

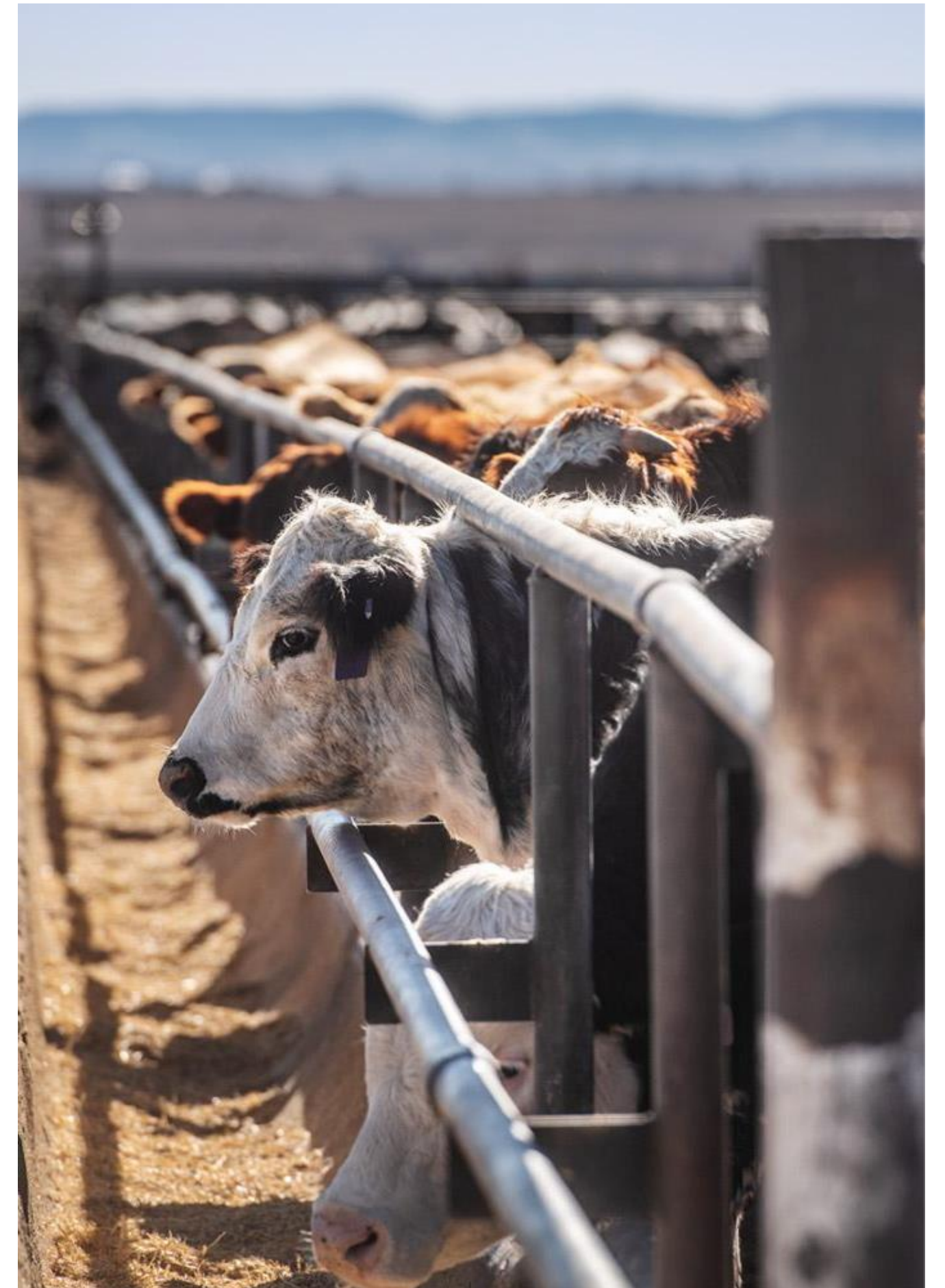


# Feeding Strategies for different Targets

Western Canadian Feedlot School

12<sup>th</sup> February 2025

Darryl Gibb



# Feeding program (DM basis)

	1	2	3	4	5	6
Barley	23.00	34.00	50.00	61.00	72.00	83.00
Supplement	2.00	2.00	2.00	2.00	2.00	2.00
Chopped hay	15.00					
Silage	50.00	54.00	43.00	32.00	21.00	10.00
DDG	10.00	10.00	5.00	5.00	5.00	5.00
Total	100.00	100.00	100.00	100.00	100.00	100.00

# Feeding program (AF basis)

	1	2	3	4	5	6
Barley	13.94	19.92	31.99	43.02	56.54	73.54
Supplement	1.10	1.06	1.16	1.28	1.42	1.61
Chopped hay	8.89					
Silage	70.15	73.28	63.72	52.26	38.19	20.52
DDG	5.92	5.73	3.13	3.45	3.84	4.33
Total	100.00	100.00	100.00	100.00	100.00	100.00

# Silages compared

- In feedlot diets, forages are included to dilute energy content and optimize intakes and digestive health.

