



Animal Feed initiatives

Dr. Ryan Mass
Director of Nutrition &
Feed Development

Our Vision for Corn Biorefining



Increased efficiency

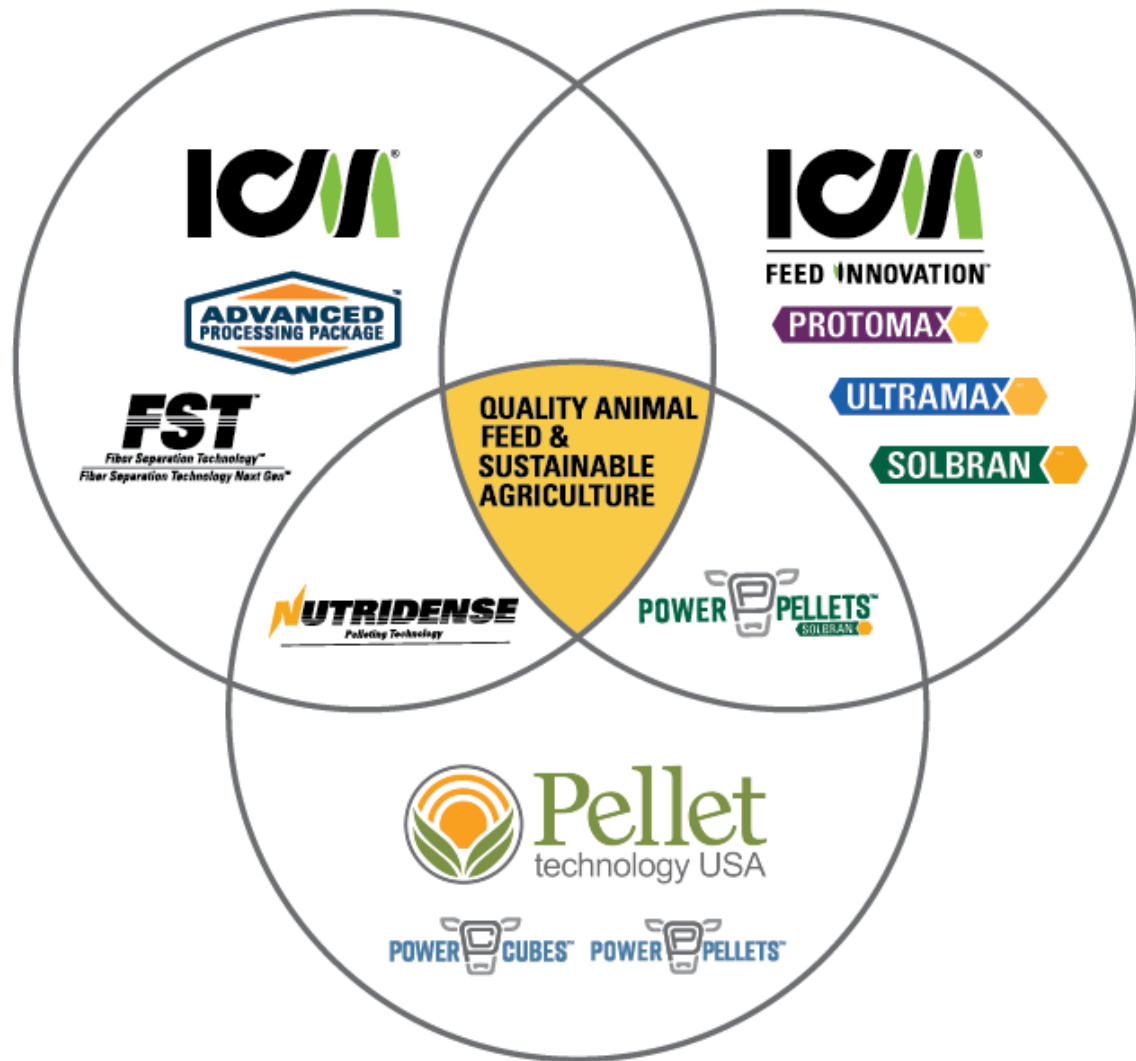


Value-added products



Lower carbon and a focus on sustainability



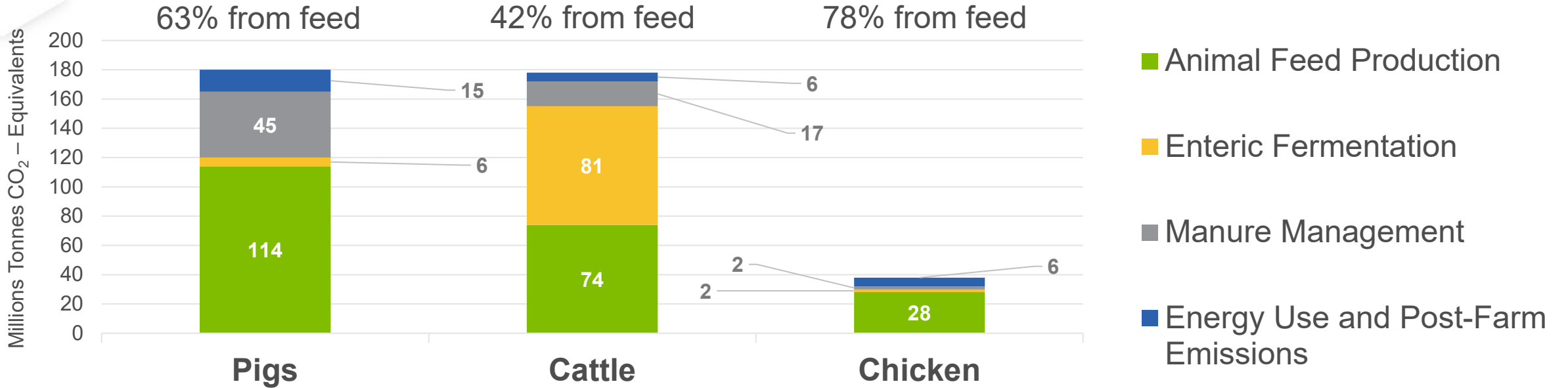


Why Focus on Feed?



Source: IFEEEDER, Institute for Feed Education & Research

Feed Relative to the Food Supply Chain



Source: FAO, European Commission

Growing consumer demand for sustainable products and Scope 3 emissions reporting are making sustainability a key operational issue for the entire feed sector.

Source: IFEEEDER, Institute for Feed Education & Research



Company Overview

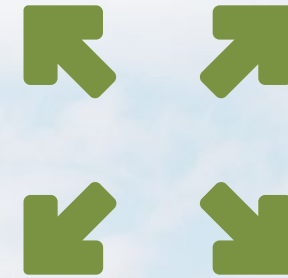
About Pellet Technology USA



Founded in 2012 in Gretna, NE which was its research center



Began commercial production in York, NE in 2018



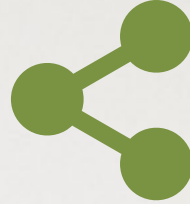
Capacity to produce 70,000 tons of range cubes and 55,000 tons of other products annually at York facility

We serve the animal agriculture industry with high-quality distillers feed products, conveniently packaged to meet animals' nutritional needs.

