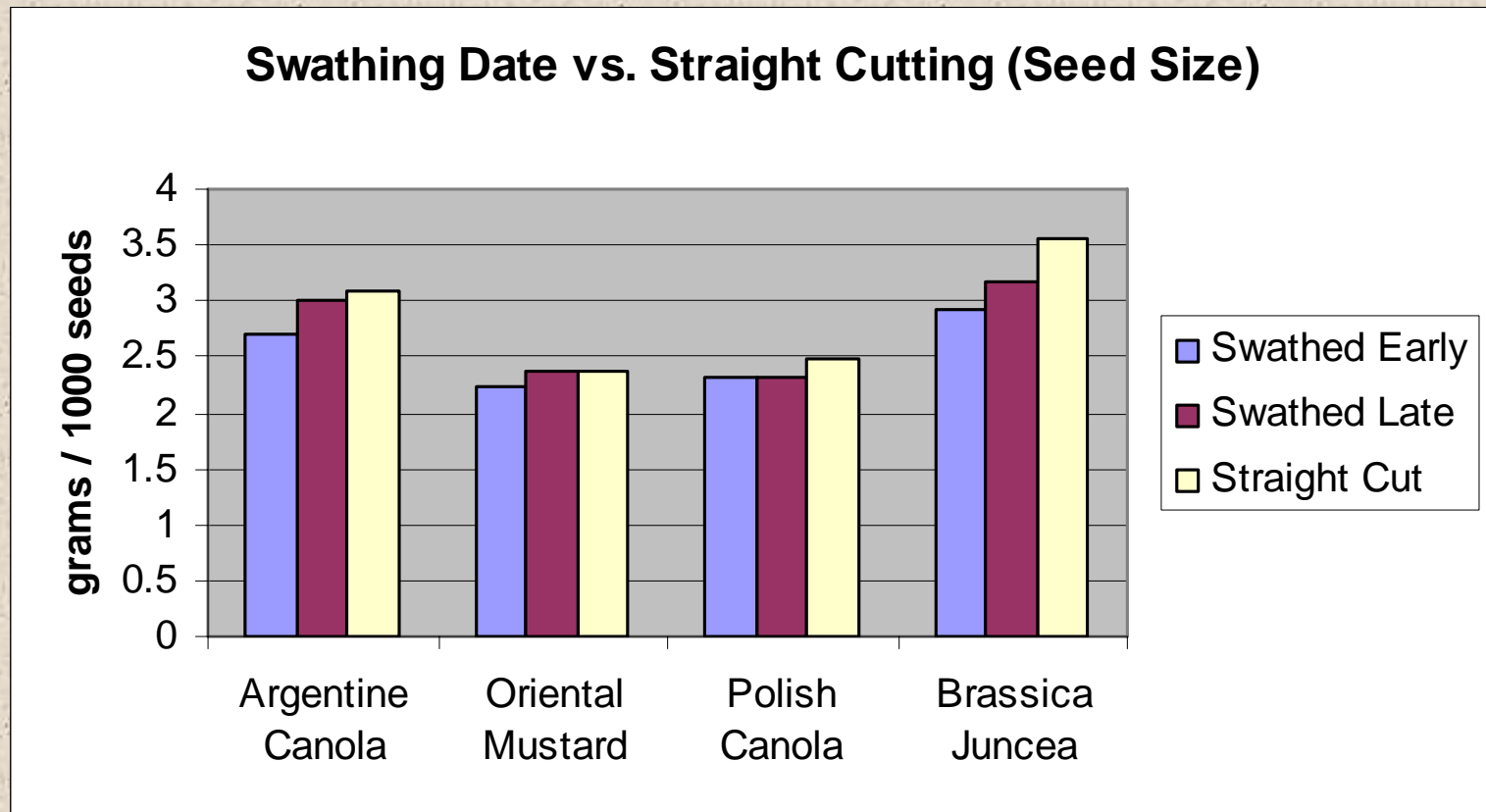
Yield, harvest losses, seed size.

