



# Neogen GeneSeek® Operations

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Igenity®





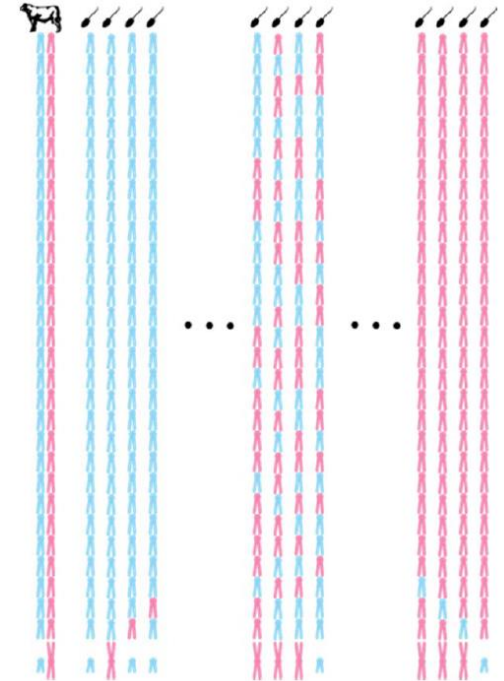
# Opportunities for Commercial Adoption

- Seedstock offerings improve every year
- Biology = Variability produced by a good bull
- Identify an appropriate tool
- Fit that tool into the production system
- Help with a decision



# Biology = Variability

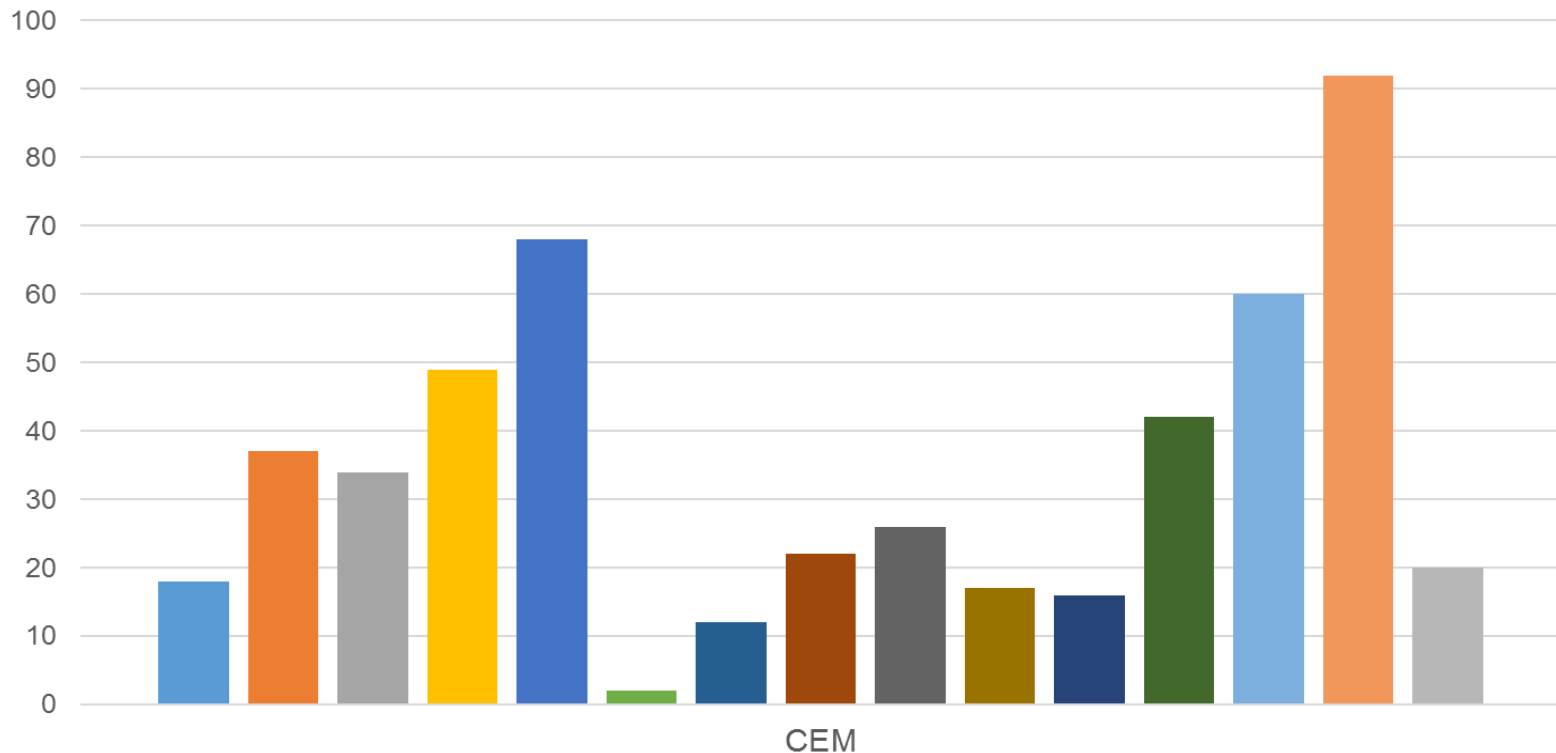
- 1 Bull
  - 30 Pairs of Chromosomes
    - 1 from his Sire
    - 1 from his Dam
  - Combinations:
    - 1-30 from sire
    - 1-29 from sire, 30 from dam
    - ...
    - 1-29 from dam, 30 from sire
    - 1-30 from dam
    - $2^{30} = 1,073,741,824$  combinations ( > 1 Billion)
- Same thing happens in the cow
- 1 Billion x 1 Billion = 1 Quintillion
  - Possible combinations from a pair of parents