Our Mission



Deliver **high-quality** distillers feed products



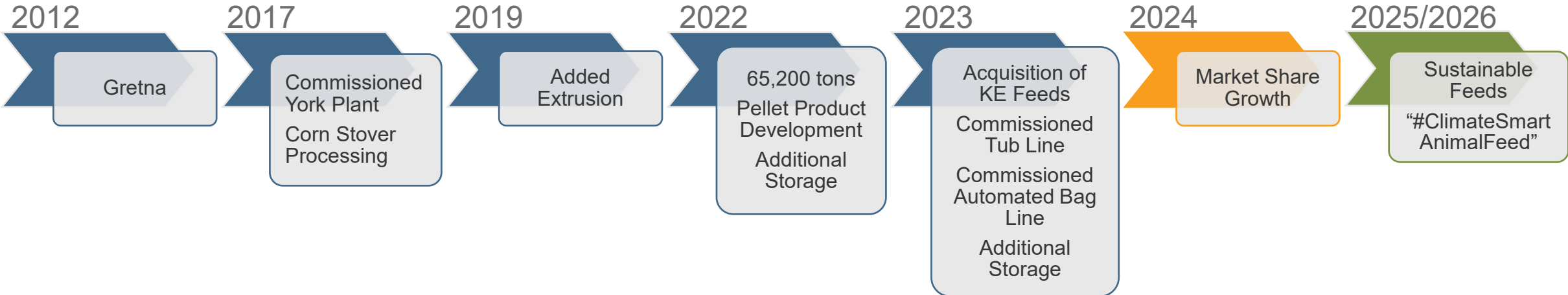
Optimize animal **nutrition**



Enhance the **performance** of livestock

We strive for excellence in all aspects of production, from using the highest quality of materials to timely delivery, execution and service after the sale.

PTUSA Strategic Direction



What is the Opportunity ?

- Continuing to grow our core operations & execution
- Diversification of our product offering, growing market share & entry into new markets
- Driving to support customers in their sustainability efforts

PRODUCTION CAPABILITIES

EXTRUSION PROCESS – P2

- 4 – Milacron 140-TP Extruders
- 1.8 – 2.2 t/h capacity per unit
- Annual Volume = ~70,000
- Product Line: Range Cube $\frac{3}{4}$ " + Mineral

PELLETING PROCESS – P1

- 4 – CPM 450hp Pellet Mills
- 8 -10 t/h capacity per unit
- Annual Volume = ~300,000
- Product Line: Pellet $\frac{1}{2}$ ", $\frac{1}{4}$ " + Specialty Line

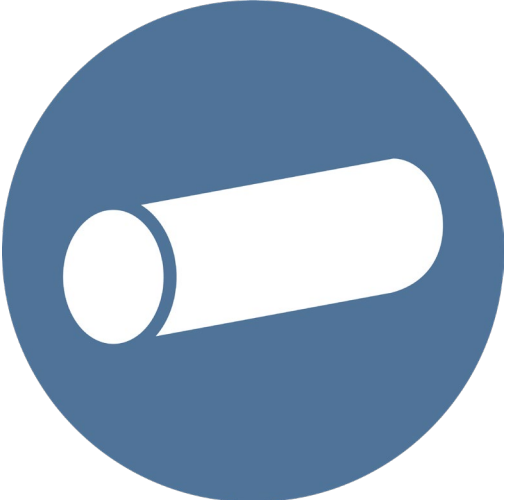
TUBLINE PROCESS – P3

- 216 tubs per day capacity
- Annual Volume = 7,000 tons
- Product Line: Pressed Tub

BAGGING CAPABILITIES

- 15t/h capacity – 50lbs bags
 - Includes automated wrapping robot arm
- Product also available in 1t super-sacks

