



Crave Brothers
Farmstead

Mark Crave
Managing Partner

Crave Brothers Farm & Farmstead Cheese



Climate Smart Dairy is our Business



FARM



CHEESE PRODUCTION



DIGESTER SYSTEM

Synergies; Farm, Cheese, Digester

- Pump milk directly to cheese plant
- Feed whey permeate back to cattle & digester
- Offset electric needs
- Produce and dry organic bedding
- Heat farm shop, office, & house
- Generate our own fertilizer
- Land apply wastewater



Crave Brothers Farm Climate Smart Practices

- Digested Manure as plant friendly fertilizer
- Minimum tillage/Cover crops /GMO technology
- Limiting shrink of harvested forage
- Genomic Testing for cow performance
- Upcycling Bo-Products / Co-products
 - brewers grain, corn gluten feed, whole cotton seeds, distillers grain, malt sprouts
 - **>10,000 tons** annually





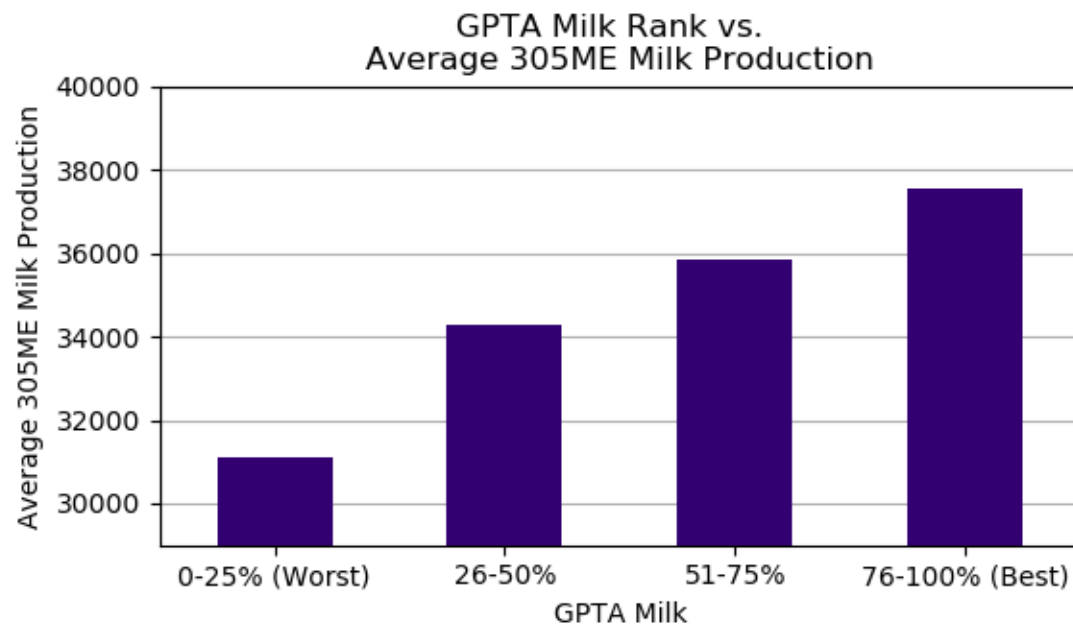
Applying nutrients to a growing crop



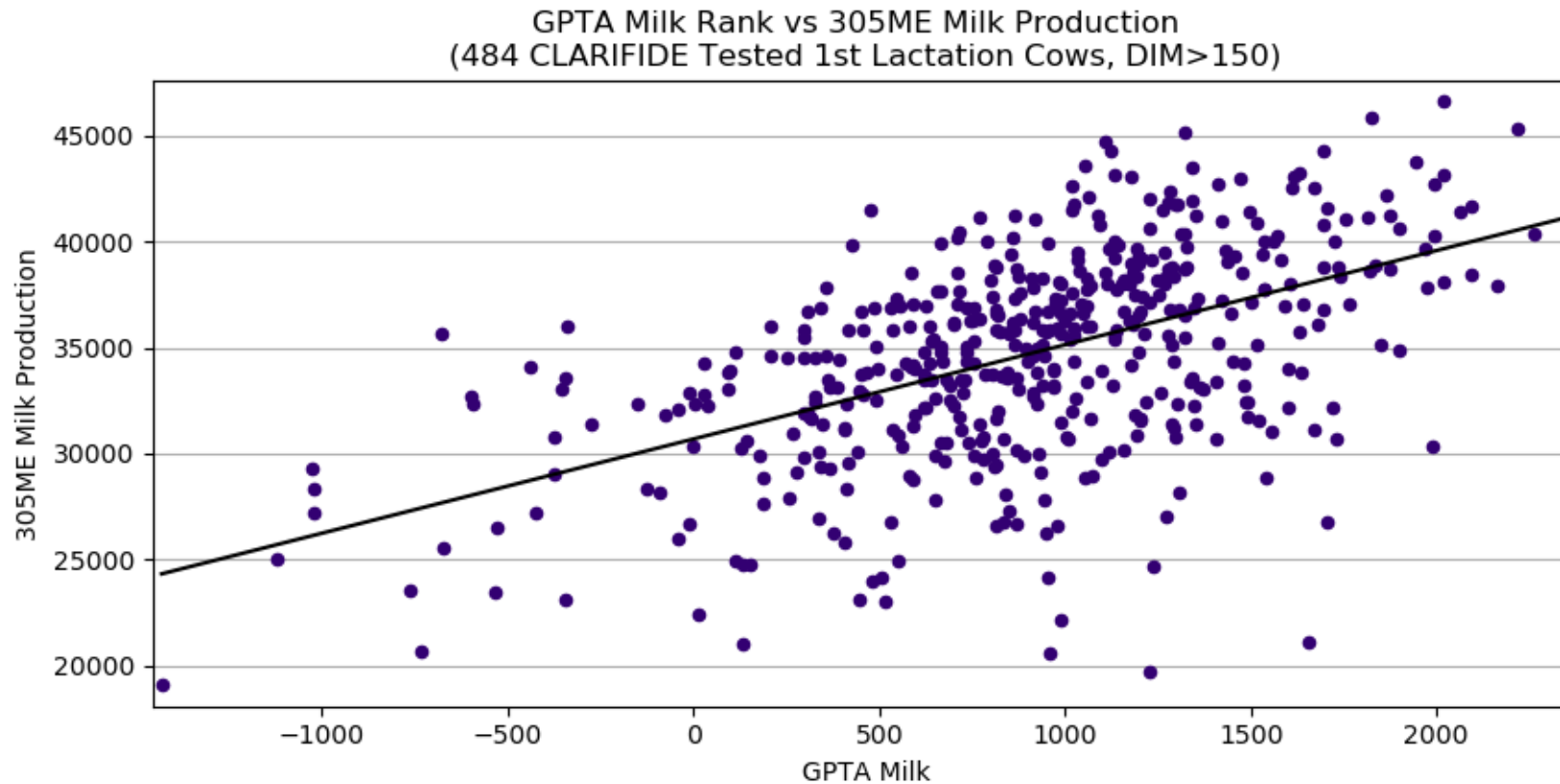


Herd Response to CLARIFIDE PLUS: Milk

N=484 CLARIFIDE Tested First Lactation Cows	Average 305ME Milk Production	Average GPTA Milk
76-100% (Best)	37529 lbs	1586
51-75%	35827 lbs	1094
26-50%	34259 lbs	773
0-25% (Worst)	31111 lbs	144
Difference = Top 25% - Bottom 25%		6418 lbs