# Genomics Identify the Variability

- There is significant variation even between cattle that are closely related



Genomic variation in Calving Ease Maternal among half-sibling embryos (percentile rankings) all sired by a single bull



# Commercial Operation Fit

- The production system on commercial operations often doesn't allow for BIF adjustments:
  - 205-day adjusted weaning weight:
    - Weaning weights:
      - May not be taken individually
      - May be outside of age windows
    - Calves may not be tagged at birth
      - No age of calf adjustments
    - Calves may not be paired to dams at birth
      - No age of dam adjustments



# Commercial Operation Fit

- Genetic potential is important to future productivity
- Capture the investment in good bulls
- Identify your trait improvement needs



# Igenity Beef

- Breeds used in development:
  - Angus
  - Red Angus
  - Hereford
  - Simmental
  - Gelbvieh
  - Limousin
- Additive genetics are characterized
  - Hybrid vigor still available



# Igenity Profiles

**Igenity Silver** – 6 traits plus parentage

**Maternal**

Calving Ease Maternal,  
Stayability

**Performance**

Residual Feed Intake,  
Average Daily Gain

**Carcass**

Tenderness, Marbling

**Igenity Gold** – 13 traits plus parentage

**Maternal**

Birth Weight, Calving Ease  
Direct, Calving Ease Maternal,  
Stayability, Heifer Pregnancy,  
Docility, Milk

**Performance**

Residual Feed Intake,  
Average Daily Gain

**Carcass**

Tenderness, Marbling, Ribeye  
Area, Fat Thickness




# Online Igenity Results

My Herd

https://www.igenitybeefdashboard.com/Home/MyHerd?id=de

Search

Confidence Cattle Company

Test Records: 214

Tools Gold/Silver Scores

Animal ID	Sample Barcode	Order ID	Sex	Active Inactive	Igenity Production Index	GS CEM Score	GS Stay Score	GS ADG Score	RFI-Taurus Score	Tndr Score	GS Mrb Score	GS
105Z	EX999906	84309	F	✓	7.65	6	9	8	6	10	7	
129Z	EX999930	84309	F	✓	7.4	5	7	8	7	10	10	
128Z	EX999929	84309	F	✓	7.35	7	8	8	6	5	9	
116Z	EX999917	84309	F	✓	7.35	5	8	9	5	8	7	
113Z	EX999914	84309	F	✓	7.3	7	7	8	5	10	7	
126Z	EX999927	84309	F	✓	7.15	6	8	8	6	4	9	
138Z	EX999939	84309	F	✓	7.05	6	7	7	7	9	9	
108Z	EX999909	84309	F	✓	7	8	7	7	6	9	7	
					6.4	5.8	6.3	6.7	6.4	8.2	7.1	

1 - 39 of 39 items

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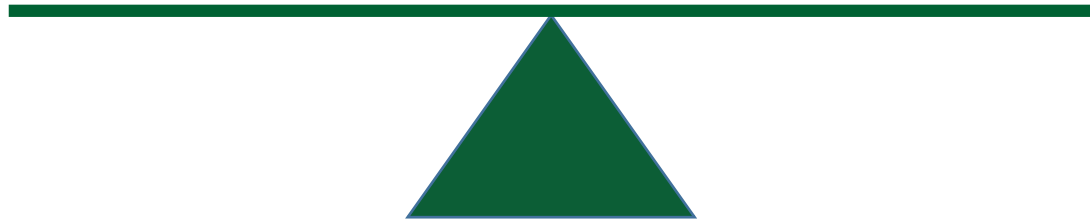


# Multi-trait Selection is Key

- 50-70 years ago dairy selection emphasis:
  - MILK PRODUCTION
  - No emphasis on fertility = No change in fertility...

