

# Extruded + Pressed Canola Juncea Meal on Hog Growth Performance, Carcass Traits, and Jowl Lipid Profile

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# Why Extrusion + Pressing ?



- ↑ nutrient digestibility
- AA damage ??
- Reduce ANFs



# Extruded + Pressed Juncea Canola Meal Inclusion Levels

- 0% constant
  - 5% constant
  - 10% constant
  - 15% constant
  - 20% constant
  - 20, 15, 10, 5, 0%  
decreasing by  
phase to market  
weight
  - Growth performance
  - Carcass traits
  - Feed cost,  
margin/hog
  - Jowl lipid profiles
- 
- A photograph of a long, narrow aisle in a pig farm. The aisle is filled with many piglets of various shades of pink and brown, some standing and some lying down. The walls are white and the floor is dark. There are metal railings on both sides of the aisle. The lighting is bright, coming from overhead fixtures.

- 48 pens,  
-24 per side  
-21 ♀ or ♂
- 4 area  
blocks
- 4 pen reps  
per gender  
per canola  
inclusion  
regimen



# Extruded + Pressed *B. juncea* meal

- Seed sourced in southern Saskatchewan by Viterra
- Extruded and pressed at Apex, Egbert, AB

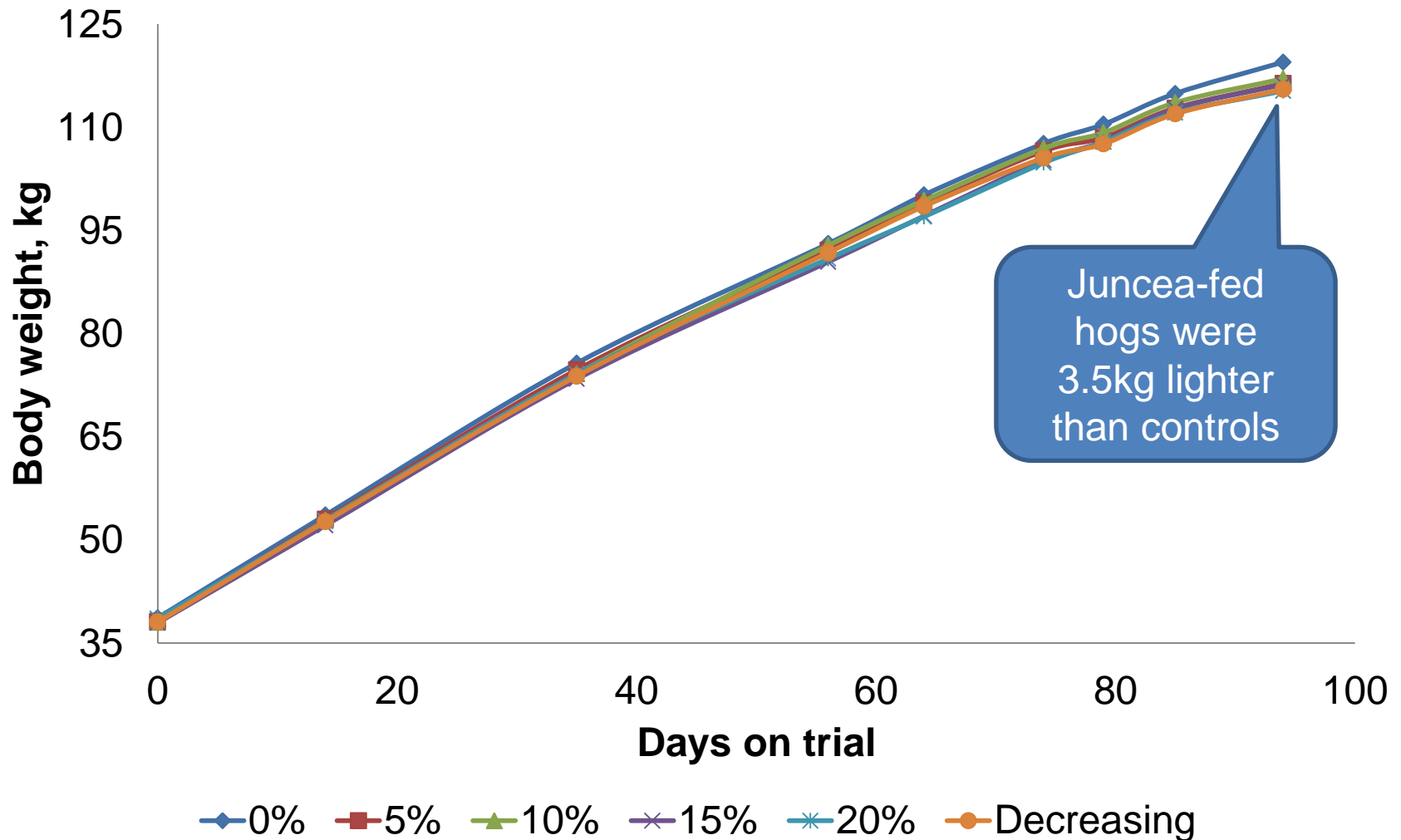
%		%	
Moisture	95.83	Lysine	1.63
E. extract	12.22	Av. lysine	1.39
Crude fibre	7.09	Threonine	1.38
Ash	6.71	Methionine	0.63
ADF	13.57	Cysteine	0.71
NDF	22.77	Tryptophan	0.44
Phosp.	1.04	NE, Mcal/kg <sup>1</sup>	2.20