OUR PRODUCTS



Cubes



Pellets



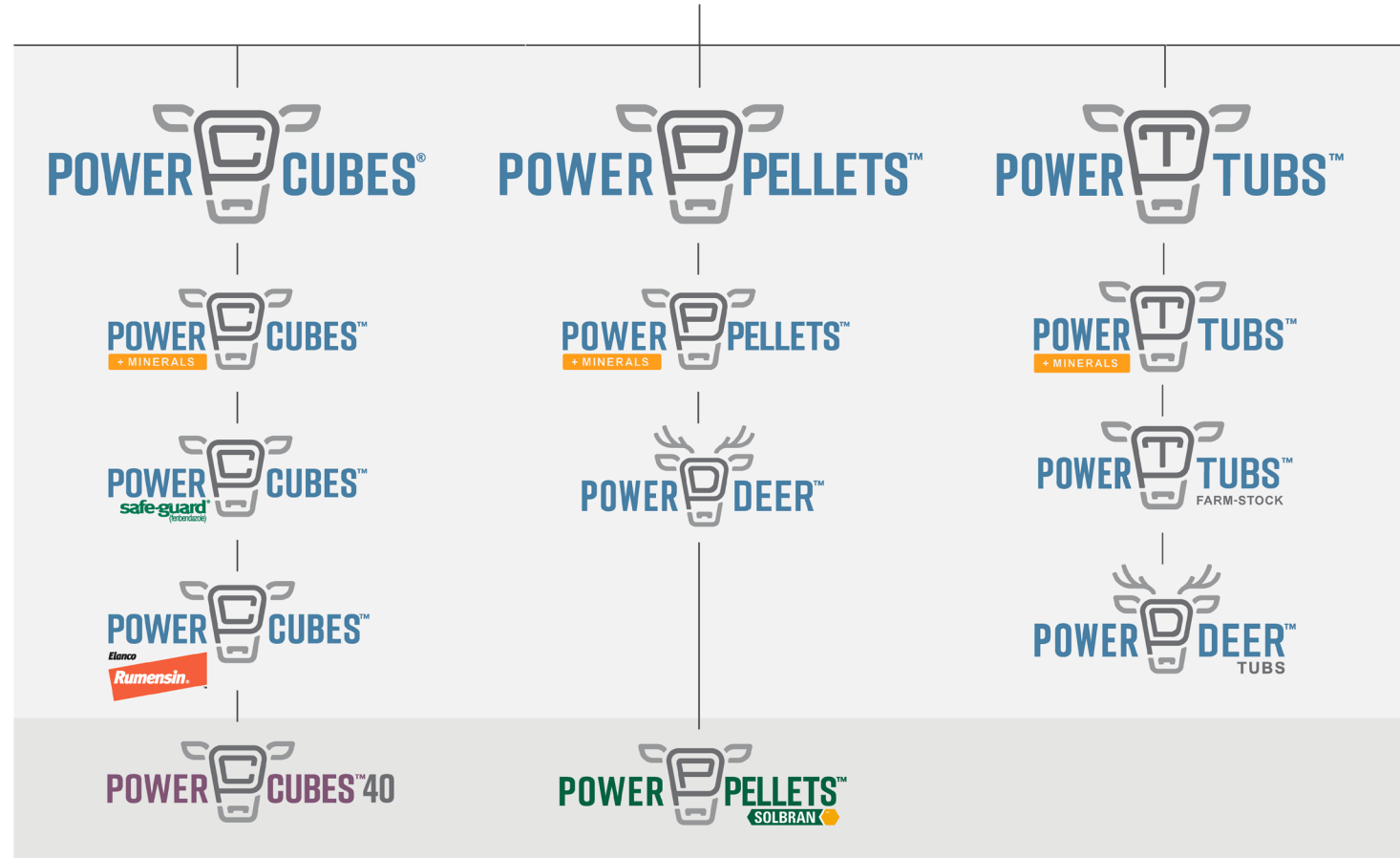
Tubs

OUR BRAND “POWER”



Made from DDGS.
Tag on the left indicates
an additive.

Made from different
ingredients, not DDGS.