**MILK PRODUCTION**

**FERTILITY**



- Genetic correlations exist
  - Can lead to unexpected results



# Igenity Selection Indexes

- Igenity Production Index
  - Keep own replacement females
  - Market calves at harvest on a grid
- Soon to report:
- Igenity Maternal Index
- Igenity Terminal Index



# Igenity Production Index

Trait	Emphasis	Trend
BW		-0.43
CED		0.66
CEM	10%	0.39
MILK		0.19
HPG		0.25
STAY	30%	0.91
DOC		0.10

Trait	Emphasis	Trend
ADG	15%	1.05
RFI	-15%	0.06
FAT		0.57
MARB	20%	1.17
REA		0.33
TEND	10%	0.63

Trend is in 1 to 10 score units per generation when selecting the top ~38% of parents on the index

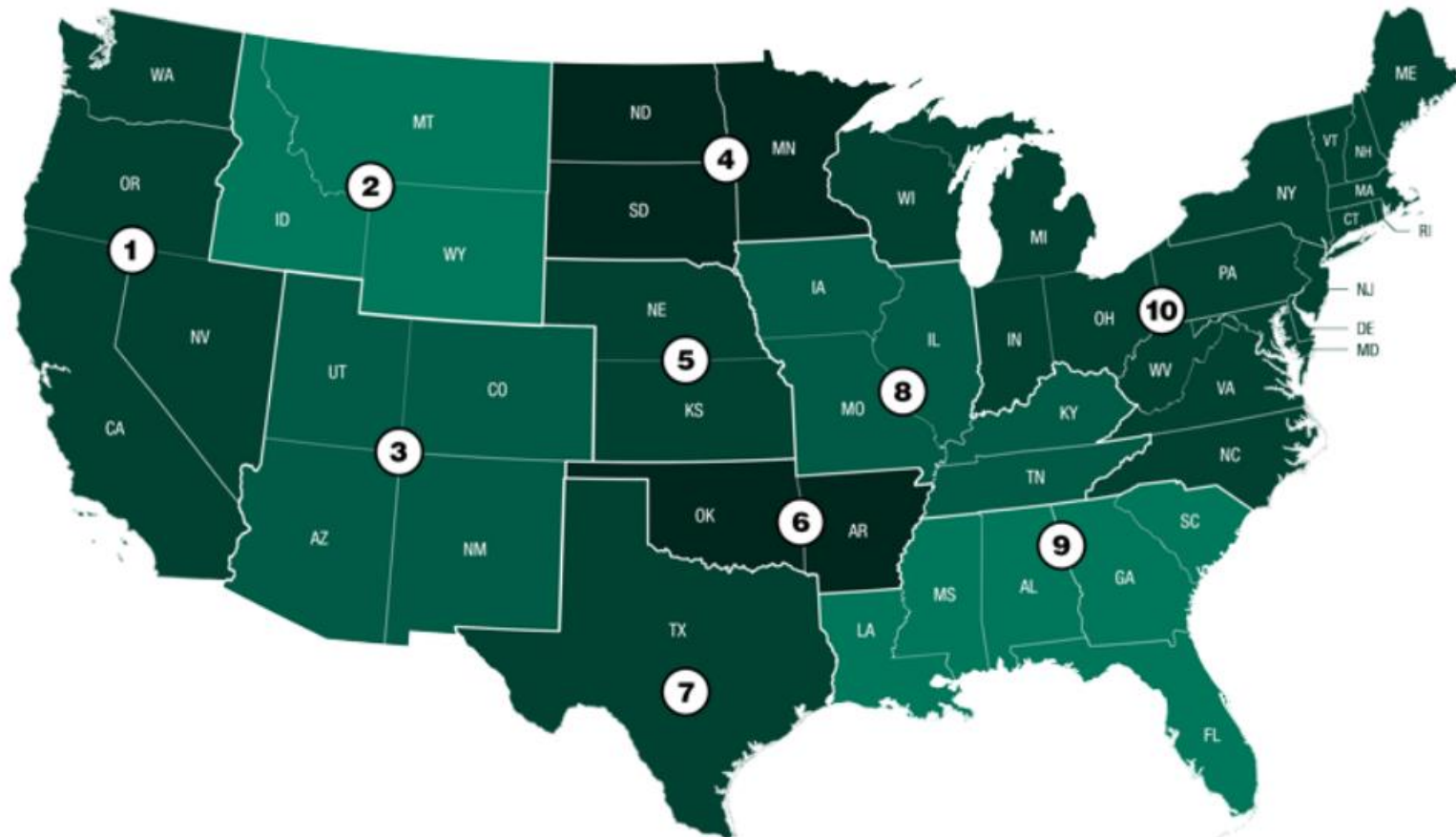


# Profiles for Commercial Replacement Heifer Selection

Multi/Crossbreed		Availability
	Igenity Beef (AN, AR, HH, SM, GV, LM)	Neogen
Breed Specific		
	Igenity Angus	Neogen
	Igenity Gelbvieh	AGA
	Red Navigator	RAAA
	Igenity Brangus	IBBA
	Igenity Santa Gertrudis	SGBI
	Igenity Beefmaster	BBU



# Beef Sales Team





# Discussion

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