	Barley Silage <sup>a</sup>	Wheat silage <sup>b</sup>	Corn Silage <sup>c</sup>
Dry matter, %	35	35	35
Protein, %	12	12	8.5
TDN, %	64.6	61.3	68%
NDF, %	47.5	51.1	44
Starch, %	15.5	12.5	25
Valued <sup>d</sup>	100	88.2	176

<sup>a</sup> From 5643 samples analyzed at CVAS since from 2020 - 2023

<sup>b</sup> from 460 samples analyzed at CVAS since from 2020 – 2023

<sup>c</sup> from samples personally collected.

<sup>d</sup> based on calculated performance differences when included at 8% of the diet

# Barley silage compared to Wheat silage; MCS Pereira and others 2021

- Barley silage had higher starch (27.2 vs 21.9%) and energy (67 vs 64.6% TDN) content
- Based on performance differences when barley or wheat silage was included at 8% in a finishing diet, **energy differences are at least as big as CVAS averages indicate.**
- Know what you are feeding.
- Energy calculations reported on lab analysis should consider NDF, protein, fat, lignin and ash as a minimum
- Differences in forage quality can influence performance, even when included at low levels in finishing diets.
- **Forage quality influences, intakes, performance and digestive health**

Energy is the primary driver of intakes,  
performance, and digestive health



# Value of increasing dietary energy

Feed	\$/MT	DM, %	1	2	2LF	3
Barley	\$300.00	88%	20.00	40.00	40.00	60.00
DDG	\$330.00	87%	10.00	10.00	10.00	10.00
Cornsil	\$90.00	35%	70.00	50.00	50.00	30.00
Total			100.00	100.00	100.00	100.00
Weight, lbs			600	600	600	600
days			120	120	120	120
End wt., lbs			895	928	894	958
DMI, lbs			16.40	16.54	15.30	16.57
ADG, lbs			2.46	2.73	2.45	2.99
F/G			6.68	6.05	6.24	5.55
Live COG			1.14	1.06	1.10	0.99

# Managing competition

(reducing eating rate)

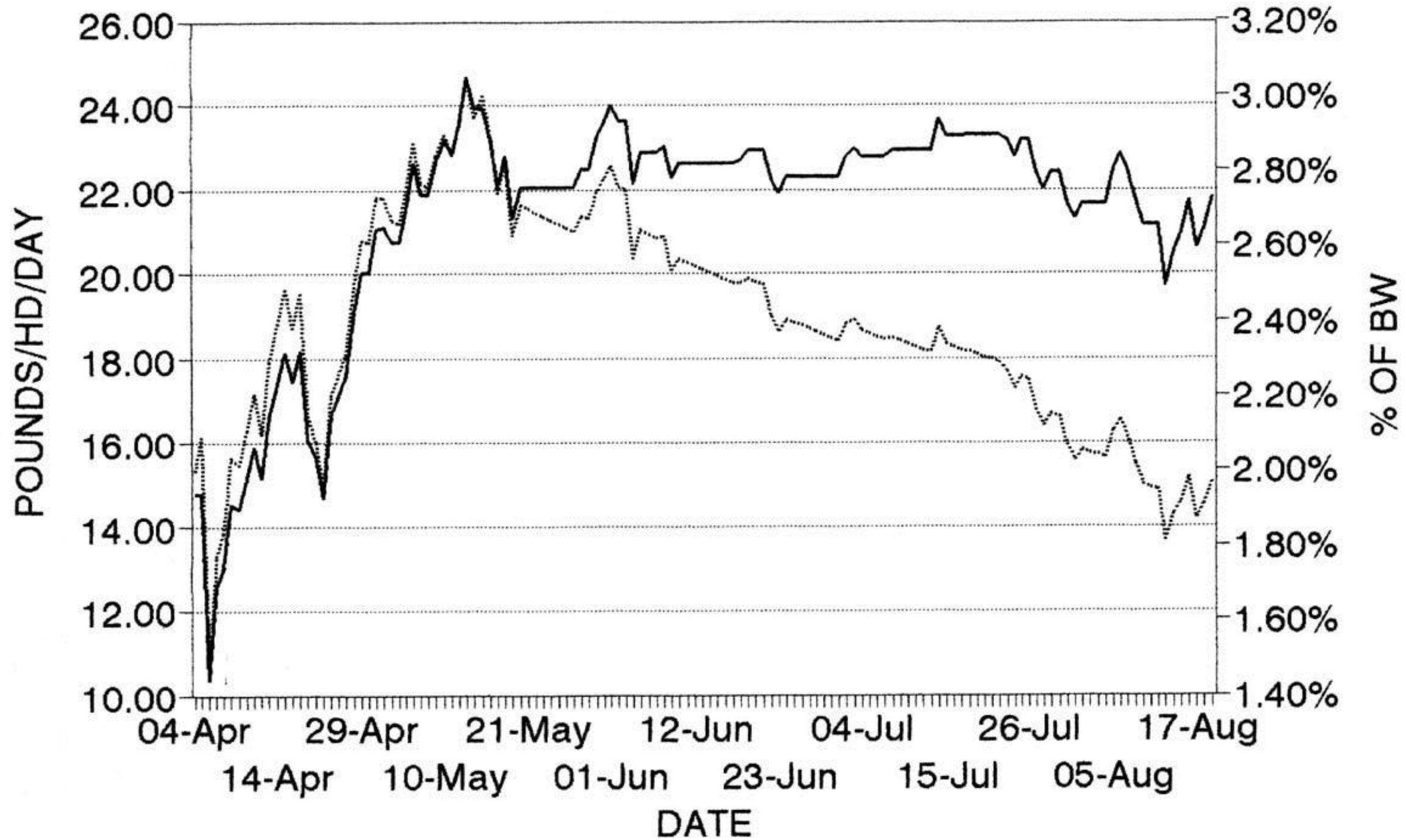
- Increased use of course forages to slow down eating rate
- Increase monensin levels
- Time 2<sup>nd</sup> feed delivery to coincide with periods of low eating activity (afternoon)
- Large variation in eating rates of individuals helps compensate for unequal bunk access.