Actual performance



$$305ME = 30692 + 4.4 * \text{GPTA Milk}$$

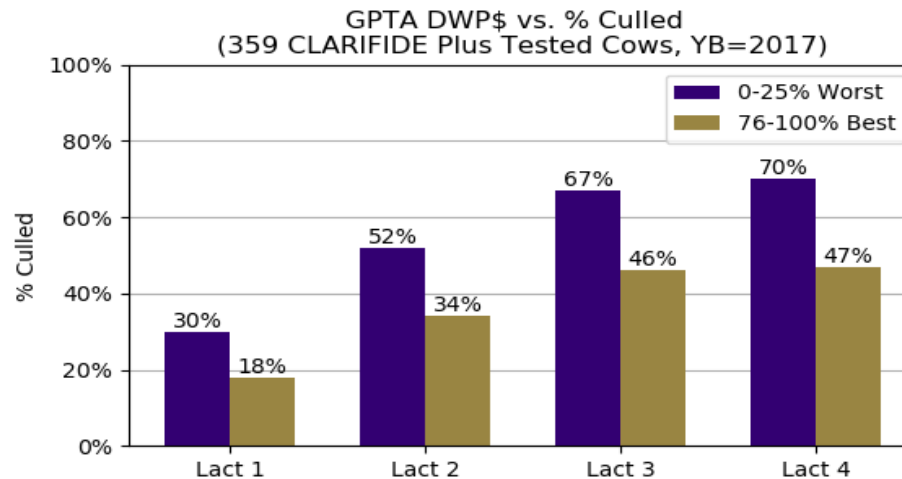
Observed: 4.4 lbs/GPTA Milk

Expected: 2 lbs/GPTA Milk

Herd Response to CLARIFIDE PLUS: DWP\$ vs. % Culled

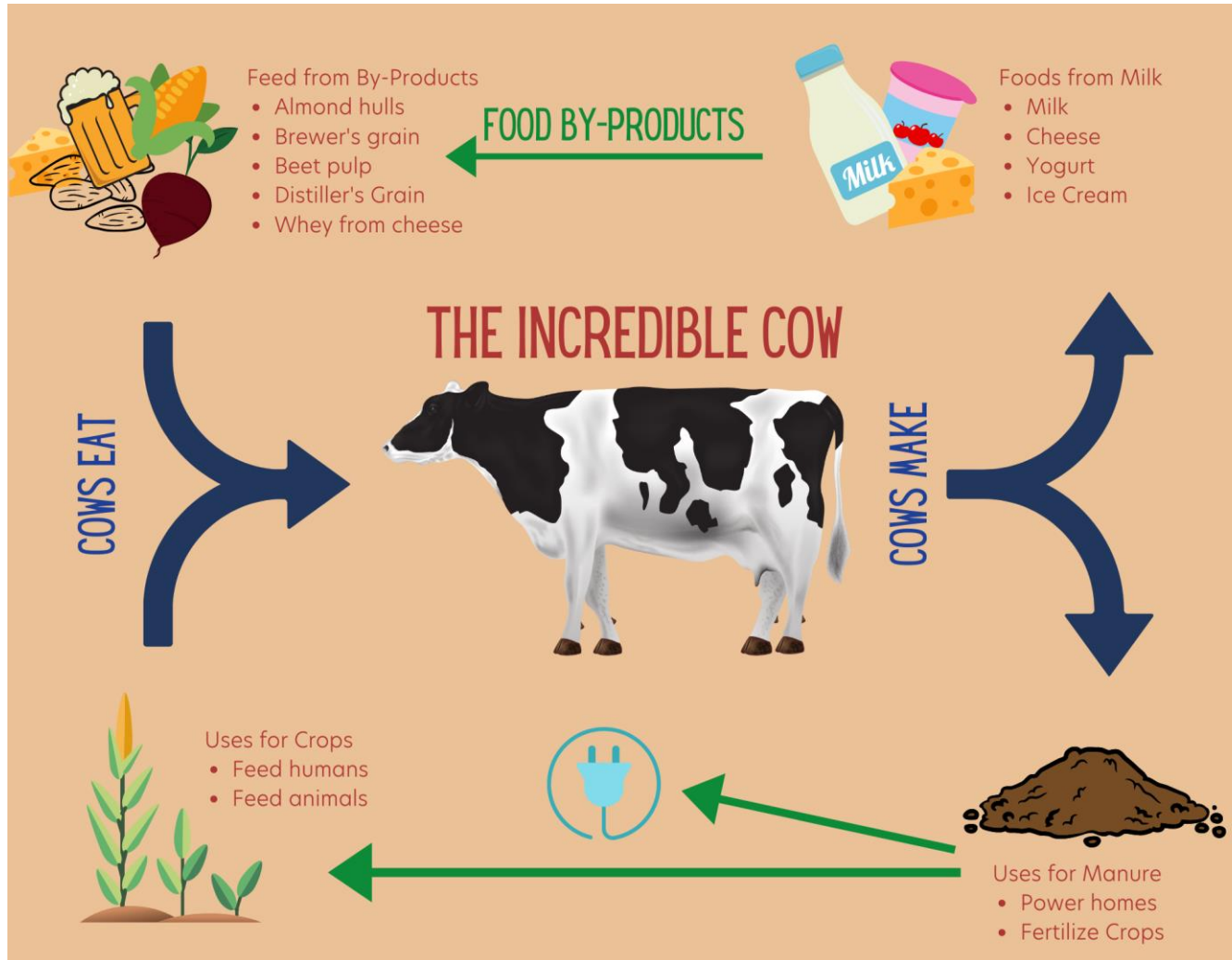
N=359 CLARIFIDE Plus Tested Cows	Average GPTA DWP\$	% Culled By Lactation			
		1 st Lact.	2 nd Lact.	3 rd Lact.	4 th Lact.
76-100% (Best)	563	18%	34%	46%	47%
51-75%	390	20%	34%	45%	46%
26-50%	263	18%	40%	58%	62%
0-25% (Worst)	-35	30%	52%	67%	70%
Difference = Top 25% - Bottom 25%		-12%	-18%	-21%	-23%

