

# **GATEWAY RESEARCH ORGANIZATION**

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# Gateway Research Organization (GRO)

- GRO: Not for profit applied agricultural research association.
  - Office is located in Westlock
  - More than 350 producers from our region on mailing list, membership and social media.





# Mandate

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- Produce high quality, unbiased, and scientifically sound research.
- Produce research based on local soil and growing conditions.
- Provide a good resource for information transfer and extension to producers.
- Collaborate with specialists from the agriculture industry, government and educational institutions



# GRO Capacity

- Producers run board :
  - 10 board of directors
  - 2 ex-officio from Westlock and Barrhead county.
- Staff: Three full time employee
  - Crop Research Technician
  - On-Farm Energy Management outreach Officer
  - Summer staff (2 full time and 1 part time)





# 2017 Crops Projects

- Regional Variety Trials demo
  - 110 varieties of Barley, Oats, Wheat, Triticale, Flax
  - Included Local seed growers varieties demo
- Yellow & Green peas variety trial
- Agriculture and Agri-Food Canada trials
- Pea-Canola intercropping demonstration trial
- Few Industry Research and Demo trial





# 2017 Livestock Projects

- **Western Alberta perennial forage 'Trial'** for year 2016-18.
- **Regional Silage Trials**
  - Barley, **Oats**, Triticale
- **Demonstration trial for:**
  - Sainfoin/Alfalfa high legume pasture establishment trial
  - Cover crop cocktail demonstration  
at GRO Heifer pasture land



# GRO – POGA Oat trial

**Objective:** To identify oat varieties with superior milling quality grades and higher yield, when grown in the North Central or Peace Region of Alberta.

**Measurements: Milling Grade (Laboratory analysis)**

- A high kernel weight or higher test weight
  - More plumper oat = more flour
- Lesser Hull percentage
- Higher Beta-glucan levels for value added food market
- Issues of resistance to disease and lodging should be addressed





# POGA Oat Trial-2016

Varieties tested at both sites

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**AC Morgan**

**CS Camden**

**CDC Seabiscuit**

**Triactor**

**Souris**

**CDC Minstrel**

**CDC Summit**

**CDC Ruffian**

**CDC Orrin**

**Akina**

**Kara**



# Methodology

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- Best management practice to mimic the producers.
  - Seeding rates were calculated based on 1000 kernel weight of each variety with a Seed Counter, desired plant density and germination percentage.
  - Trial seed as randomized block design with 3 or 4 replications
- Observations recorded and data collected for yield measurement throughout the season.
- Samples sent to University of Alberta for Beta-glucan analysis.



# POGA Trail Info-2016

Location:	Peace region (Dion East)	Westlock
Seeding Date:	May 17th, 2016	May 13th, 2016
Seeding Rate:	250 plant / m	250 plant / m
Soil Moisture:	adequate	very poor
Seeding Depth:	1.5 inch	1.5 inch
Herbicide & Fungicide	Applied	Applied
Fertility*	@130N - 30P2O5 - 25K2O - 25S	#21 N- 42P2O5 - 48K2O - 00S
Harvest date:	Sept 16th, 2016	Sept 27th, 2016
Precipitation (mm)	204	224

\* Based on soil test; @ Blend for all cereal trial # Target Yield of 120 bushel/Acre

