



Euroopa Maaelu Arengu  
Põllumajandusfond:  
Euroopa investeeringud  
maapiirkondadesse

# Welcome!



## Louis Prange

*VP International Sales*



Elm Park Farms, Ltd.



**Black Rose**  
EX-96

All-American, All  
Canadian, Supreme  
Champion Royal  
Winter Fair 1996



13 Consecutive Years Premier Breeder — WDE



## Breeding Advantages using the full STgenetics Program

1. STgenetics - About Us
2. **SexedULTRA4M™**
3. Genetic Engine
4. Genetic Gain
5. Genomic Testing
6. Chromosomal Mating
7. Breeding Strategies
8.  **eco feed**

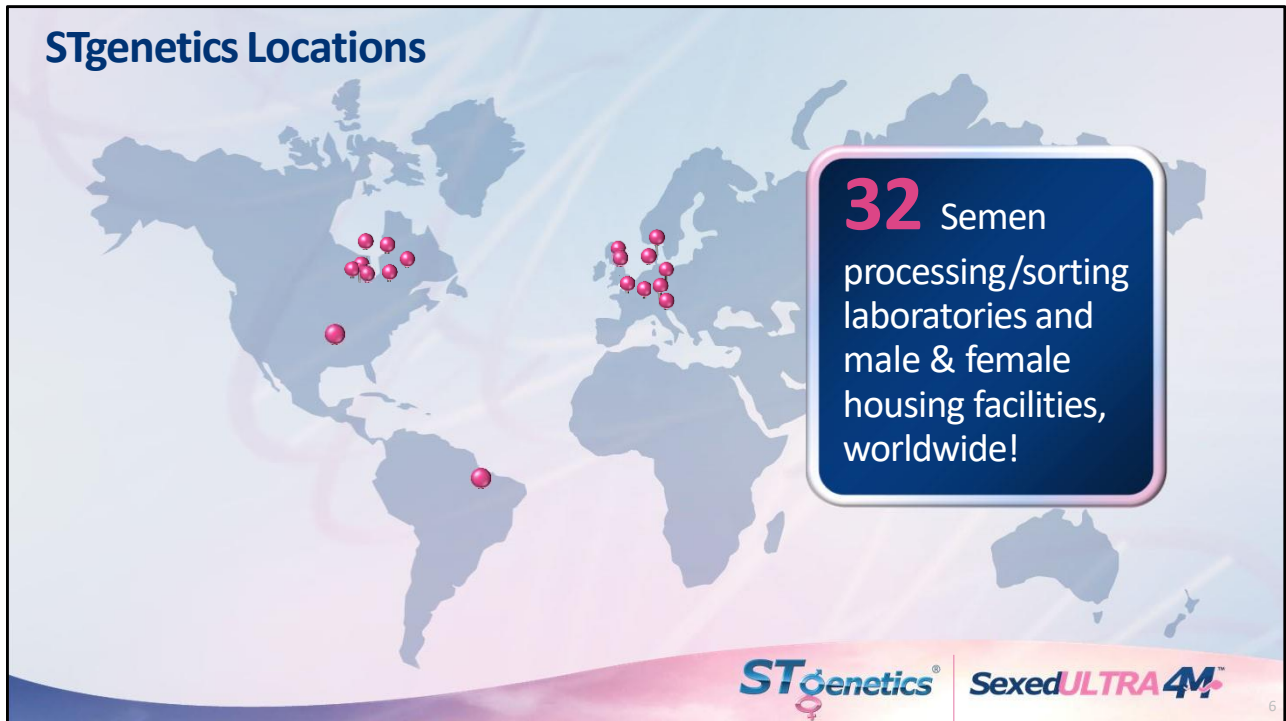


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## Who is Sexing Technologies

Leader in Technology, Livestock genetics and Reproduction







## Corporate Headquarters

*Navasota, Texas*



**STgenetics**® **SexedULTRA4M**™

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## STgenetics & Sexing Technologies

*Wisconsin Facilities*

*STgenetics, Fond du Lac, Wisconsin*



*ST Vienna, DeForest, Wisconsin*



**STgenetics**® **SexedULTRA4M**™

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## STgenetics & Sexing Technologies