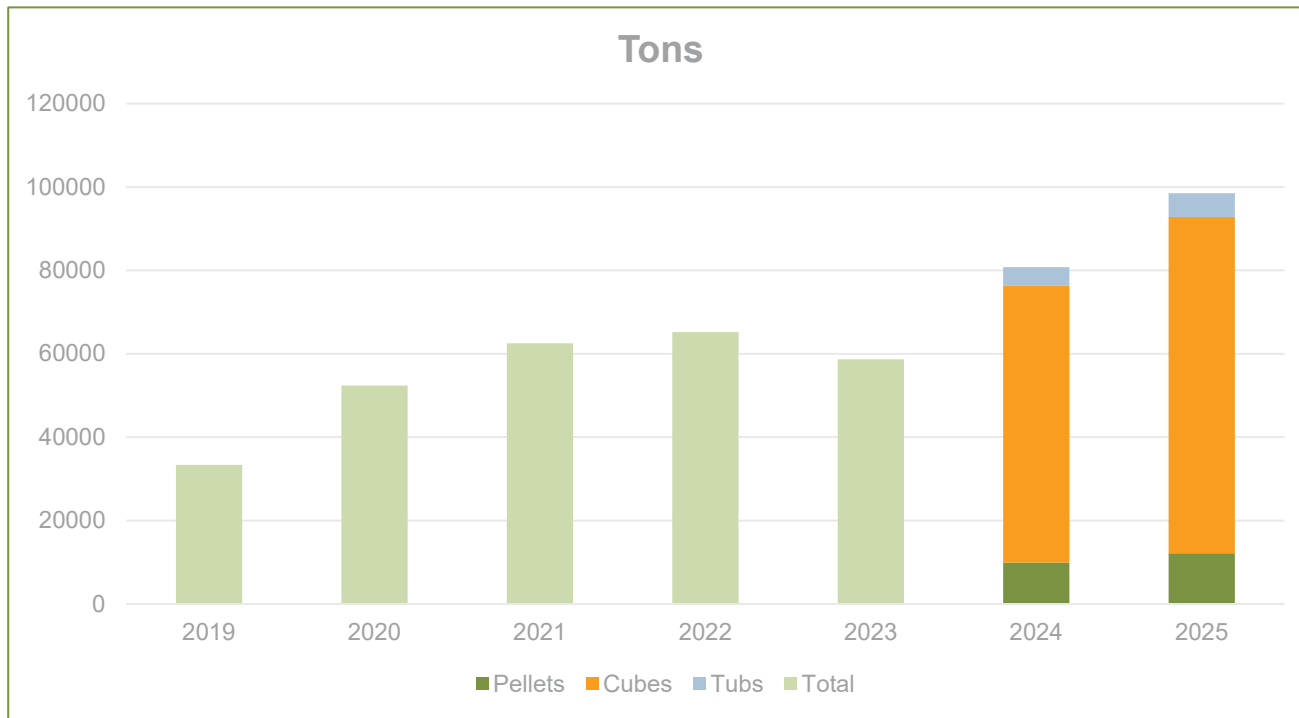




OUR FOOTPRINT



SALES



- Sales have risen steadily since 2019
- Diversified product offerings (Pellets, deer feed, bagged products)
- Investments have been made to further accelerate growth and capture additional market share

CAPITAL IMPROVEMENTS

- Additional on-site storage
- Additional trailers to support execution
- Additional production line
- Improved business practices
 - Rigorous quality process
 - Utilization of AI
 - ERP Systems upgrade
 - SafeFood/SafeFeed Certification

Documenting Protein Efficiency Improvements

- A recent study demonstrated improvement for yearling cattle fed DDGS cubes (Adams, 2022; OkStateU)

Table 4.3 Effect of supplementation of dried distillers' grains (DDG) cubes to stocker cattle during grazing on subsequent feedlot performance

Item	Treatment ¹			SEM ²	P-value
	Fertilized Control	Fertilized Supplement	Supplement		
BW, kg					
d 0	358 ^a	398 ^b	412 ^b	7.6	<0.01
d 84	513 ^a	552 ^b	545 ^b	9.2	0.04
Harvest	663	682	670	7.1	0.23
Days on feed ³ , d	199 ^b	157 ^a	167 ^a	7.7	0.01
ADG, kg/d					
d 0-84	1.84 ^b	1.83 ^b	1.59 ^a	0.051	0.02
d 84-harvest	1.28	1.33	1.32	0.054	0.84
d 0-harvest	1.51	1.56	1.44	0.037	0.15
DMI ³					
Individual, kg/d	10.97	10.71	10.93	0.175	0.51
Total, kg/hd	2202 ^b	1723 ^a	1850 ^a	98.6	0.02
Feed efficiency ⁴ , kg/kg	0.13 ^{ab}	0.14 ^b	0.13 ^a	0.003	0.07
Feed cost, \$/hd	740.73 ^b	560.28 ^a	601.82 ^a	32.134	0.01
Cost of gain, \$/kg BW	2.48 ^b	2.03 ^a	2.36 ^b	0.130	0.08

¹ Fertilized Control, no supplementation on N fertilized pastures; Fertilized Supplement, DDG cubes supplemented at 2.9 kg/d prorated for 3-d/wk feeding on N fertilized pastures; Supplement, DDG cubes supplemented at 0.75% BW/d prorated for 5-d/wk feeding on unfertilized pastures.