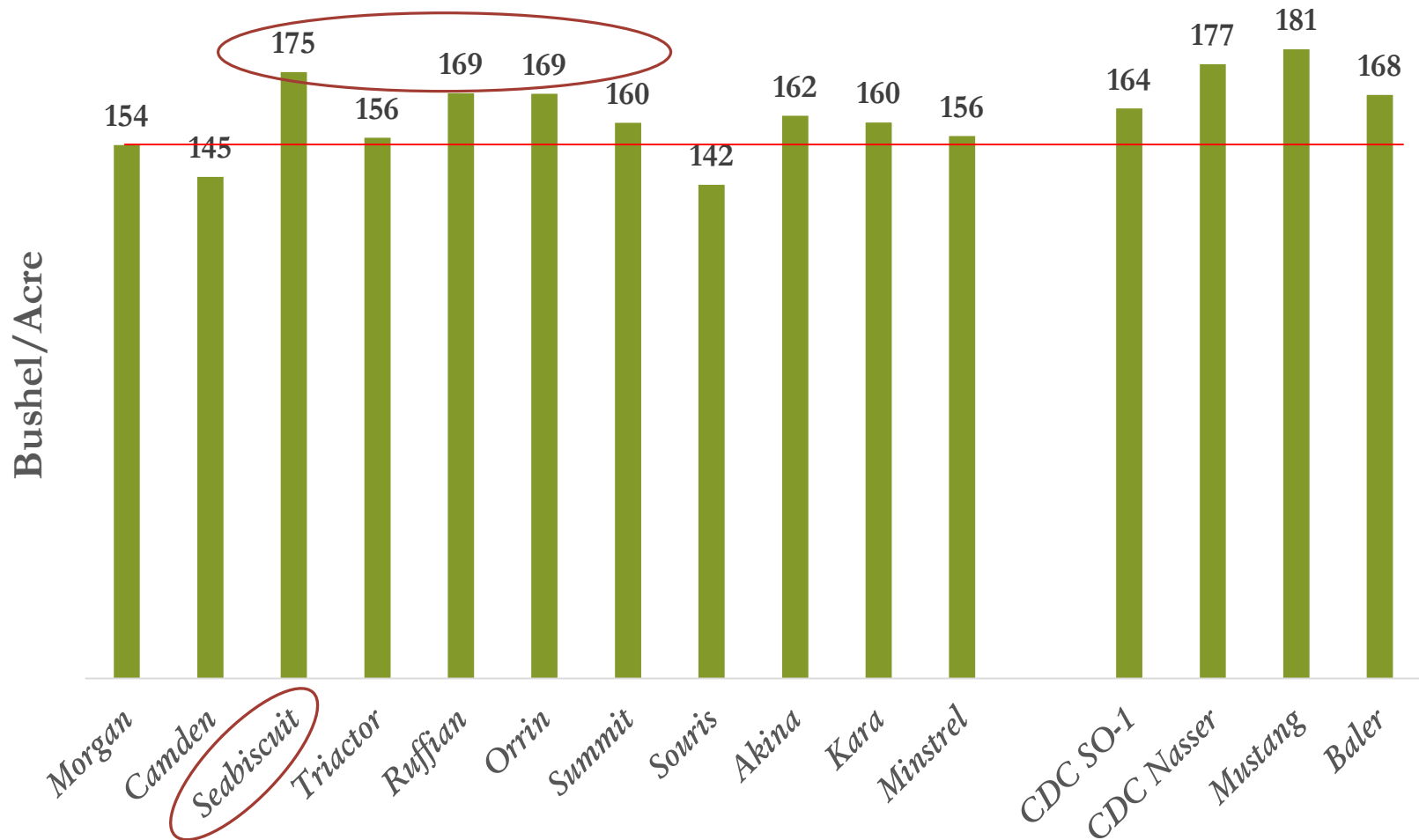




# POGA Trail Info-2017

Location	Peace (Falher)	Westlock
<b>Previous Crop</b>	Canola	Canola
<b>Seeding Date</b>	May 29th-2017	May-17th-2017
<b>Row Spacing</b>	11 inch	9 inch
<b>Soil Temp</b>	14.9 Centigrade	11 Centigrade
<b>Soil Moisture</b>	Moderate	Very high
<b>Seeding Depth</b>	1 1/8"	1"
<b>Fertilizer</b>	107N-30P2O5-25K2O-25S (lb/ac)	367 lbs/ac of 27-0-22-1.4
<b>Precipitation (mm)</b>	207.9 (May to Aug)	314.5 (May to Aug)
<b>Harvesting Date</b>	Oct 02-2017	Oct 1-2017
<b>Chemical application</b>		
<b>Pre-seed</b>	Glyphosate 0.60L/ac on 17-May	Glyphosate 0.60L/ac on 09-May
<b>Herbicide</b>		Curtial M and Axial on June 19
<b>Desiccant</b>	Reglone Ion 0.7 L/acre on 14-Sept	Reglone Ion 0.7 L/acre on 12-Sept