# Aggressive appetites and bunk space

- Limit feeding high energy diets to hit targets is often under utilized (back grounding, dry lotting cows in drought years)
- Bunk space ranged from 5 to 18 inches per calf
- Decreasing bunk space of limit fed calves did not increase variation of ADG of calves in the pen
- *Translational Animal Science*, 2022 Volume 6, Issue 3;
- *J. Anim. Sci.* 1989 67:853-857
- *The Professional Animal Scientist* 1996 12:167-175

# PEN A4 - Avg. DMI



— INTAKE, LBS      ..... INTAKE, % OF BW

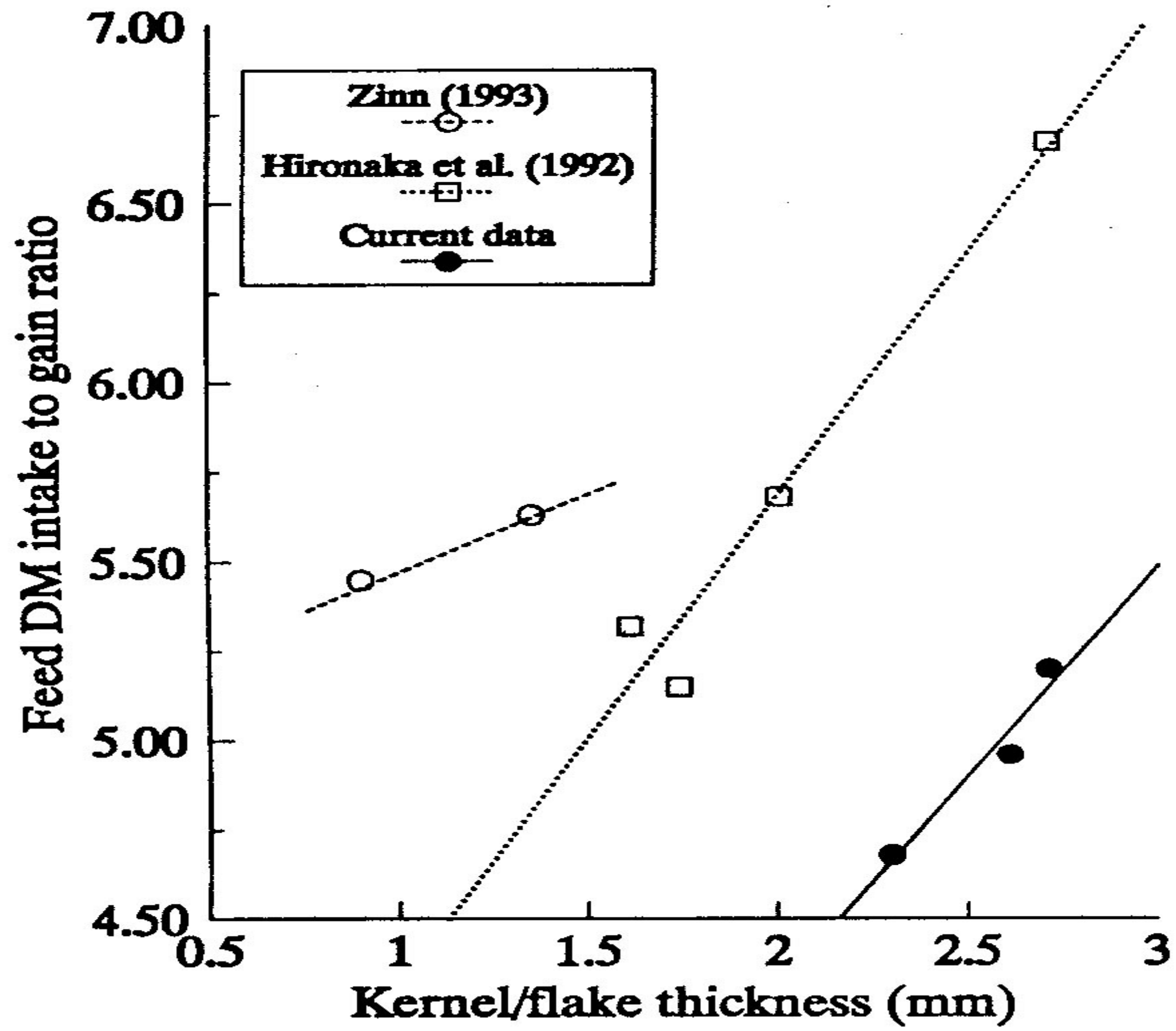
# Finishing diets: Similar energy incentives

