Canaryseed

- Macro and Micro nutrients
- Plot size and Septoria Leaf Mottle
- Cultivar testing
  - Pierre Hucl
No Chloride  Chloride
Chloride and Grain yield Yield

Yield (lbs/acre)

Grain Yield

0K-0Cl
10K-9.1Cl
20K-18.2Cl
30K-27.3Cl
10K-0Cl
20K-0Cl
30K-0Cl
0K-9.1Cl
0K-18.2Cl
0K-27.3Cl
• Canaryseed is more responsive to Cl than other cereals

• Does it respond differently than other cereals to macro and micro nutrients?
# Macro and Micro Nutrient Trial

## Nutrients

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Locations

• Indian Head — Indian Head Agricultural Research Foundation
• Swift Current - Wheatland Conservation Association
• Redvers — South East Research Farm
• Yorkton — East Central Research Foundation
• Melfort - North East Research Foundation
• Scott — Western Applied Research Corporation
Funding

ADOPT – Saskatchewan Ministry of Agriculture
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Grain Yield (lb/acre)

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Melfort

Yes

 Cu, Z, Mg, B
Scott

Grain Yield (lb/acre)

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Overall Results

- N Fertilizer: response at all 6 locations
  - Optimum amount ranged from 15 to 90 kg/ha
- Chloride: response at 3 of 6 locations
- Phosphate: response at 1 of 6 locations
- Zinc: response at 1 out of 6 locations
- Still need to incorporate soil test results
Septoria Leaf Mottle
To spray or not to spray that is the question

W.E. May
Agriculture and Agri-food Canada
Septoria Leaf Mottle
Plot Size (ft)

- 13 x 35
- 26 x 35
- 39 x 35
- 13 x 70
- 26 x 70
- 39 x 70

Test is conducted in Two fields one with no canaryseed and the other with the rest of the field seeded to canaryseed.
Fungicide Treatments

- Check
- Tilt
- Twinline
- Prosaro
- Prosaro late
## Plot Size and Septoria Leaf Mottle

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Septoria Leaf Mottle and Yield

Yield (lbs/acre)

- Check
- Tilt
- Twinline
- Prosaro
- Prosaro late

FS 2013 13 x35 26 x 70 13 x 35 26 x 70

Yield (lbs/acre)
Conclusions

After two years the 70 ft plot length is producing more consistent results than the 35 ft plots

Funding

ADF – Saskatchewan Ministry of Agriculture
Research For 2015 and Beyond

• Septoria plot size – ADF funding will continue
• Nutrient Research - reapplied for ADOPT funding
• Cropping Sequence Research – Start in spring of 2015
• Aphids – Apply this spring for research beginning in 2016
Oat

Screening Cultivars for test weight stability at high levels of N fertilizer

Row width x Rotation x seeding rate
Grain Yield (bus/acre)

~Optimum N Rate @ 60 kg N/ha
Test weight (g/0.5 L)

~Optimum N Rate @ 60 kg N/ha
Grain Yield

Yield (bu acre⁻¹)

N Rate (kg N/ha)

- ▲ No Fungicide
- ▼ Headline
- △ Stratego
Test Weight

![Graph showing Test Weight (g 0.5m⁻¹) vs. N Rate (kg N/ha) for IH 2012, Mel 2012, IH 2013, and Mel 2013.]
Nitrogen Rate and Cultivars

Test Weight (g/0.5L)

- AC Assinaboia
- CDC Pacer

Nitrogen Rate (kg/ha)
Yield - N x Cultivar

Melfort

Bu / acre

Stride | CDC Minstrel | AC Morgan | CDC Seabiscuit

- Stride
- CDC Minstrel
- AC Morgan
- CDC Seabiscuit

40 kg N/ha
- 60
- 80
- 120
Test weight - N x Cultivar

Melfort

Stride  CDC Minstrel  AC Morgan  CDC Seabiscuit

40 kg N/ha  60  80  120
Lodging - N x Cultivar

Indian Head

- Stride
- Pinnacle
- CDC Orrin
- CDC Big Brown

Lodging (0-10)

40 kg N/ha
60
80
120

Red: 40 kg N/ha
Blue: 60
Green: 80
Black: 120
Yield - N x Cultivar

Indian Head

Bu / acre

Stride  | Pinnacle  | CDC Orrin  | CDC Big Brown

60 kg N/ha

40 kg N/ha

60

80

120

130
Test weight - N x Cultivar

Indian Head

Stride  | Pinnacle  | CDC Orrin  | CDC Big Brown

- 40 kg N/ha
- 60
- 80
- 120
Yield - N x PGR  Trinexapac

Bushels/acre vs Trinexapac concentration

- 5 kg N/ha
- 50
- 100
- 150
Test Weight - N x PGR

Trinexapac

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g /0.5L

215
220
225
230
235
240
245
250
Black Medic as a Cover Crop?
Experiment

- Medic and non-Medic Blocks

- Flax - Wheat - Oat Rotation

- Three levels of N, 20, 60 and 100% of recommended N (applied + residual)
  - Flax 110 kg ha\(^{-1}\)
  - Oats 100 kg ha\(^{-1}\)
  - Wheat 135 kg ha\(^{-1}\)
Grain Yield:
Medic and N Fertilizer

Grain Yield (kg ha\(^{-1}\))

Nitrogen Fertilizer (% of Recommended)

- Green line: medic
- Blue line: nomed
Fall Residual Soil P (0-60cm)

Soil Residual P (kg ha$^{-1}$ in 0-60cm)

Percentage of Recommended Nitrogen

- **medic**
- **nomed**
Fall Residual Soil P

P Supply Rate (ug cm^-2) vs Percentage of Recommended Nitrogen
Sunflower Research

• Development of early season hybrid and inbred lines for Saskatchewan
  – Brent Hulke, USDA

• Hybrid Testing
  – New oil profile, Nusun

• Seeding Rate Response

• Volunteer Canola Suppression
  – Authority + Assert
Development of early season hybrid and inbred lines

- Evaluated several crosses
- X713
  - 5 locations
  - Harvested kernel moisture below the check
  - Yield was 115% of the check
  - Nusun oil quality
  - One year

Volunteer Canola Suppression
Niger

- *Guizotia abyssinica* - evolved in Africa
The Customer
• No access to US market

• Currently niger is a crop for growers who want to vertically integrate
  – growing
  – cleaning
  – Marketing

• To access Europe more consistent yield is required
Barley Research

- Beta-Glucan in Hull-less Barley
- Preharvest Glyphosate
- N rate x cultivar
- PGR + seed treatment + fung at flag + fung at anthesis
- PGR’s
  - Chlormequat chloride
  - Ethephon (Ethrel)
  - Trinexapac-Ethyl (Palisade 2EC USA, Moddus UK, Primo Maxx - turfgrass)
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# Barley PGR 2014

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The People Who Do The Work

- Orla Willoughby
- Randy Shiplack
- Chris Omoth
- Kevin Willoughby
- Melanie Reid
- Stephanie Horner
- Jill Filmer
Aphid Populations in Canaryseed

Aphid population (Aphids/head)

Date

- Head
- Leaf Sheath