# Yield Data 2016 - Westlock





# Yield Data 2017 - Westlock

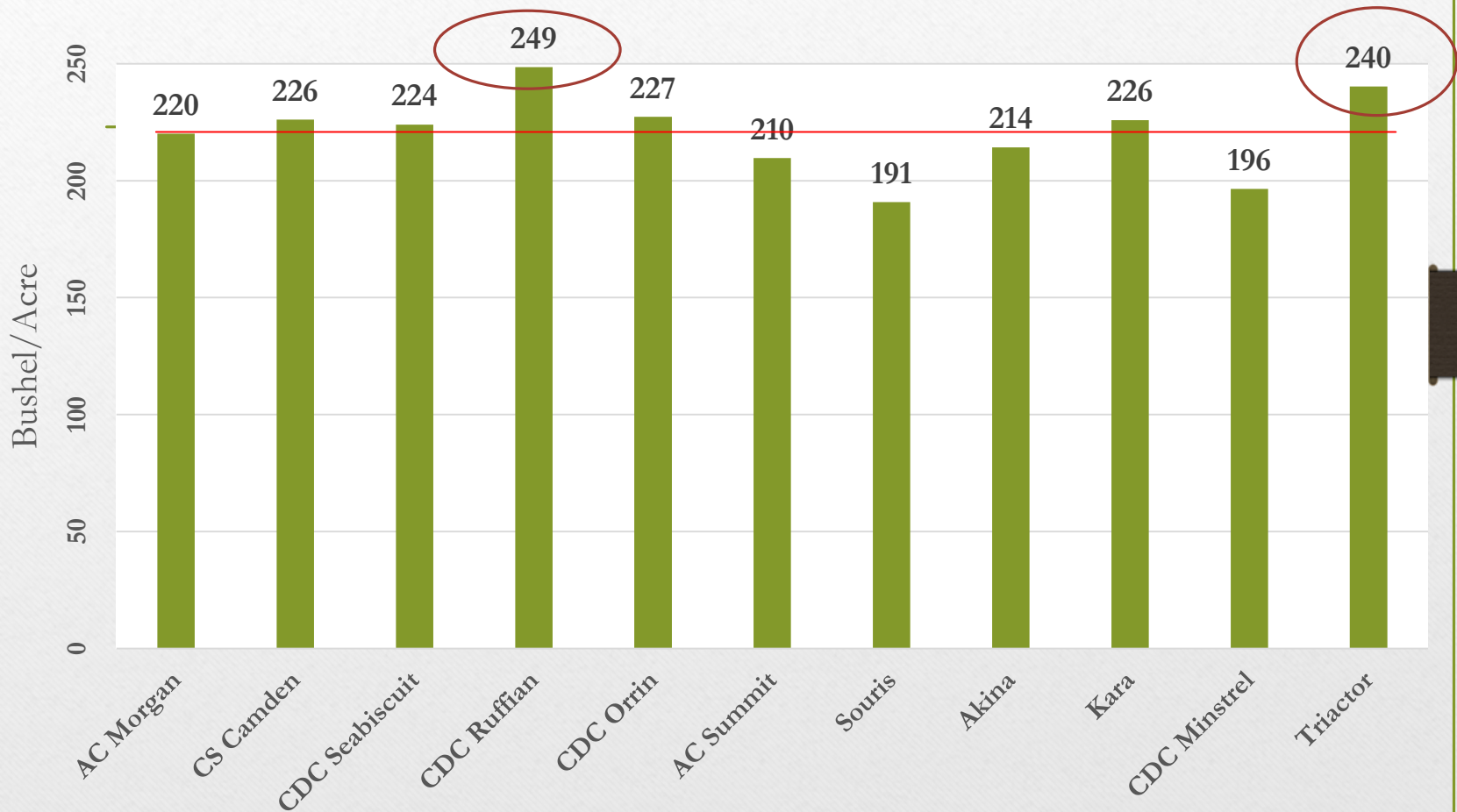


# Yield Data 2016 – Peace Region

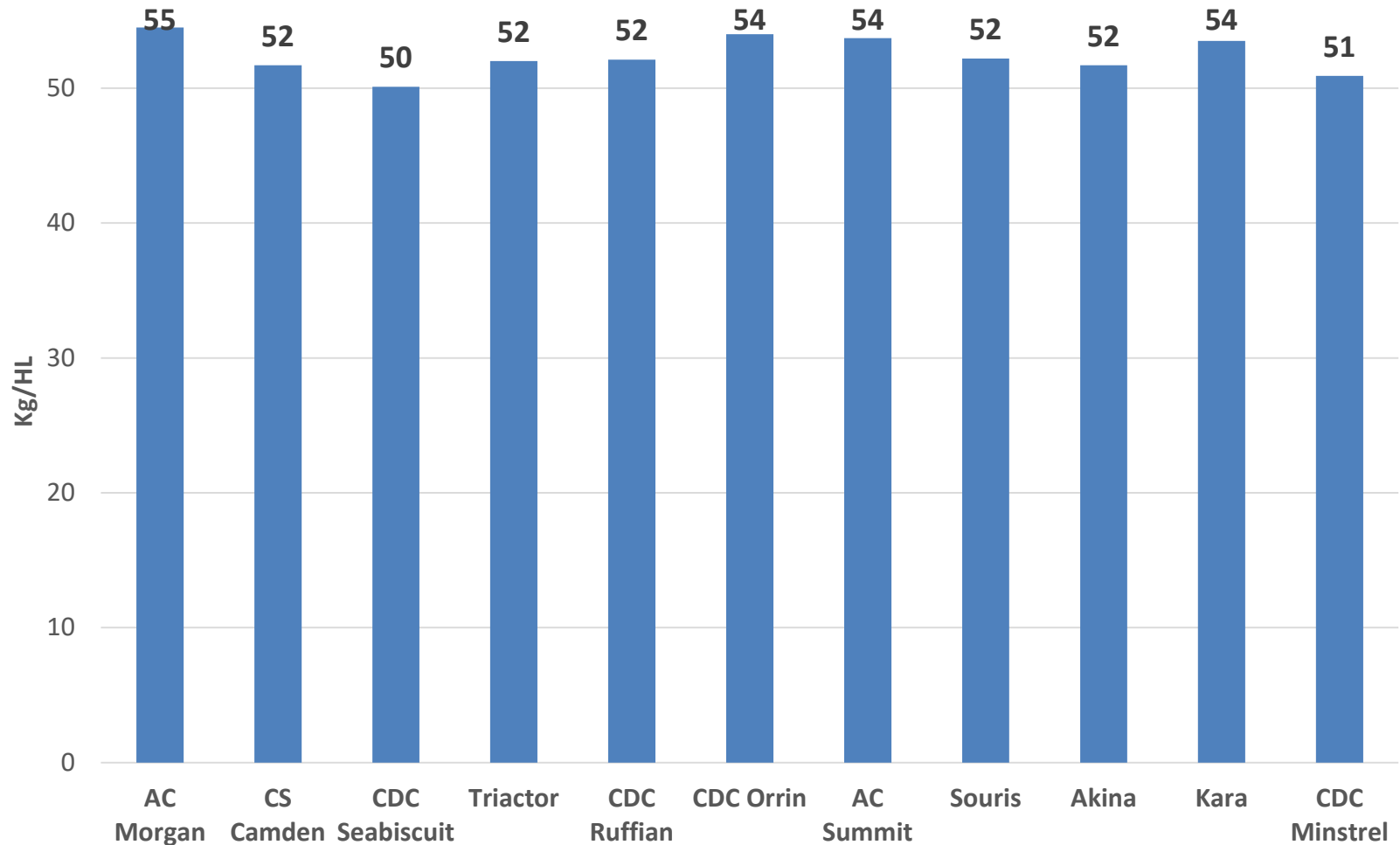




# Yield Data 2017 – Peace Region

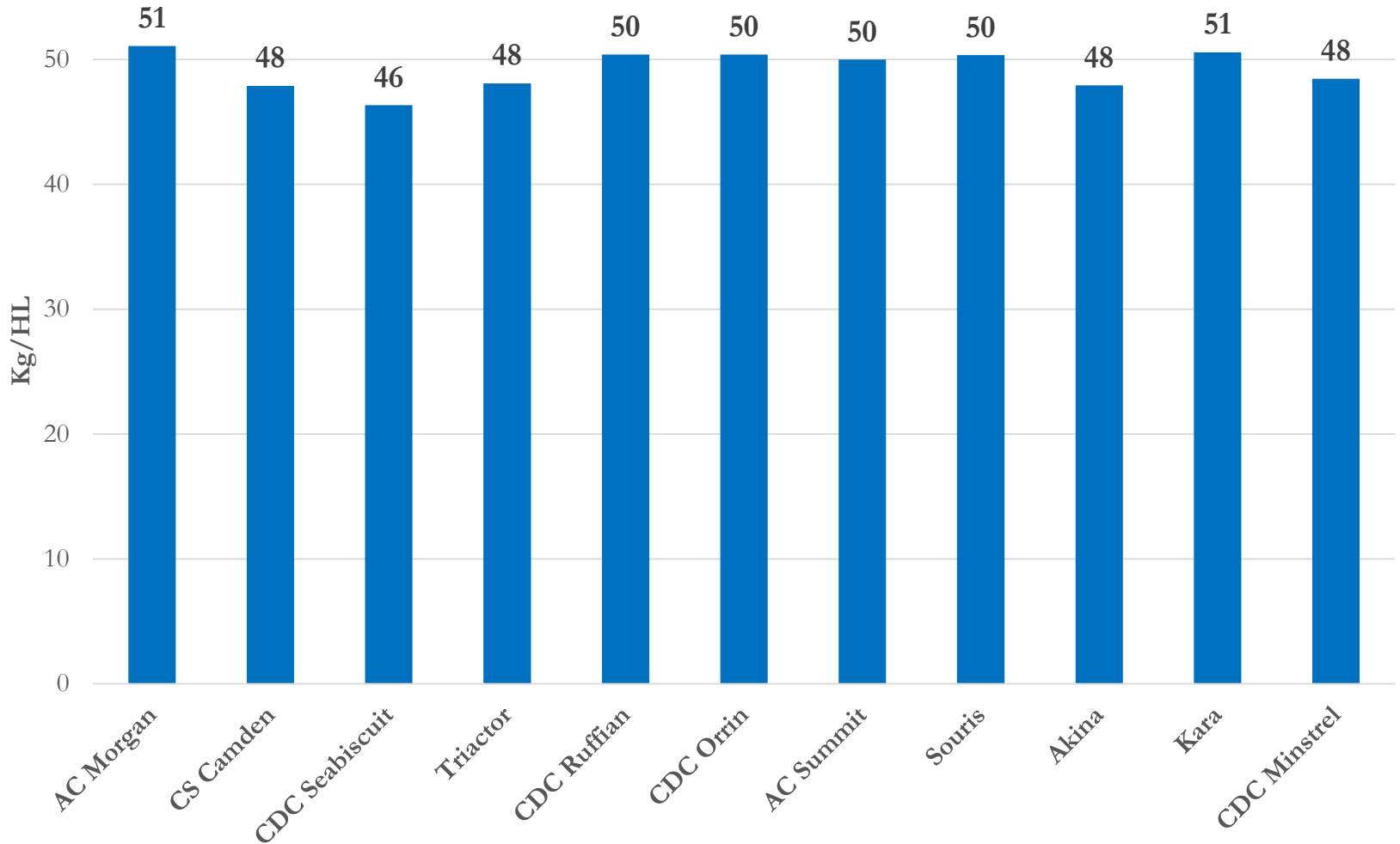


# Test weight – Westlock

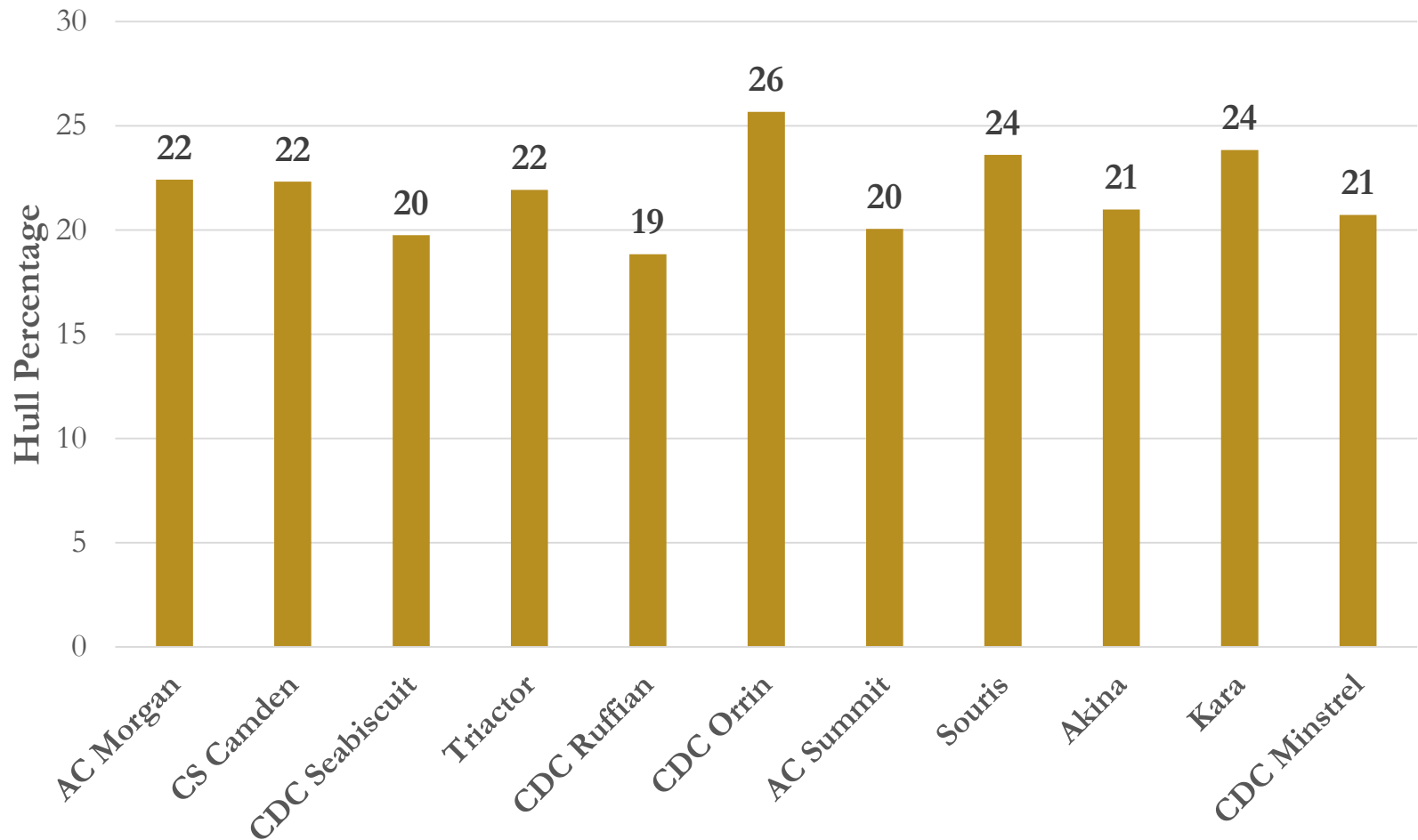




# Test weight – Peace region

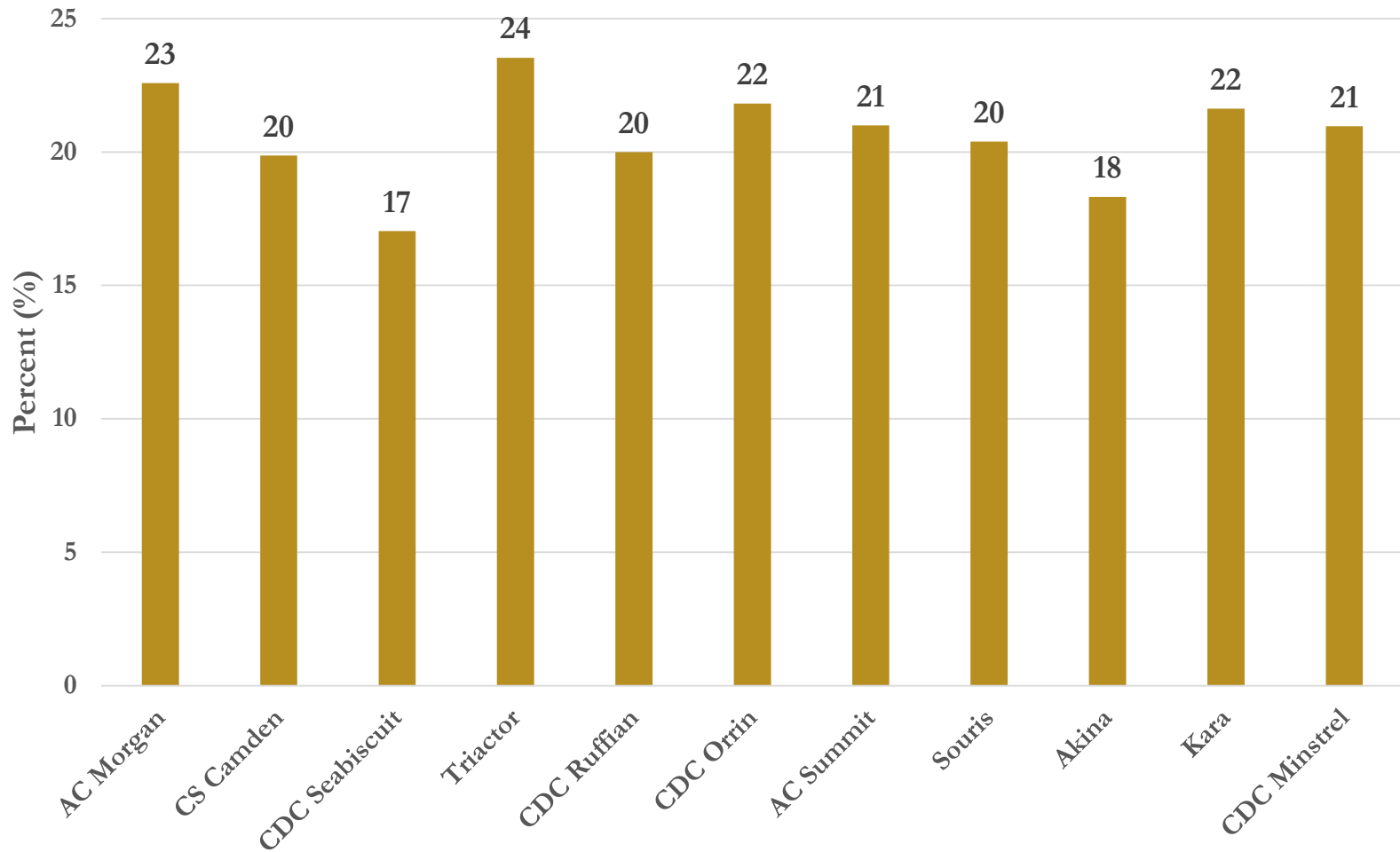