Animals that are bred to be healthier, live longer, are more profitable and better for the environment!



Upcycling
bi-products
into
milk / meat





Crave Brothers Farmstead Cheese LLC

- Fresh model, real time production
- Recycling of cooling water
- Process wastewater through digester system
- Researching ways to use less plastic packaging









Anaerobic Digester System

- Produce/Dry organic bedding
 >250 truck loads annually
- Heat facilities
- Offset electric needs

Innovative solutions and investment in customer success support sustainable food systems to nourish a growing global population.

Legacy of Progress

Compared to 2007,
in 2017 U.S. milk was produced with



Efficient Production

While leading the world in cow's milk production with ample growth potential, the U.S. dairy community contributes just 2% of total U.S. GHG emissions



Continuous Improvement

U.S. Dairy has embraced a bold commitment to carbon neutrality or better by

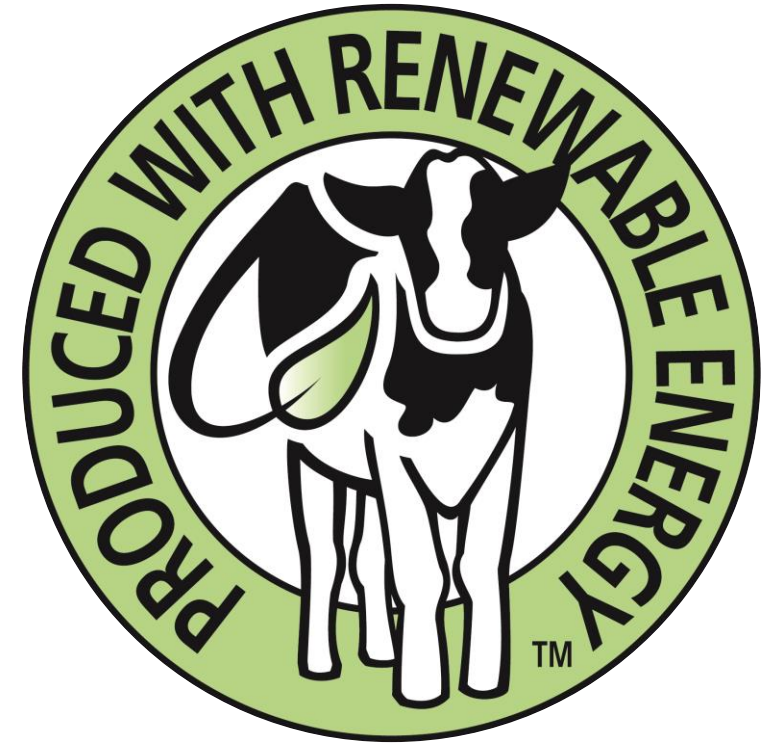
2050

to support sustainable food systems



Real Numbers

- On farm practices are direct benefits to the environment, not “offsets”.
- Crops are marketed through our cows, and their milk is made into cheese.
- Having a branded product allows our company to capitalize on our climate smart practices.



*FROM **C**ROPS TO **C**OWS, **C**CHEESE TO THE **C**ONSUMER*

Opportunities/Concerns

- Wisconsin dairy is in a strong position
 - Water, feed, infrastructure, and knowledge
- Carbon Markets ? E-RIN's
- Long-term viability without government funding
- Risk of over capitalizing our farms
- Climate **Smart** is being careful that we're not the next buzzword or gimmick.
- As an industry, how committed are we?





Thank You!

Website: cravecheese.com

Facebook: Crave Brothers Farmstead Cheese

Find us locally at Metcalfe Market, Festival Foods and Woodmans!