- but with less opportunity to increase grain levels
- select ingredients with the lowest cost of energy
- increase energy content through aggressive processing

	\$/tonne	% DM	NE <sub>m</sub> , Mcal/kg	\$ / Mcal, NE <sub>m</sub>
Alfalfa	\$220	86%	1.4	\$0.183
Barley silage	\$85	35%	1.44	\$0.169
Corn silage	\$85	35%	1.56	\$0.156
Rolled barley	\$290	88%	2.06	\$0.160
Rolled corn	\$300	86%	2.04	\$0.170
Tallow	\$1,100	99%	4.75	\$0.234

# Value of high energy ingredients

	% DM	\$/MT	Barley	Tallow	Wheat	DR Corn	SF Corn
Barley	88.0%	\$310.00	83.00	77.00	40.00		
Wheat	88.0%	\$317.00			48.00		
DR Corn	86.0%	\$300.00				71.00	
SF Corn	84.0%	\$345.00					73.64
B Silage	38.0%	\$85.00	10.00	10.00	10.00	10.00	10.00
supp	97.0%	\$600.00	2.00	2.00	2.00	2.00	2.00
Tallow	99.0%	\$1,175.00		4.00			
C DDG	90.0%	\$315	5.00	7.00		17.00	17.00
Total			100.00	100.00	100.00	100.00	100.00
COG			\$1.221	\$1.222	\$1.219	\$1.220	\$1.221



# Type and extent of barley processing

Nixdorff et al.,2020

	Dry roll	Temp Roll	Coarse Flake	Medium Flake	P Value
DMI, Kg/d	12.71 <sup>a</sup>	12.69 <sup>a</sup>	11.61 <sup>b</sup>	10.76 <sup>c</sup>	<0.001
ADG, kg/d	2.34 <sup>a</sup>	2.3 <sup>a</sup>	2.28 <sup>ab</sup>	2.16 <sup>b</sup>	0.009
G/F	0.185 <sup>b</sup>	0.181 <sup>b</sup>	0.197 <sup>a</sup>	0.201 <sup>a</sup>	<0.001
Fecal starch, %	14.83 <sup>a</sup>	17.93 <sup>a</sup>	2.40 <sup>b</sup>	1.59 <sup>b</sup>	<0.001
Starch dig., %	95.84 <sup>b</sup>	93.55 <sup>c</sup>	99.54 <sup>a</sup>	99.39 <sup>a</sup>	<0.001

COG, \$/lb

\$0.965

\$0.915

600 lbs gain = \$30/hd advantage with steam flaking

# Lessons learned

- Aggressive processing can result in large improvements in starch digestibility, feed efficiency, and COG
- Too much ruminally available energy can reduce intakes enough to reduce gains

# Level of forage in finishing diets to obtain max response

	Alfalfa		Corn silage		
	<u>Whole corn</u>	<u>Rolled corn</u>	<u>Whole corn</u>	<u>Rolled corn</u>	
DMI	Linear increase with increasing levels of both types of roughage				
ADG	10	16	39	16	
FE	Linear increase in feed/gain with increasing levels of roughage				



# Impact of an additional 42 DOF

Galyean et al 2023

	Steers	Heifers	Holstein
DMI, lb/d	0.23	0	0.71
ADG lb/d	-0.22	-0.29	0.02
Feed/Gain	0.41	0.02	NS
HCW, lbs	85.45	79.44	82.46
Dressing %	1.05	1.25	0.45
LMA, cm <sup>2</sup>	1.00	3.85	1.44
Backfat, cm	0.22	0.29	0.08
% choice	11.71	2.77	17.75
YG 4 & 5	10.02	10.71	2.05

# Optimum end weight considerations

## **Feed/Gain and COG increases with increasing animal weights**

- Carcass transfer is the percentage of live gain that is carcass gain
- Carcass transfer (and dressing percent) increase with increasing DOF. Large increase with Beta modifiers
- Resulting in reduced impact on performance and economics.

Feed Name	\$/TONNE	1	2	3
Barley	\$300.00	90.00	90.00	90.00
B Silage	\$85.00	10.00	10.00	10.00
Total		100.00	100.00	100.00
\$/MT AF		\$256.00	\$256.00	\$256.00
\$/MT DM		\$329.19	\$329.19	\$329.19
		-----	-----	-----
Weight, lbs		1500	1500	1500
DMI, lb/hd/d		20	17.5	15
DMI, %BW		1.33%	1.17%	1.00%
Live ADG, lbs		1.99	1.46	0.91
Live F/G		10.06	12.00	16.48
Live COG		1.80	2.20	3.12
Carcass transfer, %		85%	85%	85%
Carcass ADG		1.69	1.24	0.77
Carcass COG		2.12	2.59	3.67

# Supplementation

- Compared to a pellet, a concentrated mash supp typically has about \$0.03/hd/d value
- Compared to a mash supp, a micro machine through UFA + limestone/salt will save at least \$0.03/hd/day in a finishing diet, fewer additives results in less incentive in a backgrounding diet.
- Compared to a UFA machine, an independent machine will save an additional \$0.02/hd/, but has additional costs and risks.