Results

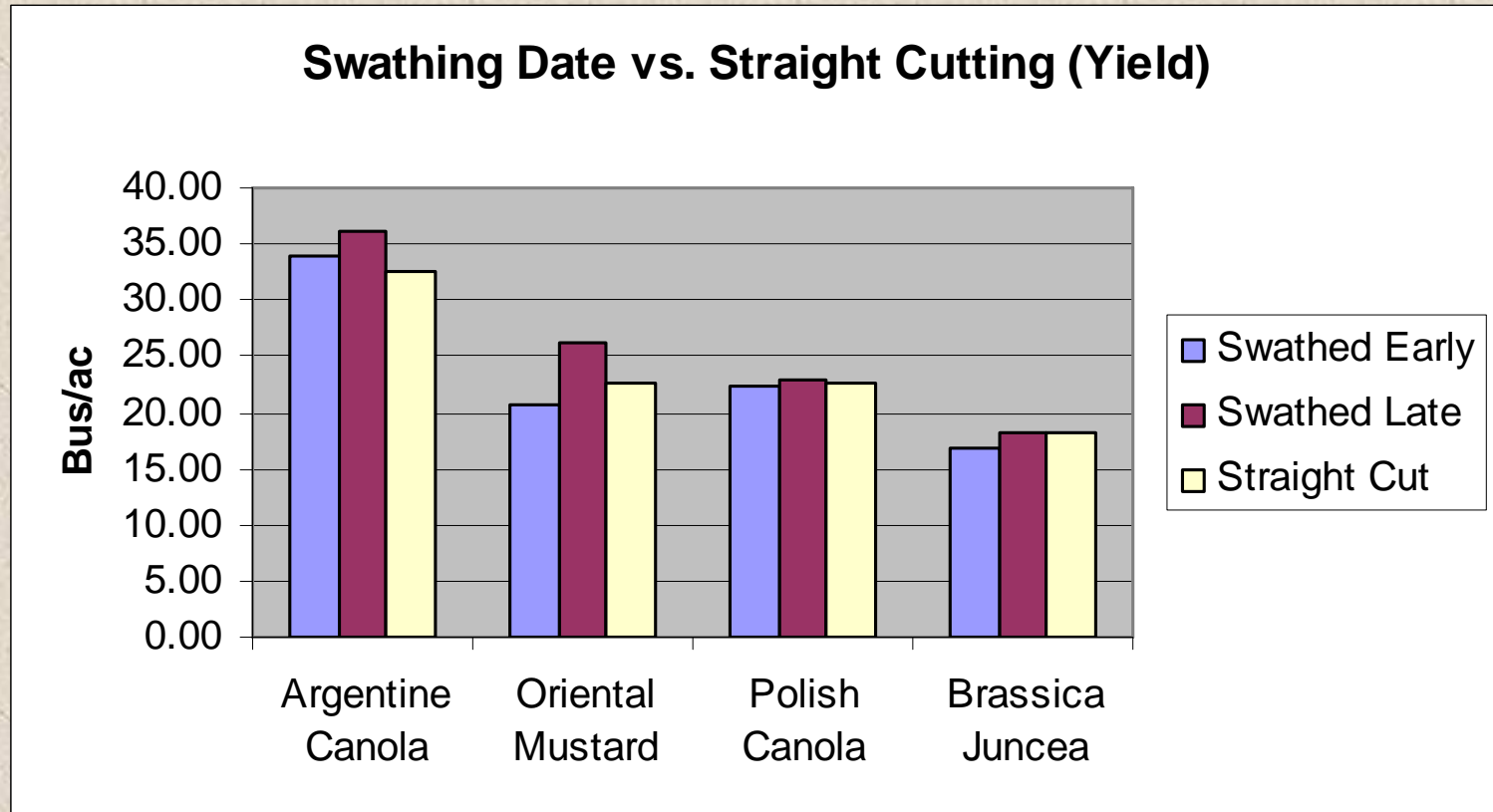
Tray losses are highest with a straight cut operation and lowest with an early swath operation.



How does swath timing and straight cutting affect seed size?



Do the positive effects of seed size out weigh the negative effects of harvest losses?



There are other disadvantages to swathing.

- Losses from wind.
- Extra operation.
- Can we straight cut? Can we reduce header losses? Is there a better way?



Improved Straight Cutting Techniques in Oilseeds

- Can we reduce harvest losses enough to straight cut Argentine canola?