### *Wisconsin Facility*

*STgenetics, Fond du Lac, Wisconsin*



**STgenetics®** | **SexedULTRA4M™**

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## Sexing Technologies,

### *Ohio Heifer Center*



**STgenetics®** | **SexedULTRA4M™**

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## Cogent Bull and Sorting Facilities

*Ontario, Canada*



**ST**genetics® **SexedULTRA4M™**

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## Cogent UK Headquarters

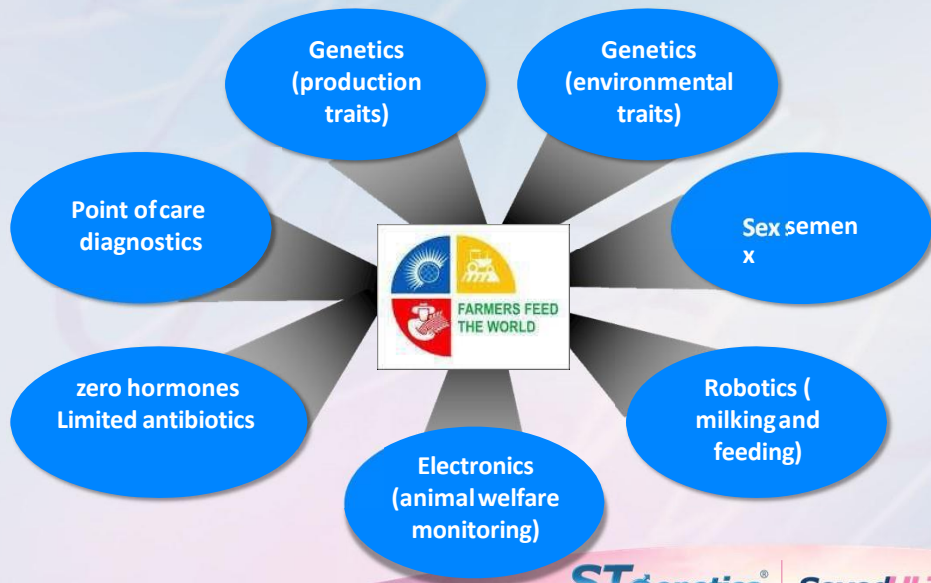
*United Kingdom*



**ST**genetics® **SexedULTRA4M™**

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# What is the future?



STgenetics® SexedULTRA4M™

# SexedULTRA4M™

STgenetics® SexedULTRA4M™

# SexedULTRA4M™

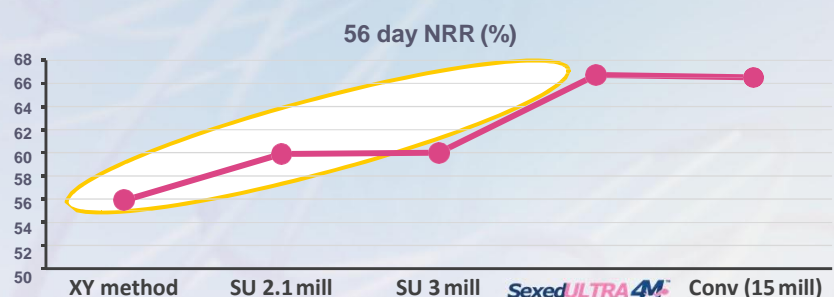


- New Procedure System
- New Equipment
- Consistent Temperature System
- Stain Optimization
- Advanced Extenders
- Better & Consistent Ph System
- Oxidation Reduction
- Dead Cells Separation
- 4 Million Cells

**STgenetics®** | **SexedULTRA4M™**

## High Fertility Trials with New SexedULTRA4M™

56 day NRR (%)



Treatment	Number of inseminations	56 day NRR (%)
XY method	1953	55.9 <sup>A</sup>
SU 2.1 mill	1999	59.9 <sup>B</sup>
SU 3 mill	2013	60.0 <sup>B</sup>
SU 4 mill	1890	66.7 <sup>C</sup>
Conv (15 mill)	62,398	66.5 <sup>C</sup>

**STgenetics®** | **SexedULTRA4M™**



**ST Genetics**

?? FEMALE CELLS .....

MALE CELLS .....