- Questions?

# Other

- Use technologies to improve performance and reduce COG
  - Implants with a focus late in the feeding period
  - Experior
- The onslaught of information can be overwhelming. Work with trusted

# Bunk Management

## Regular empty bunks

- Finishing cattle:
  - Waste, settling, sorting
  - Increased interest / attention to detail
- Backgrounding cattle
  - Cost of energy usually cheaper from grain
  - Managing cattle aggression

# Bunk Management

- Thumb rules
  - Deliver majority of feed in afternoon
    - get around the feedlot quicker in the morning.
    - Metabolic advantages to digesting feed later in the day.
  - A slick bunk is not the objective, but it is a common result of a good feeding program.



Reference the Overview deck for deck assets  
And icons for agribusiness

Additional icons and imagery on  
TAC One Brand Corner

# Take advantage of available resources

- Computerized systems
- Technologies
  - Implants
  - Lactipro
  - Beta modifiers
- Information. Work with a trusted consultant.

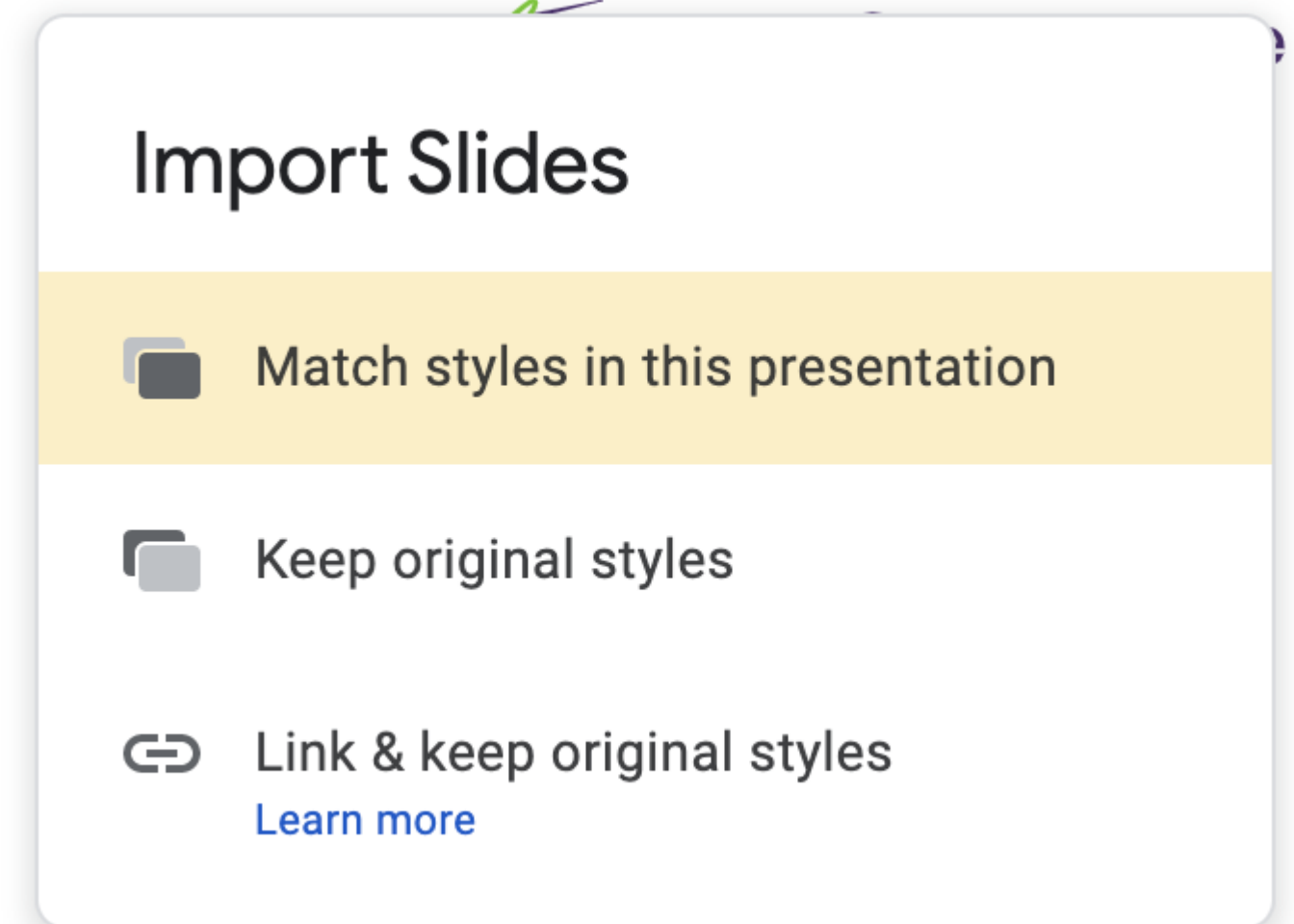
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- Only use TELUS approved imagery and assets available on [TAC One Brand Corner](#)
- Presentations should always end with “let’s make the future friendly” tagline and logo slide
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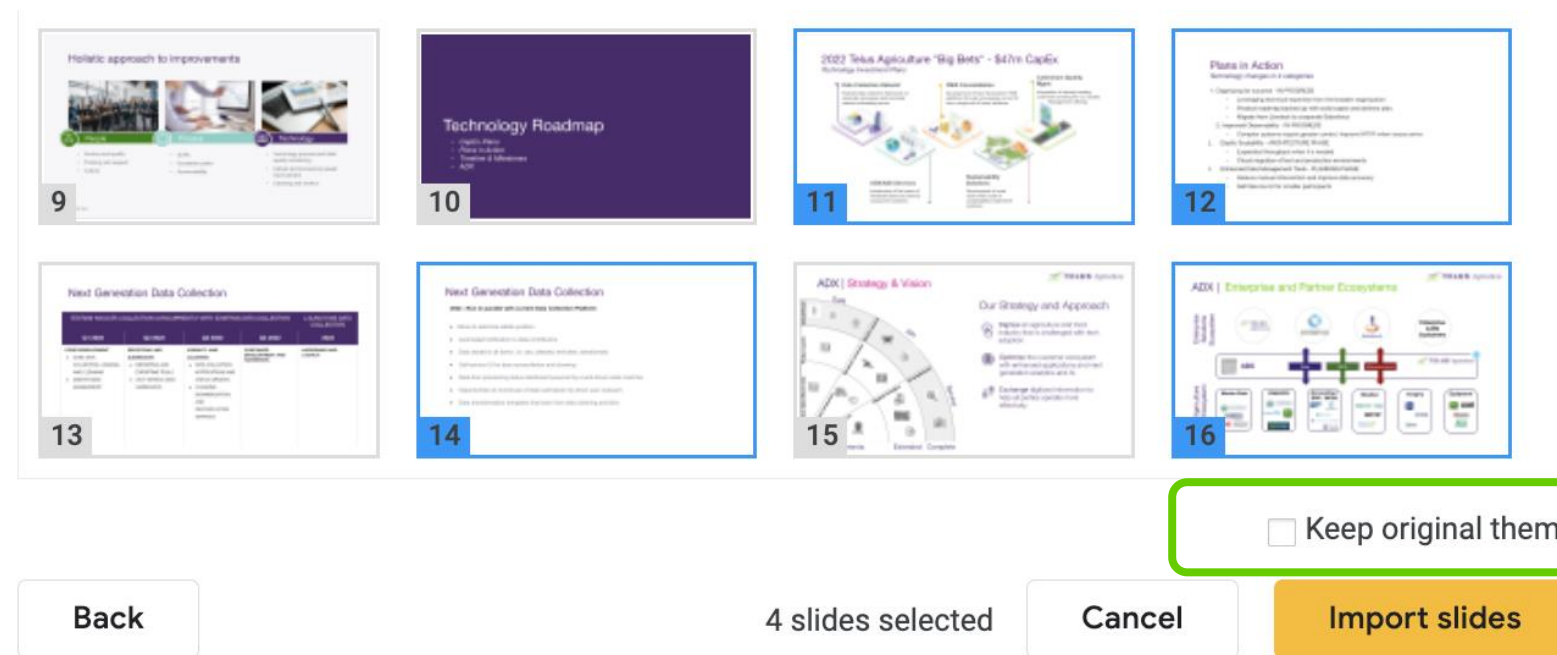
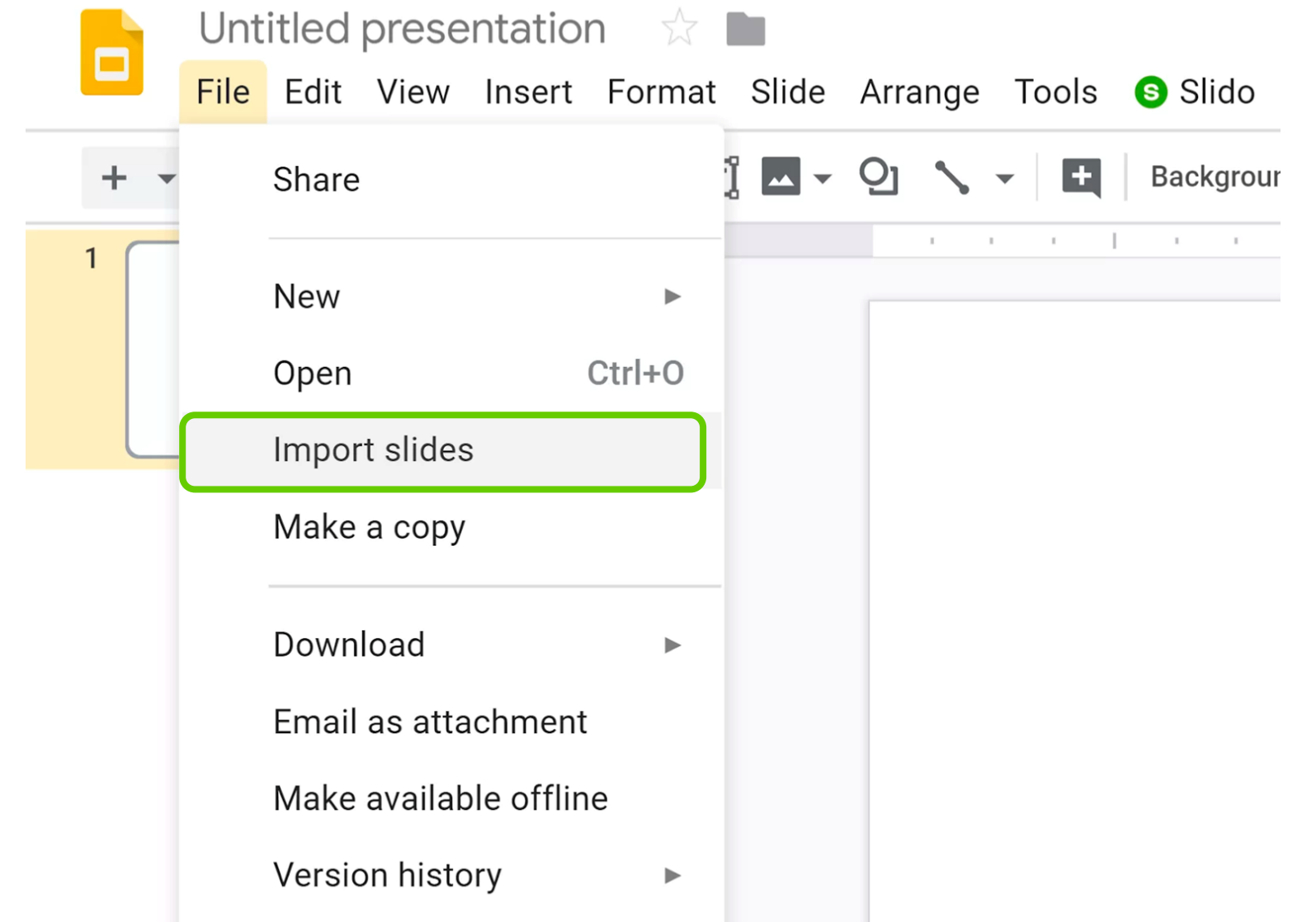
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# Headers should be simple at 48pt and in sentence case up to two lines