# Hull Percentage-Westlock 2017

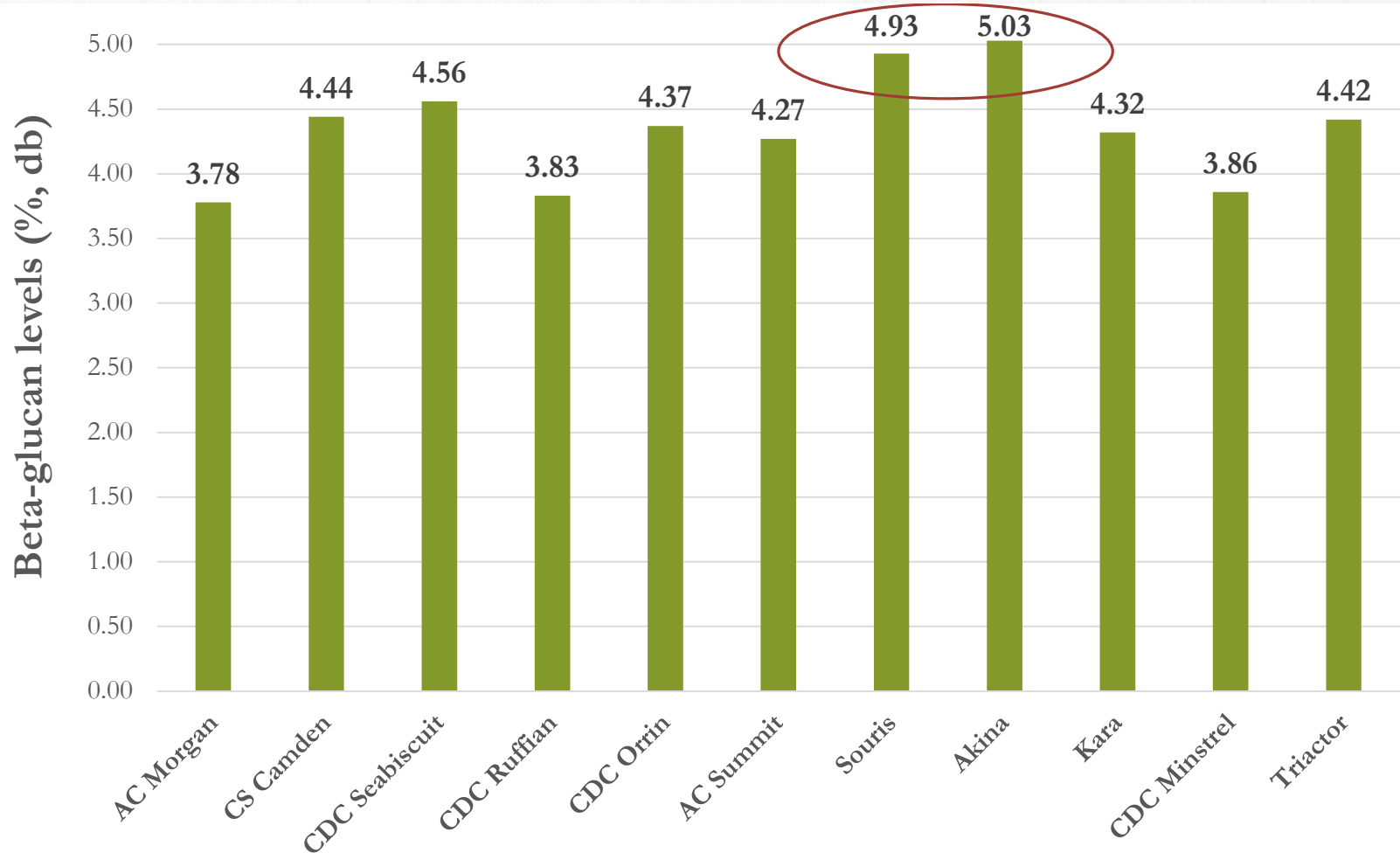




# Hull Percentage- Peace 2017

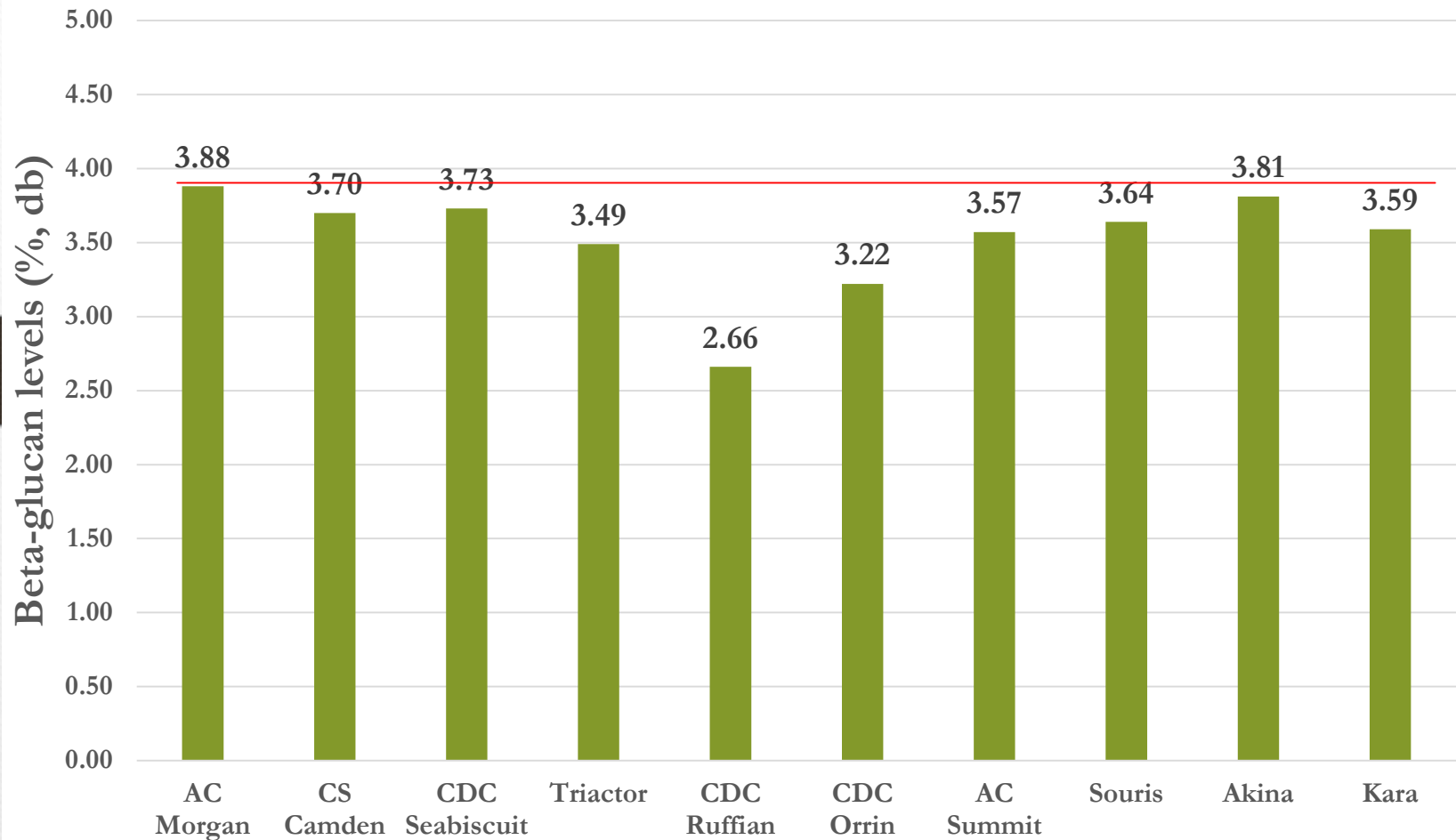


# Beta-Glucan 2016 – Westlock

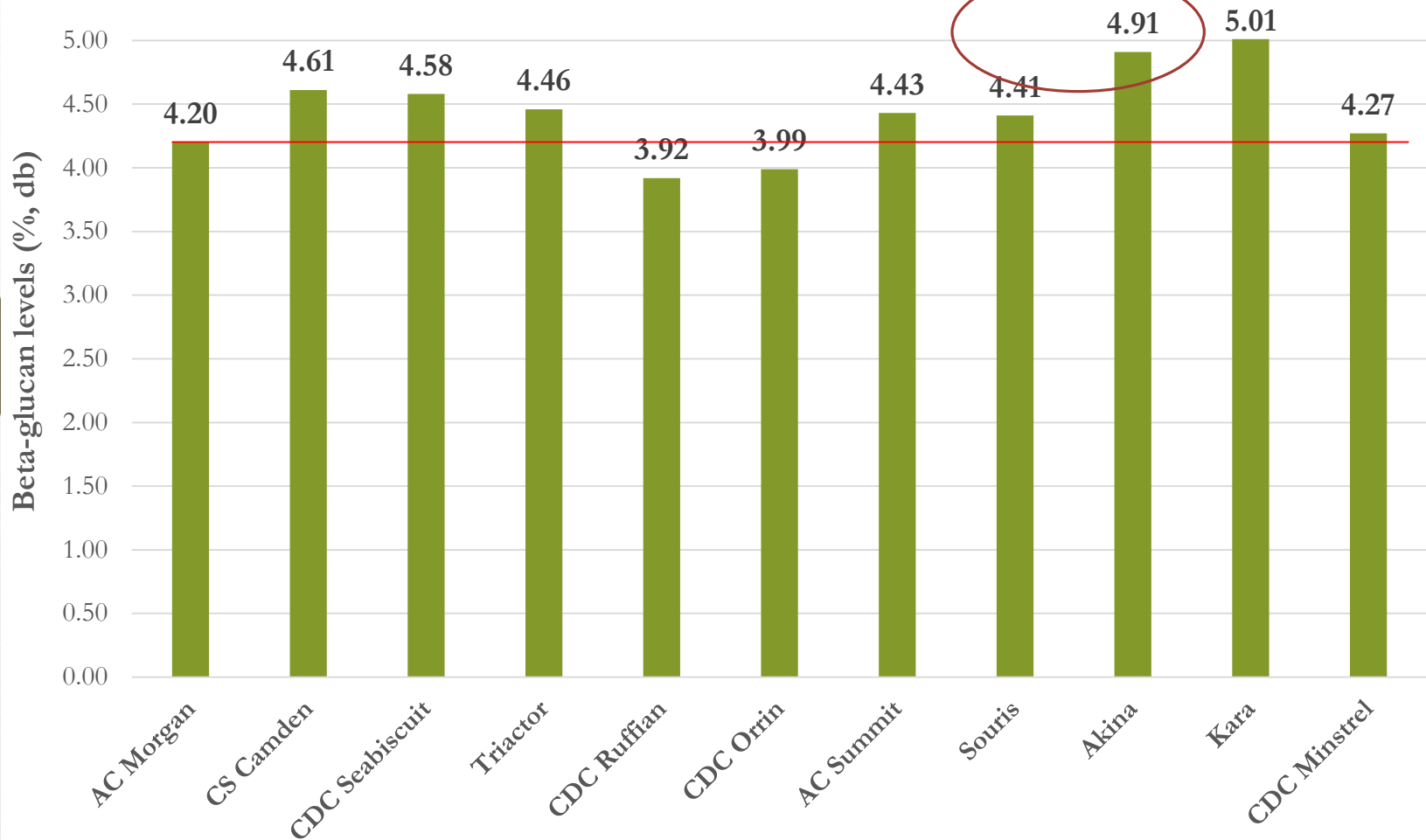




# Beta-Glucan 2017 – Westlock

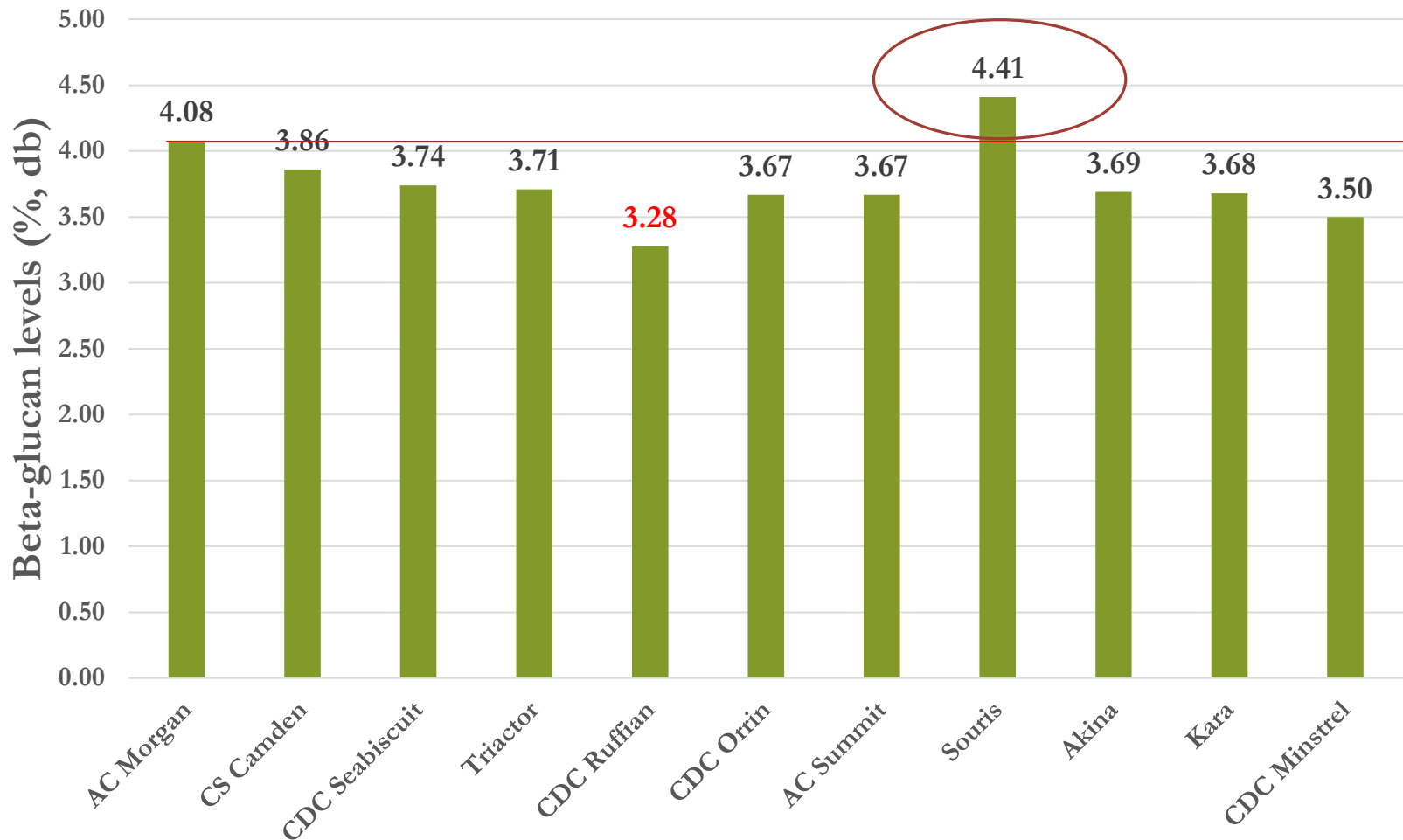


# Beta-Glucan 2016– Peace Region





# Beta-Glucan 2017– Peace Region