DEAD CELLS .....

Other technology

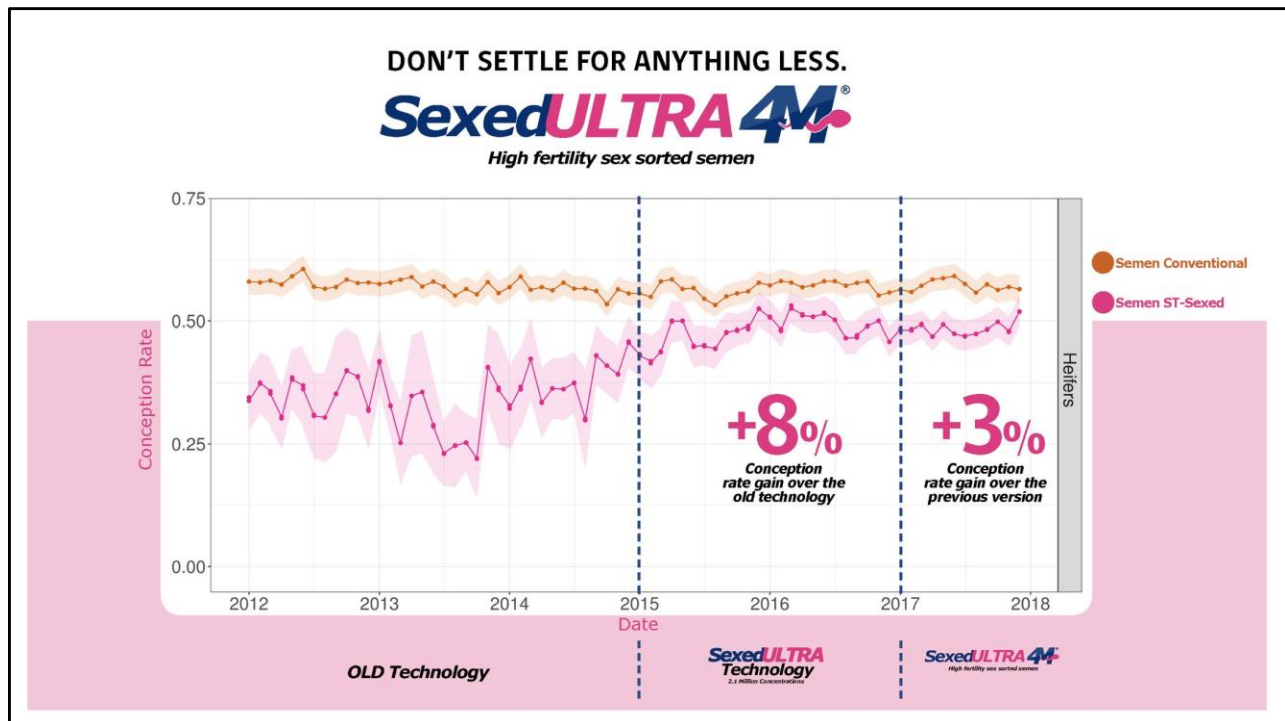
**90%** .....