Body copy at 28pt in dark gray #2C2E30 and is in Helvetica Neue regular. Light is used a lot in TELUS branding but TAC brand prefers a slightly bolder look.

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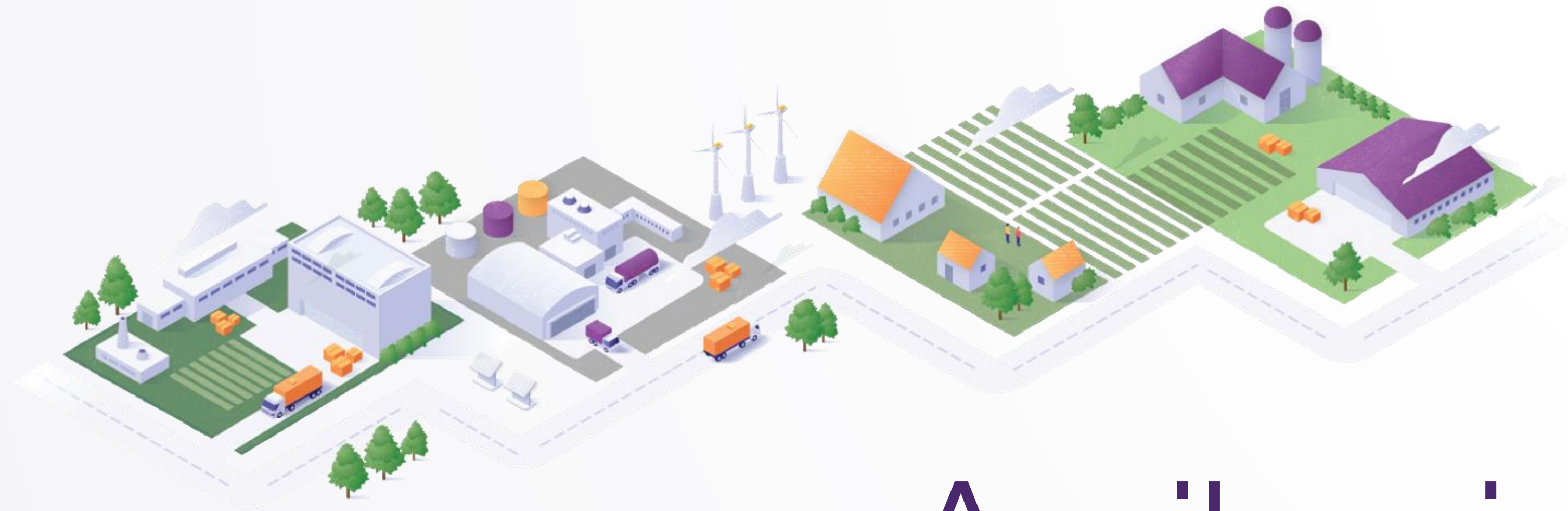