# Short Summary 2016

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- Significant effect of location and varietal difference for the yield as well as beta glucan level.
- CDC Seabiscuit performed very well at both locations with staying in top 3 varieties for yield and averaged above 4.5% for beta-glucan content.
- CDC Ruffian was top yielding variety for Peace region.



# Updated Summary

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- Good yield overall but lower Beta-glucan levels in Oat at both sites.
  - Excessive wet summer?
- CDC Ruffian: Highest yielding Oat variety for 2017 at both Westlock and Peace location.
  - CDC Seabiscuit had nice stand lower yields due to lodging
- We hope with more data available in next year, we would be in better position to suggest best suited variety for the specific region.



# GRO: Active on Internet

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- Our new website is:  
[www.gatewayresearchorganization.com](http://www.gatewayresearchorganization.com)
- Follow us :
- Facebook: [Gateway Research Org](#)
- On Twitter at: [@GatewayResearch](#)



# Acknowledgment



- **Prairie Oat Growers Association (POGA)**
- **Research collaborator peace region site : Smoky Applied Research and Demonstration Association**
- **FP Genetics** (financial assistance in lab analysis)
- **Dr. Thava Vasanthan** ( University of Alberta) for  $\beta$ -glucan analysis

Thanks for providing Seed donations:

- Nick Jonk
- Canterra Seeds
- Canada Seed depot
- FP Genetics
- La Coop Federee







Thank you