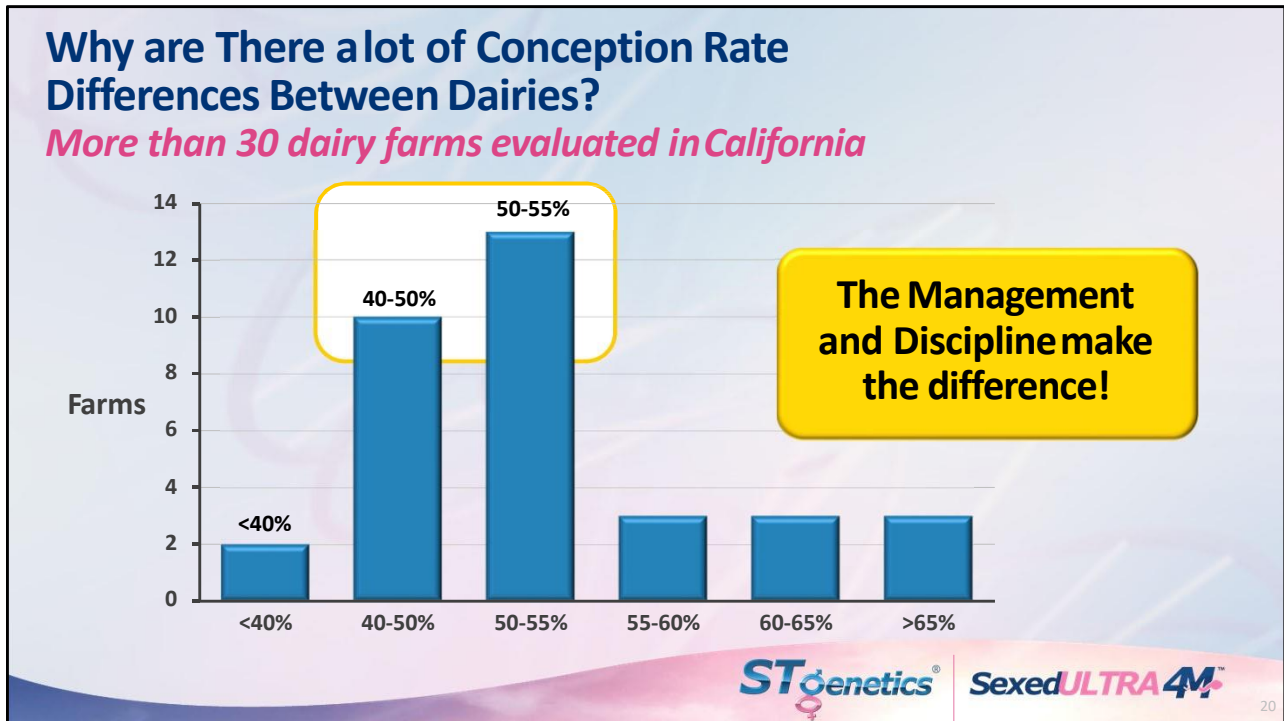
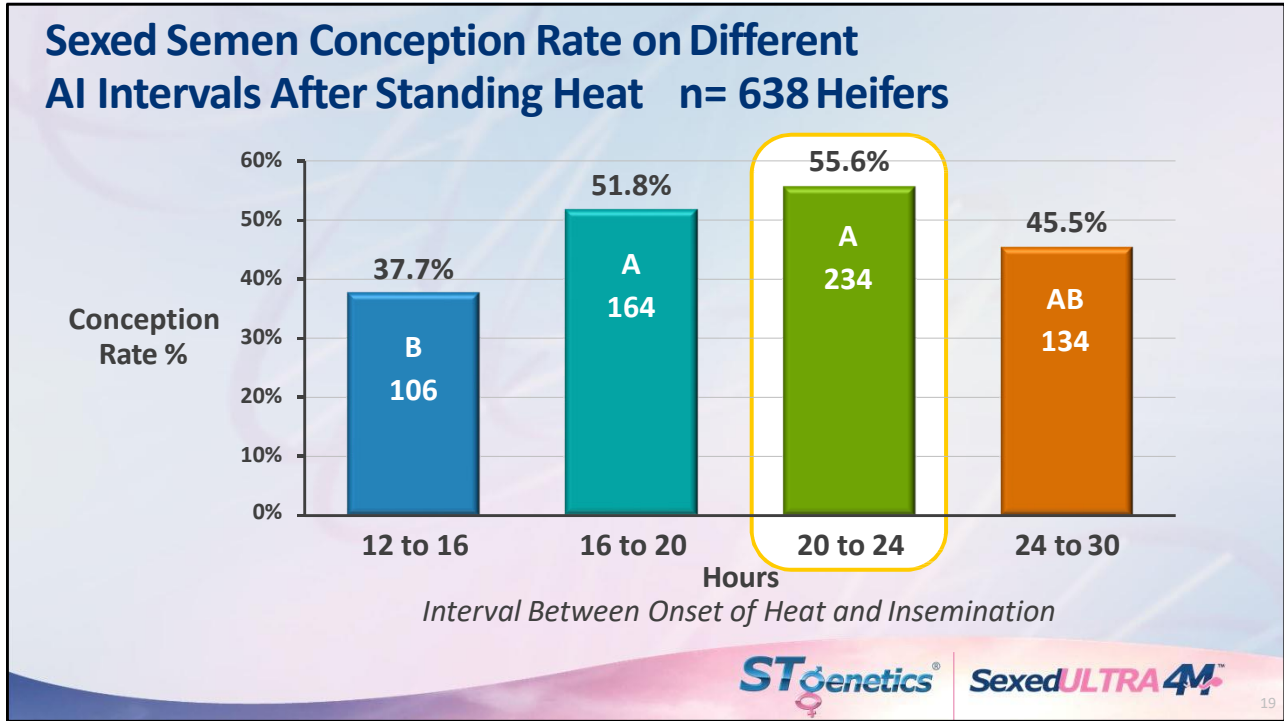
AVG OR HIGHER  
**FEMALE**