Section intro slide



Section intro slide

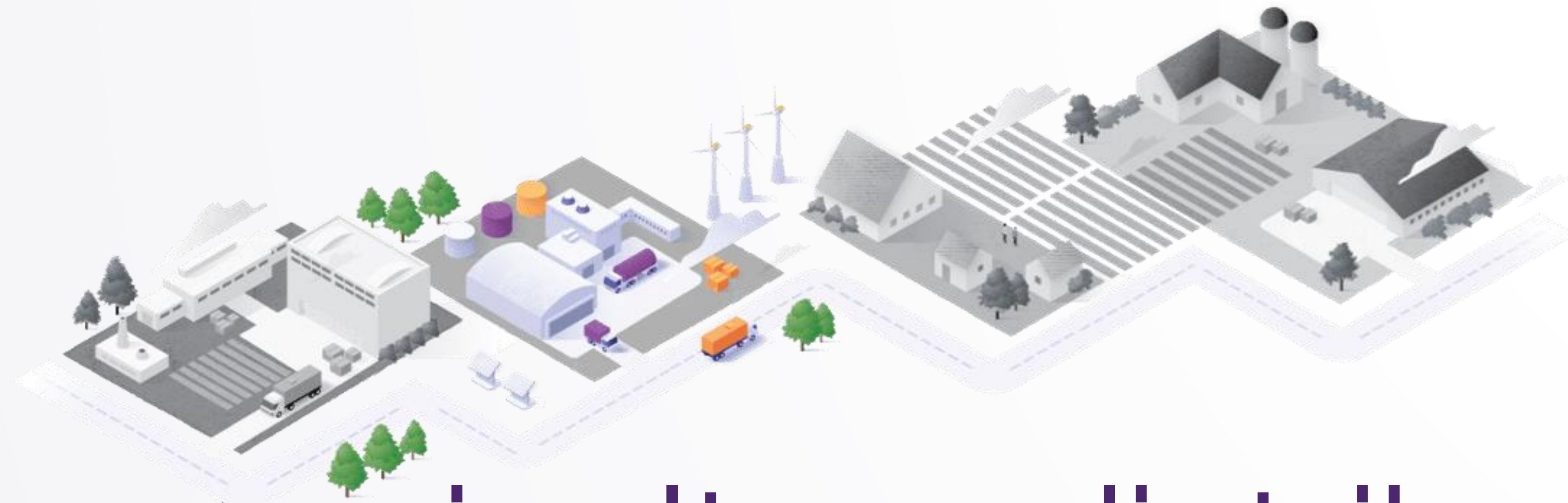




# Agribusiness ecosystem



# Agriculture manufacturers



# Agriculture distributors & retailers

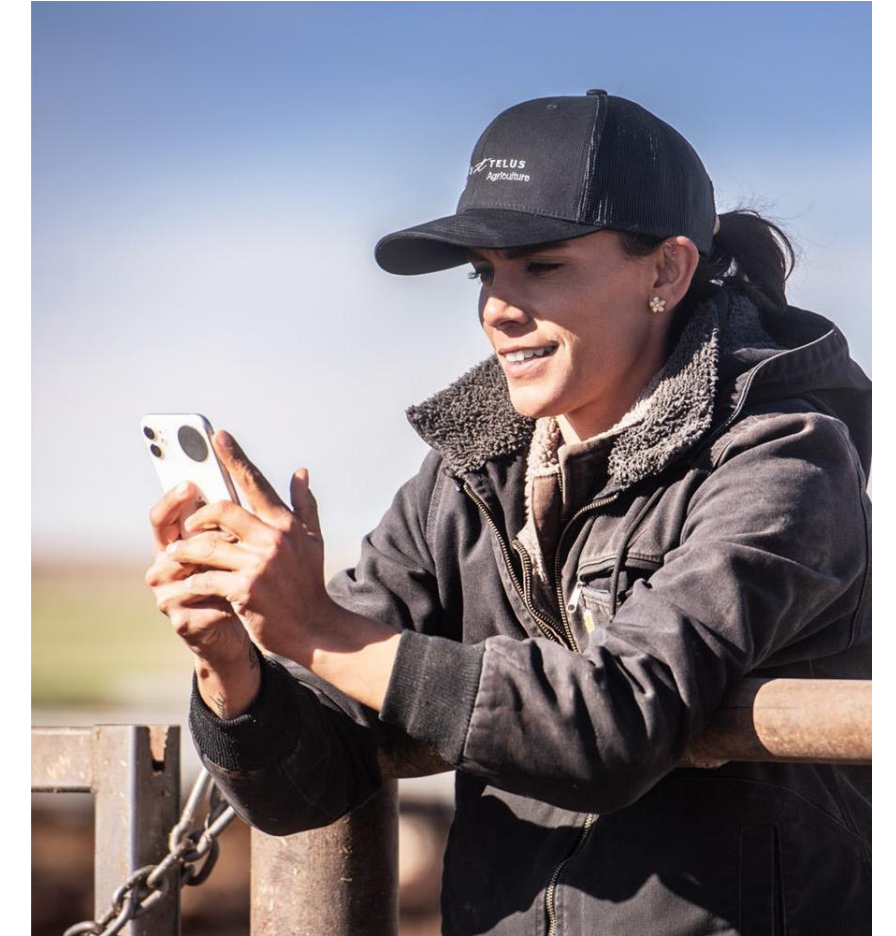


# Advisors



# Farmers

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