² Group variances estimated separately, the largest SEM is reported.

³ Calculated according to Guiroy et al. (2001) and Tedeschi et al. (2004).

⁴ Calculated as kg of added BW gain per kg of feed (DM basis).

^{a-b} Least-squares means followed by different superscripts within rows differ ($P < 0.05$).

Distillers Products Make Money and Save Nutrients

- Applying prices to recent analyses from UNL demonstrates:
 1. Something from an ethanol plant is better than nothing
 2. Can make cattle feeders up to \$40 per hd
- Deferred the utilization of up to 400,000 MT of urea annually

Troyer and Sousa, 2024

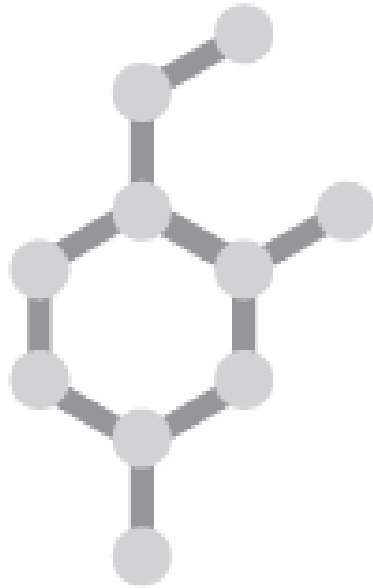


Other Opportunities for Efficiency Exist...



SMT™ and FST™ are protected by US Patent Number 9012191. SMT V2™ and FST Next Gen™ are protected by US Patent Numbers 10774303 and 9376504. TS4™ is protected by US Patent Numbers 10093891, 8986551 and is patent pending. FOT™ and PROTOMAX™ are patent pending. Rotary Press Methods and MZSA are protected by US Patent Numbers 10260031 and 9718006. Screens and Flingers are patent pending. © 2022 ICM, Inc.

Determining A Methodology



Calorie

- A calorie is an absolute measure of how much heat energy something contains.
- A calorie does not provide any information or metrics regarding its effects on metabolism, hormones, nutrient absorption or overall health.