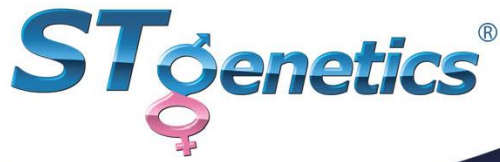
TWICE AS HIGH  
POST THAW 3 HR  
PROGRESSIVE  
MOTILITY .....

SexedULTRA 4M

**DON'T SETTLE FOR ANYTHING LESS.**  
**SexedULTRA 4M**  
 High fertility sex sorted semen







# Genetic Engine



**Black & White Holsteins**



**Brown Swiss**



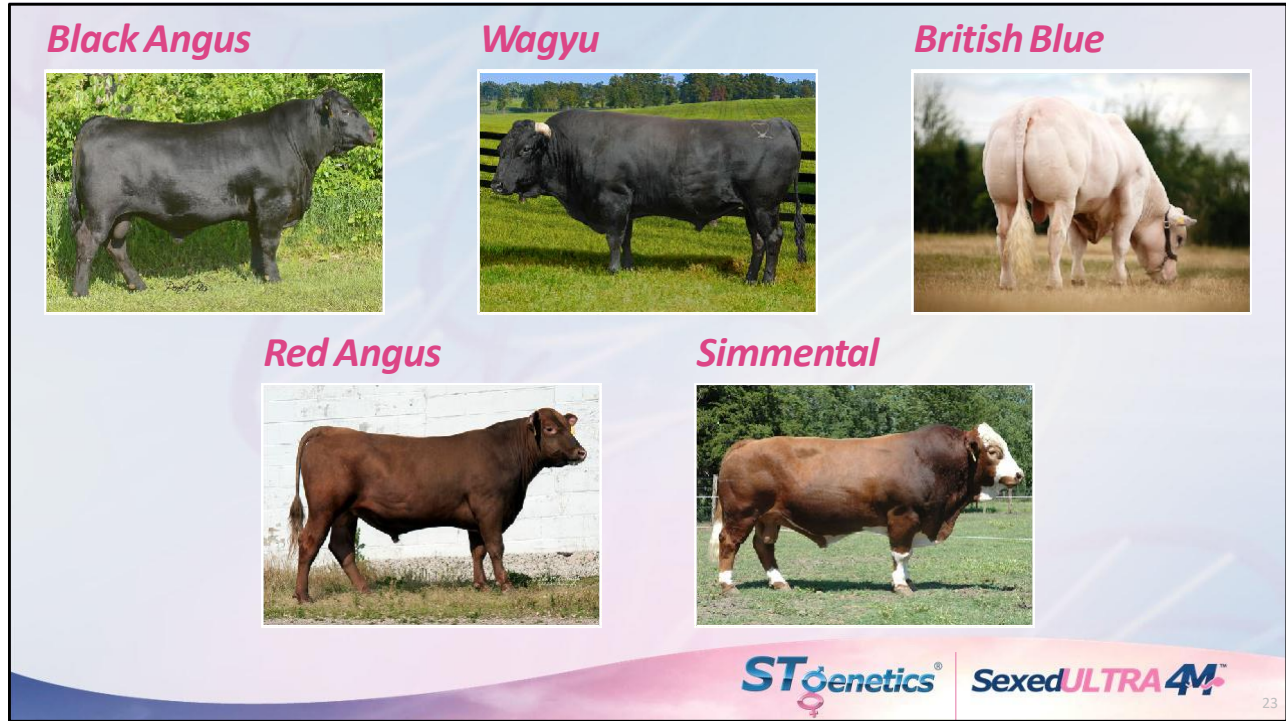
**Red & White Holsteins**



**Jersey**







### Holstein Top 22 NM\$ Proven Bulls – August 2019

Rank	Name		TPI	NM\$	Milk	Fat	% Fat	Pro	% Pro
1	ABS ROWDY-ET TC	<a href="#">29HO17947</a>	+2730G	996	2737	86	0.01	114	0.04
2	ABS RAIDEN-ET TC	<a href="#">29HO17941</a>	+2704G	983	2131	63	-0.01	109	0.1
3	AOT SILVER HELIX-ET TR	<a href="#">14HO07770</a>	+2811G	978	2254	80	0.04	133	0.17
4	MELARRY JOSUPER FRAZZLED-ET TR	<a href="#">7HO12788</a>	+2731G	970	2158	65	0	100	0.07
5	CO-OP TROY PILEDRIVER-ET TR	<a href="#">1HO12786</a>	+2717G	969	3203	97	0	114	-0.02
6	EDG RUBICON-ET TC	<a href="#">151HO00681</a>	+2755G	959	1262	56	0.06	120	0.26
7	WILRA COLEMAN-ET TC	<a href="#">29HO18077</a>	+2640G	947	1565	45	-0.01	111	0.18
8	S-S-I MONTROSS DUKE-ET TR	<a href="#">250HO13267</a>	+2758G	935	2798	95	0.03	134	0.1
9	UECKER SUPERSIRE JOSUPER-ET TR	<a href="#">29HO17553</a>	+2697G	929	3147	90	-0.02	105	-0.04