# Grower & Finisher Diets

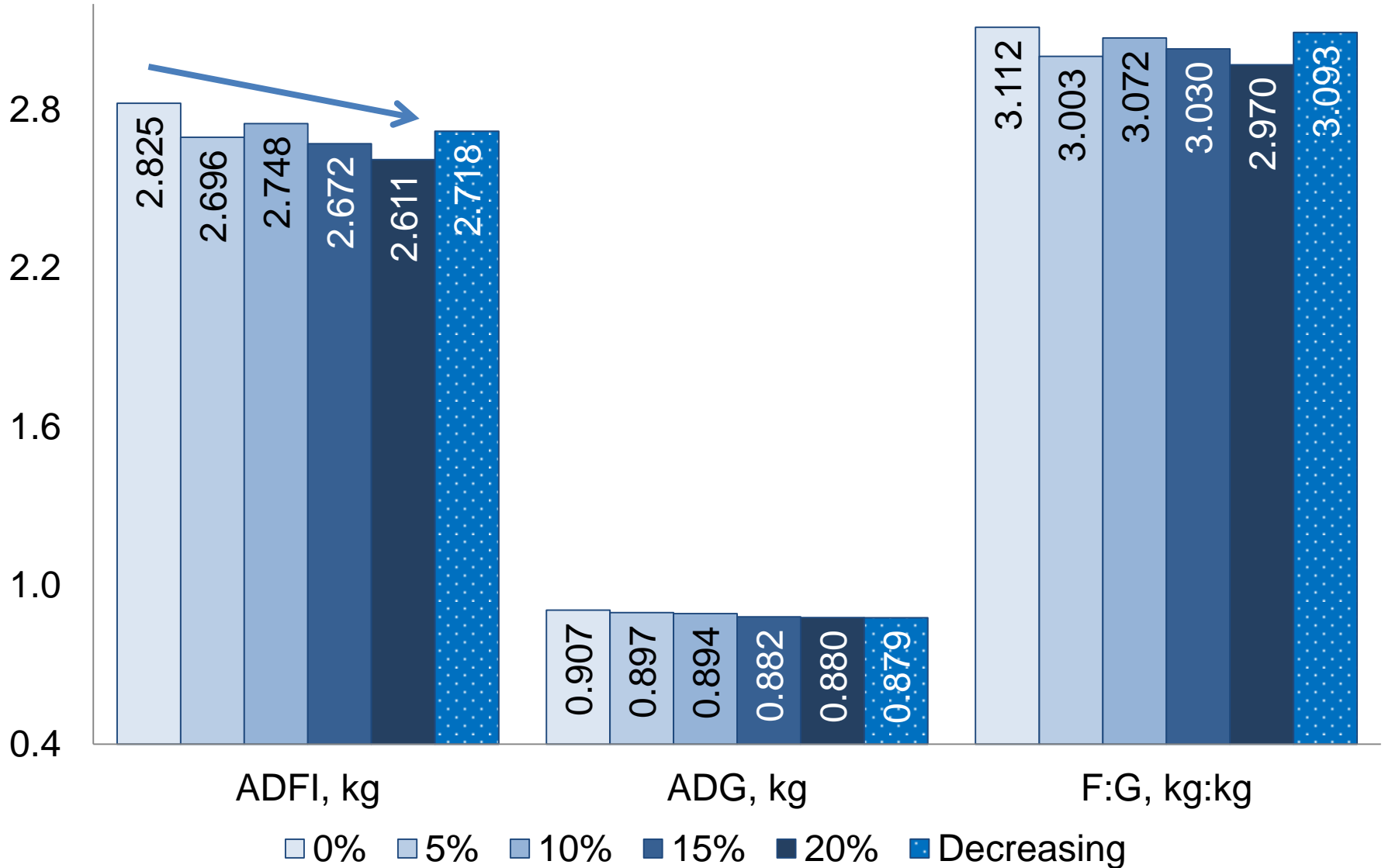
- <sup>1</sup>Concluded that EvaPig™ overestimated NE. Used SE CM 1.6 Mcal/kg; liquid oil 7.8 Mcal/kg x 0.8 assumed available
- SID AA coefficients used as per Seneviratne et al.
- Fed 5 growth phase, wheat-barley diets (2.3 NE Mcal/kg)
- Extr+press canola meal replaced lentil, SBM, and grain
- WDDGS => 25% in G1, G2; 20% in G3, F1, F2