Three headers

- BISO header extension.
- Stripper header.
- Rigid straight cut header.

Three Crops

- Argentine canola**
- Oriental Mustard
- Brassica juncea

BISO Header Extension



Header from Robert Breckner, Grandview, Manitoba

Shelbourne Stripper Header



BISO Header Extension

- Reel above plate
- Cutter bar forward
- Crop has no problem feeding
- Seeds caught by ridged plate



Seed trapped on terraced plate

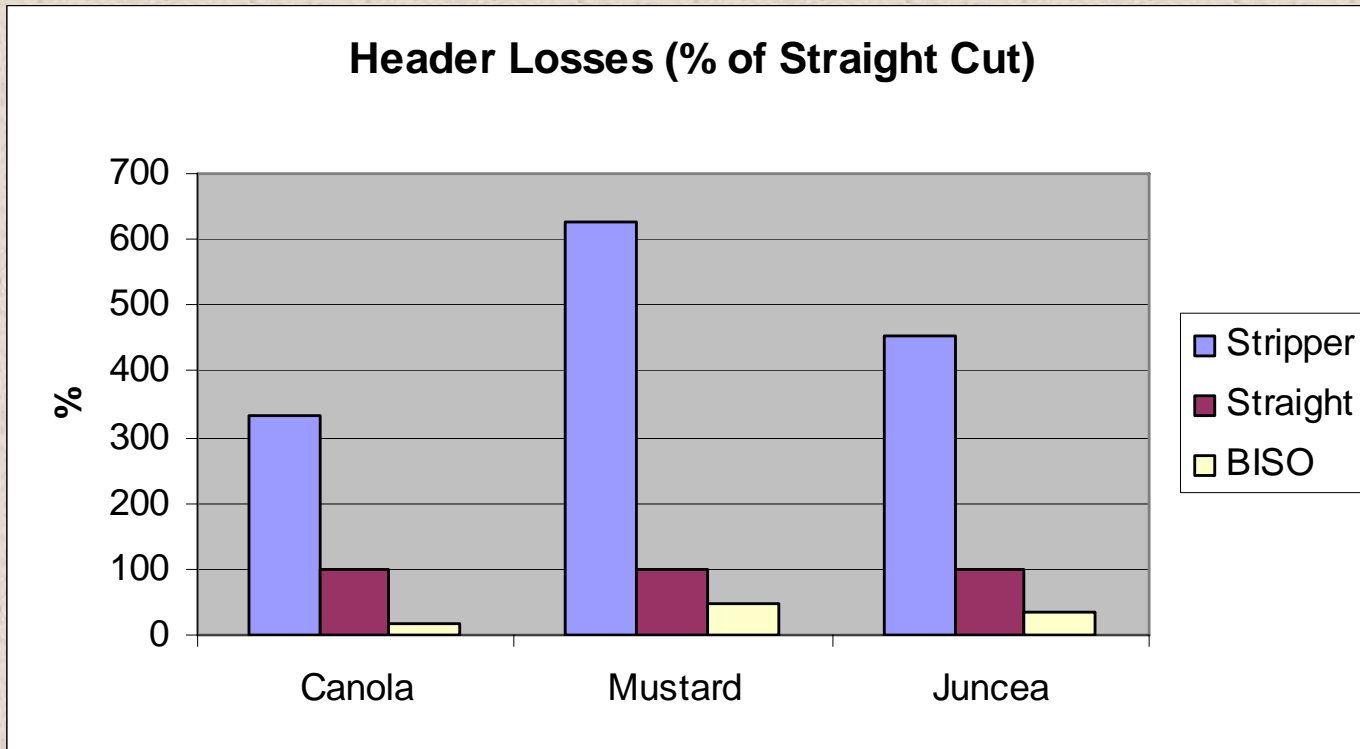


Stripper Type Header

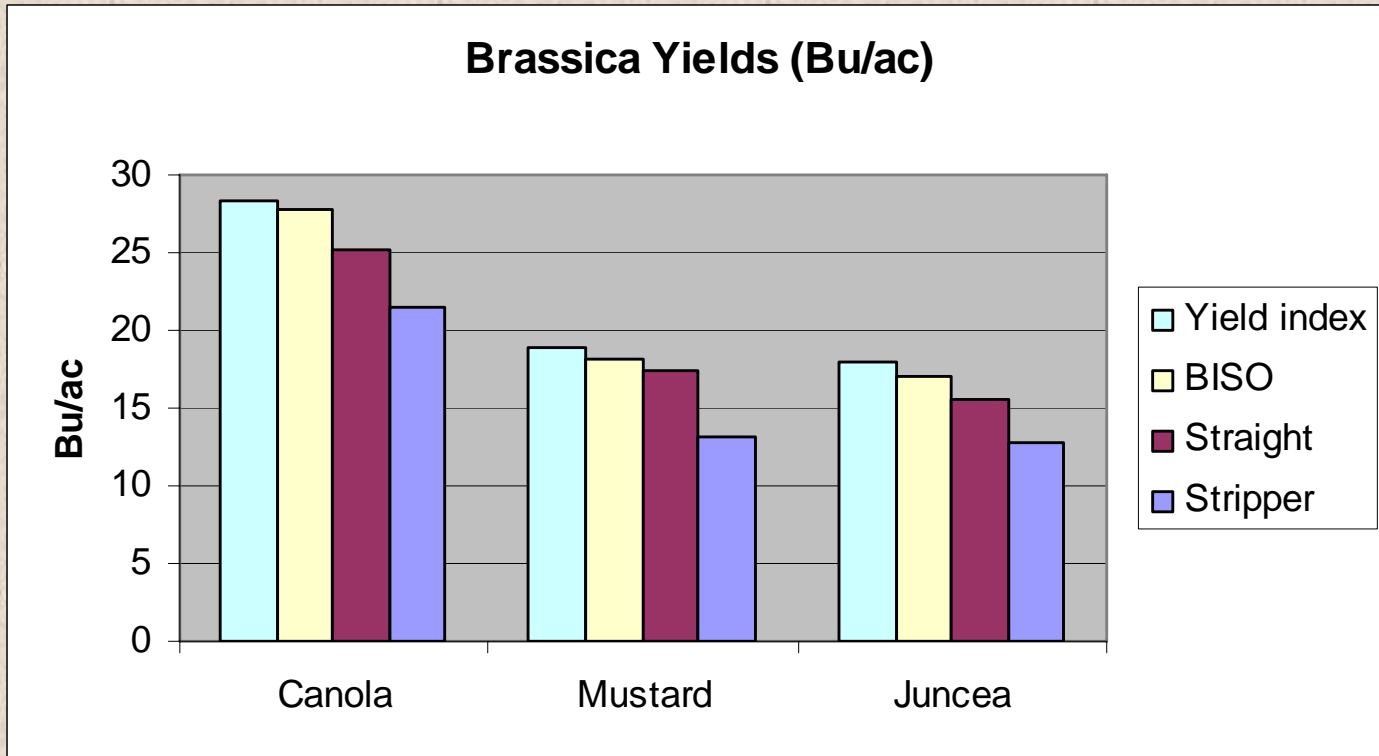
- Greater travel speeds in most crops.
- Strips off pods leaving a good deal of stubble behind.
- Premiere header for cereals, flax, lentils and lodged crops.



Header Losses



Resulting Yields



Draper Header???