10	MR MOGUL DELTA 1427-ET TR	<a href="#">203HO01468</a>	+2698G	909	1613	54	0.02	88	0.1
11	MR MCCUT DANTE 1407-ET TC	<a href="#">203HO01513</a>	+2711G	897	2734	88	0.02	102	0
12	L-L-M-DAIRY POND PASSAT-ET TR	<a href="#">7HO12659</a>	+2655G	892	1590	51	0.01	96	0.13
13	CO-OP AARDEMA TRACER-ET TR	<a href="#">1HO11926</a>	+2677G	891	2208	73	0.02	90	0.03
14	SEAGULL-BAY JO DANCER-ET TR	<a href="#">29HO18018</a>	+2624G	881	1298	61	0.08	110	0.22
15	WOODCREST MOGUL YODER-ET TR	<a href="#">7HO12266</a>	+2657G	879	1045	49	0.06	103	0.23
16	BRYHILL ALTAHOTSHOT-ET TR	<a href="#">11HO11523</a>	+2604G	871	1520	46	0	95	0.13
17	DE-SU MILLINGTON 12074-ET TR	<a href="#">7HO12421</a>	+2688G	870	1448	57	0.05	114	0.21
18	HURTGENLEA YDR OUTSIDERS-ET TR	<a href="#">7HO12819</a>	+2669G	861	1955	62	0.01	95	0.08
19	PEAK ALTATURNKEY-ET TR	<a href="#">11HO11718</a>	+2609G	852	1126	49	0.05	97	0.2
20	CO-OP ROBUST CABRIOLET-ET TP	<a href="#">1HO10396</a>	+2487G	850	925	50	0.08	94	0.21
21	DE-SU 12693 SKYFALL-ET TC	<a href="#">29HO17918</a>	+2640G	848	1352	47	0.02	96	0.16
22	MR OAK DELCO 57279-ET TC	<a href="#">151HO00744</a>	+2578G	843	2737	73	-0.03	79	-0.08