Determining A Methodology

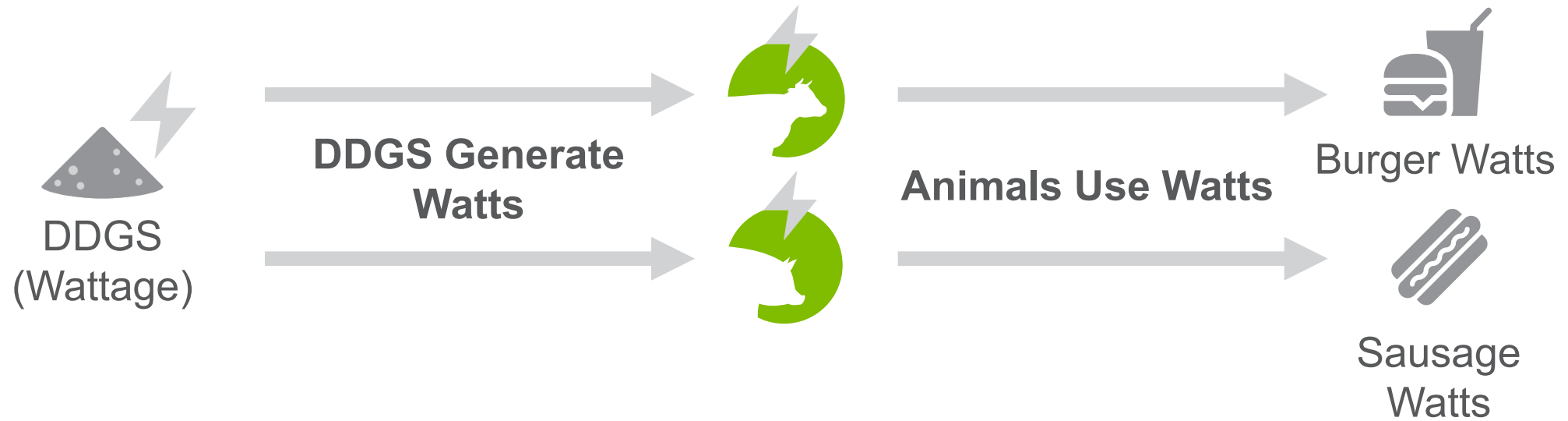


Watt

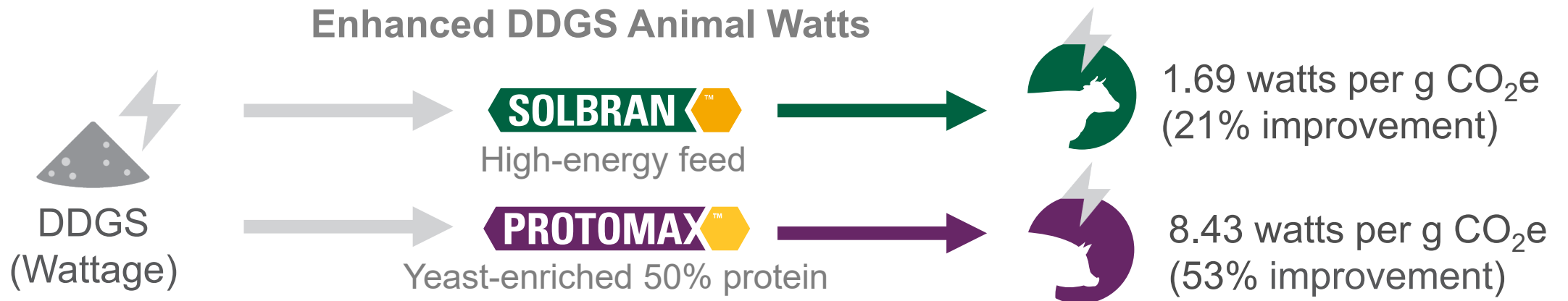
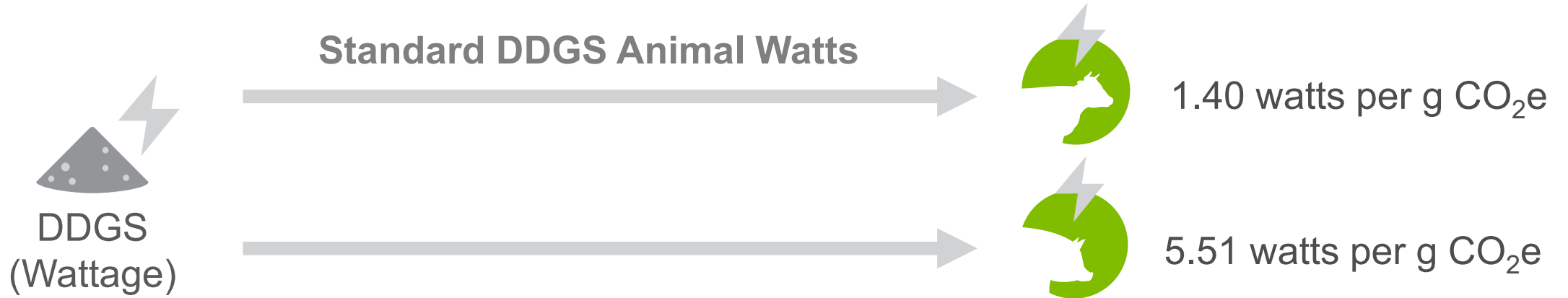
- A watt is a unit used to measure the rate of energy use.
- A watt equals one joule (a standard unit of energy) per second.
- 1 Watt is 20.63 Kilocalories per day.

Standardizing Energy Units

- The Intergovernmental Panel on Climate Change (IPCC) uses the metric system.
- All future energetics transactions can be expressed this way.



Increasing Animal Watts





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THANK YOU

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