	<u>Grower 1</u> <u>d 0 – 21</u>	<u>Grower 2</u> <u>d 21 - 42</u>	<u>Grower 3</u> <u>d 42 - 63</u>	<u>Finisher 1</u> <u>d 63 – 77</u>	<u>Finisher 2</u> <u>d77 to mkt</u>
SID lys:NE, g/Mcal	4.1	3.7	3.3	3.1	2.8
Avail P, %	0.35	0.32	0.28	0.25	0.25

# Feeding Extruded + Pressed *B. juncea* meal on Hog Body Weights

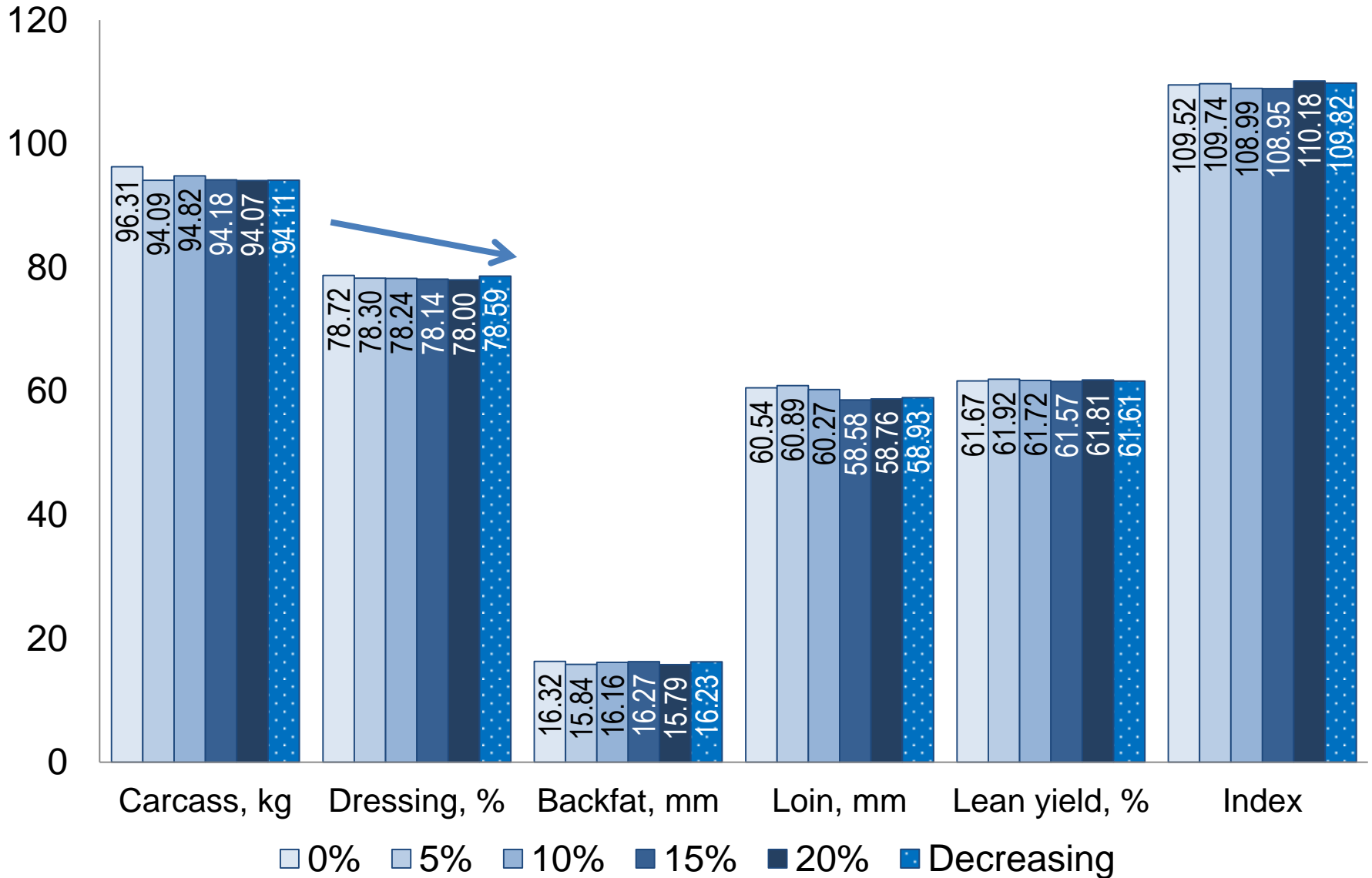


# Feeding Extruded + Pressed *B. juncea* meal on Overall Hog Performance

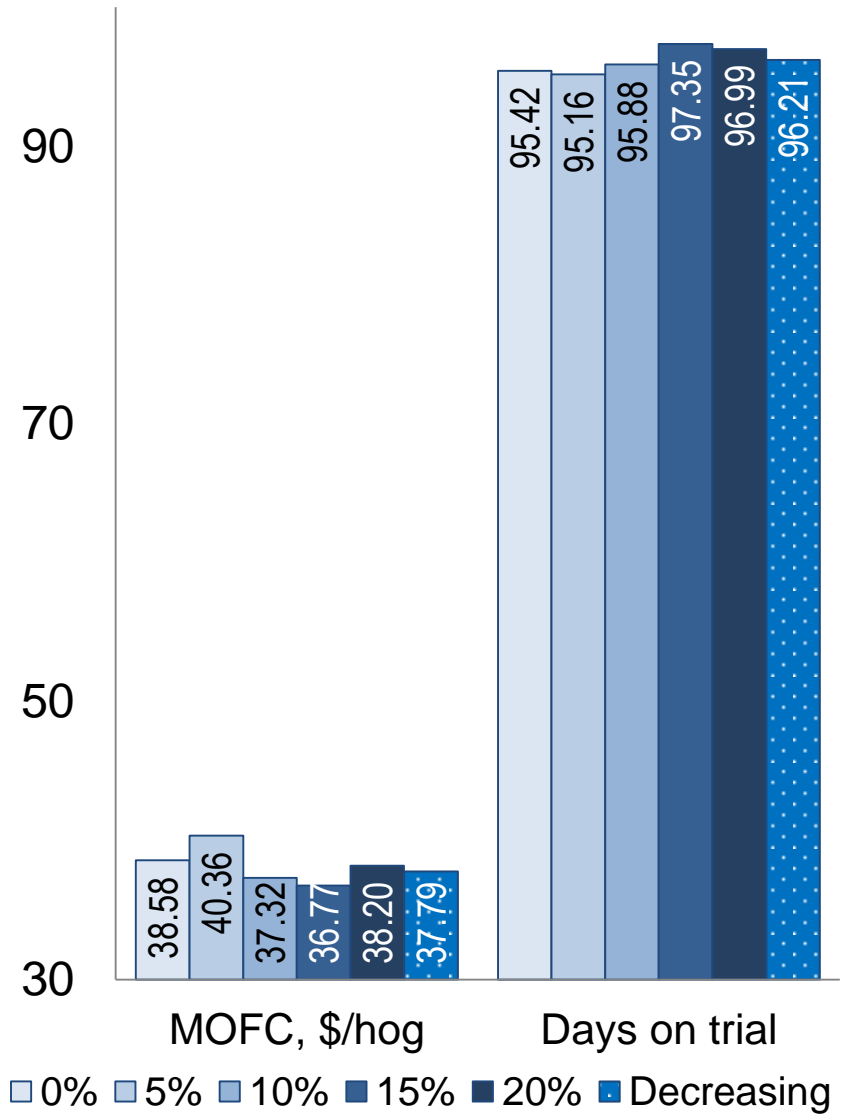
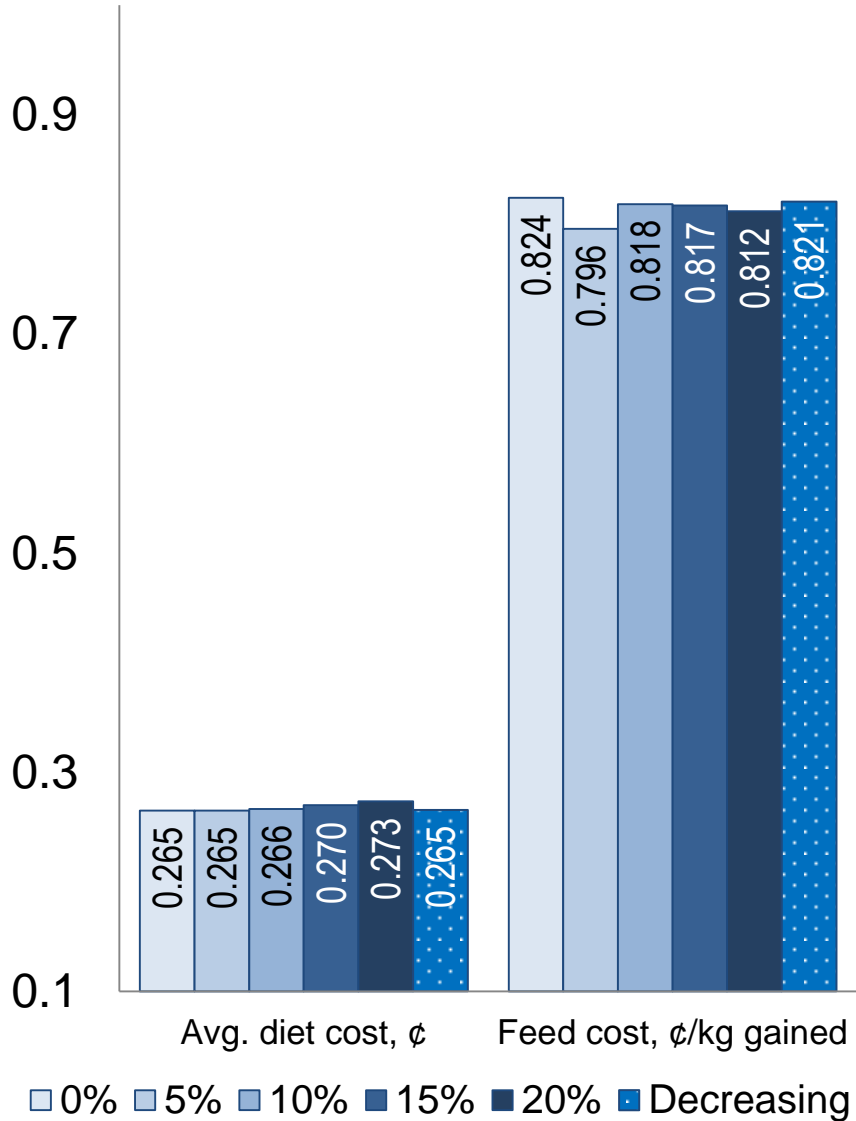