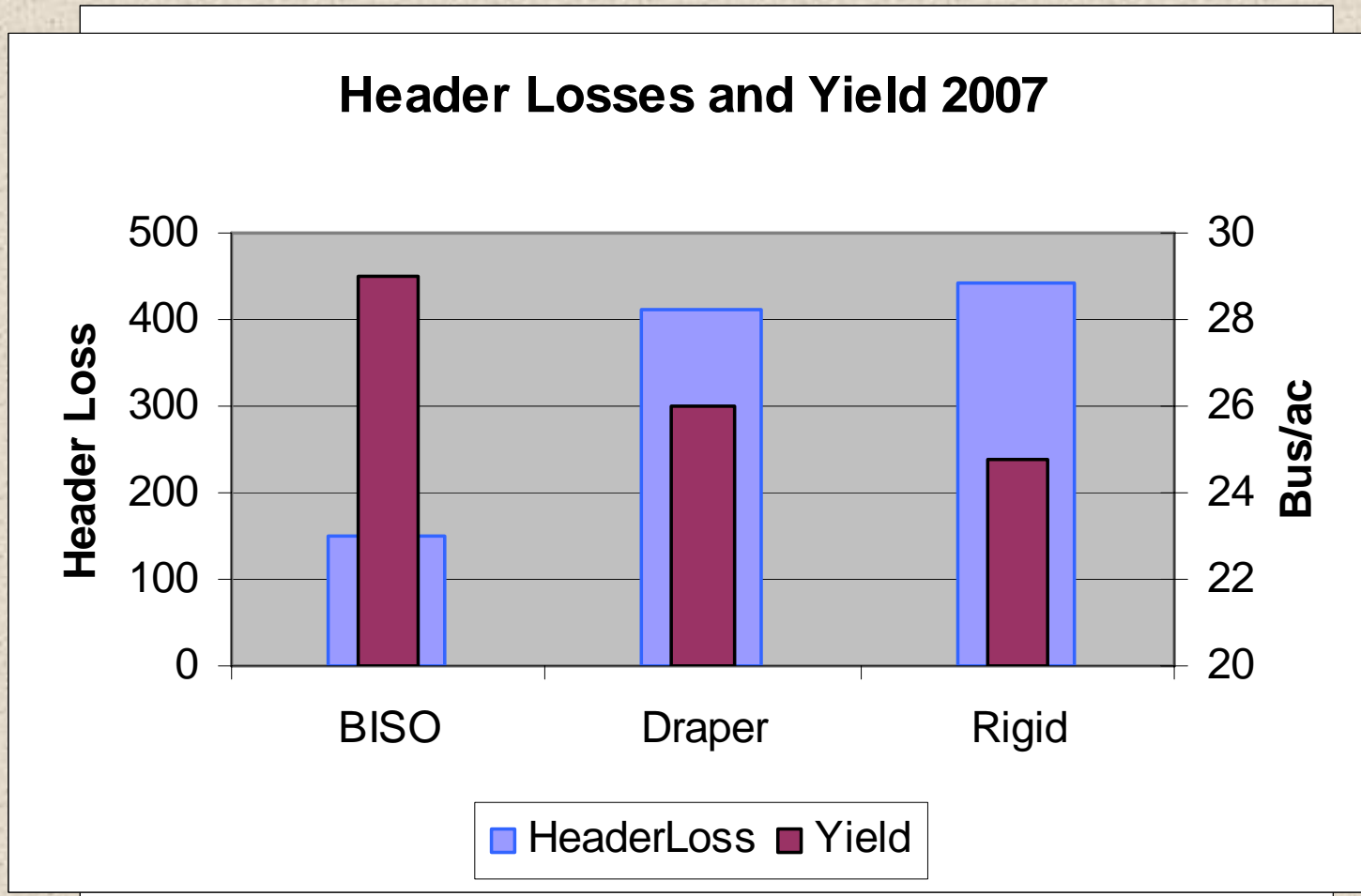
- In 2006 the partners decided to drop the Stripper header and look at a more widely used header, the draper style header, in canola.
- We partnered with Haubrich Farms at Hodgeville to study a Mac Don draper header.

Draper Header

- Invigor 5070 canola
- Mac Don 972 Draper with PU reel



Draper Header Results '06, '07



Early Indications Summary

- It appears there may be better options available for straight cutting Argentine Canola.
- We want to continue this project for more data and look at other options (Spodnam, new varieties, Canola pushers, etc.).
- Economic feasibility.

Example:

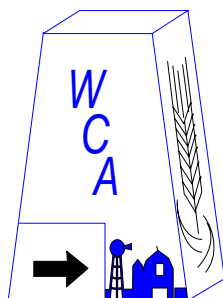
\$34,000 @ 7% interest =
\$400/mon or \$4,800.00 / yr

At \$8.00 canola we need 600
extra bushels to break even.

If we average a 3 bus/ac
advantage with the BISO, a
producer needs to grow 200
acres of canola / year.

Acknowledgement

- Saskatchewan Canola Development Commission.
- Haubrich Farms
- Mark Stumborg (AAFC).
- SAF
- BISO headers, Robert Breckner.
- Staff.



SPARC