# Feeding Extruded + Pressed *B. juncea* meal on Hog Carcass Traits



# Feeding Extruded + Pressed *B. juncea* meal on Feed Cost, Margin per Hog



# Glucosinolates in Extruded + Pressed *B. juncea* vs. *B. napus* from APEX

µmol/g	<i>B. napus</i>	<i>B. juncea</i>
Allyl	0.06	0.20
<b>3-butenyl</b>	2.13	<b>9.75</b>
4-pentenyl	0.23	0.39
<b>2-OH-3-butenyl</b>	<b>3.28</b>	0.84
2-OH-4-pentenyl	0.09	-
CH <sub>3</sub> -thiobutenyl	0.1	-
Phenylethyl	0.09	0.19
CH <sub>3</sub> -thiopentenyl	0.06	-
3-CH <sub>3</sub> -indolyl	0.23	-
<b>4-OH-3-CH<sub>3</sub>-indolyl</b>	<b>2.26</b>	<b>1.71</b>
Total aliphatics	5.73	10.99

# Conclusions

- ***Looks like...*** feeding increasing levels of extruded+pressed *B. juncea* up to 20% ...
  - Reduced final trial body weight by 3.5kg vs. controls
  - At 10, 20%, it increased barn occupancy by ~2 days
  - Linearly reduced ADFI, ADG, F:G
  - Reduced carcass weight vs. controls
  - Linearly reduced dressing %, but didn't affect other carcass traits
- Meal cost was unrealistically high. Canola #1,2 used instead of largely off-grade canola seed crushed by local plants