August 2019



## Holstein Top 25 TPI Proven Bulls – August 2019

Rank	Name	NAAB	PRODUCTION					HEALTH					CONFORMATION					TPI*
			PRO	FAT	MILK	FE	%R	SCS	PL	%R	LIV	FI	PTAT	%R	UDC	FLC	BWC	
1	AOT SILVER HELIX-ET	14HO07770	133	2254	279	99	3.03	4.0	87	-1.1	0.3	1.90	95	1.66	0.98	0.42	2811	G
2	S-S-I MONTROSSDUKE-ET	250HO13267	134	2798	292	98	2.87	4.1	86	-2.6	-2.1	1.97	96	1.97	-0.40	0.98	2758	G
3	EDGRUBICON-ET	151HO00681	120	1262	233	99	2.79	6.2	96	2.8	-0.9	2.13	99	1.68	2.50	0.50	2755	G
4	MELARRY JOSUPERFRAZZLED-ET	7HO12788	100	2158	215	97	2.46	7.9	85	3.1	0.2	1.23	90	1.68	0.57	-0.07	2731	G
5	ABS ROWDY-ET	29HO17947	114	2737	261	97	2.83	6.3	85	2.5	0.1	1.04	90	0.64	-0.44	0.13	2730	G
6	CO-OP TROYPILEDRIVER-ET	1HO12786	114	3203	281	97	3.14	5.0	86	0.4	-2.7	1.87	90	1.41	1.54	-0.44	2717	G
7	MR MCCUT DANTE 1407-ET	203HO01513	102	2734	248	99	2.88	4.8	89	1.2	-1.5	2.30	96	1.52	0.67	0.25	2711	G
8	ABS RAIDEN-ET	29HO17941	109	2131	229	96	2.72	6.3	86	4.5	-0.4	1.31	91	1.74	0.50	-0.50	2704	G
9	MR MOGUL DELTA 1427-ET	203HO01468	88	1613	204	99	2.90	7.4	97	2.7	0.6	2.12	99	2.82	1.48	-1.30	2698	G
10	UECKER SUPERSIRE JOSUPER-ET	29HO17553	105	3147	235	99	2.80	5.6	98	2.2	-1.2	1.47	99	1.11	-0.07	1.26	2697	G
11	DE-SU MILLINGTON 12074-ET	7HO12421	114	1448	232	99	2.65	4.2	90	0.2	0.3	1.86	97	1.56	1.01	-0.13	2688	G
12	DE-SU 12779 ENZO-ET	29HO18016	67	2231	162	92	2.65	7.4	83	3.1	2.0	1.80	88	2.32	1.55	-0.23	2677	G
13	PEAK ACCELRENOWN-ET	14HO07811	82	1139	153	94	2.81	4.4	83	4.3	1.4	2.71	90	3.07	1.67	0.83	2672	G
14	HURTGENLEA YDR OUTSIDERS-ET	7HO12819	95	1955	197	94	2.85	5.6	83	2.7	0.6	1.66	86	1.59	1.59	0.74	2669	G
15	S-S-I KINGPINPHANTOM-ET	7HO13334	111	2131	247	97	2.78	3.1	84	-0.5	-1.4	2.07	92	1.44	0.42	1.04	2665	G
16	WOODCREST MOGULYODER-ET	7HO12266	103	1045	216	99	3.00	5.0	98	2.6	1.4	1.52	99	1.90	1.33	-0.62	2657	G
17	L-L-M-DAIRY POND PASSAT-ET	7HO12659	96	1590	197	95	2.85	6.9	85	2.2	2.1	1.02	91	1.57	0.53	-0.36	2655	G
18	COOKIECUTTER HARPER-ET	29HO17747	80	565	202	96	2.74	5.1	84	0.5	0.9	2.07	92	1.68	2.21	0.41	2640	G
19	DE-SU 12693 SKYFALL-ET	29HO17918	96	1352	184	96	2.68	6.3	86	3.0	1.2	1.56	92	1.40	1.46	0.40	2640	G
20	WILRACOLEMAN-ET	29HO18077	111	1565	206	96	2.83	7.3	86	3.9	2.4	0.69	91	1.11	-0.50	-0.43	2640	G
21	DE-SU ALTALEAF-ET	11HO11478	91	2415	194	99	2.70	4.5	94	1.6	-0.3	2.38	96	1.57	1.38	0.61	2634	G
22	MR MOGUL DENVER 1426-ET	151HO00690	107	2411	243	99	3.07	3.3	93	-1.1	-2.0	2.02	99	2.83	0.79	-0.06	2634	G
23	ENDCO APPRENTICE-ET	200HO10648	65	1507	159	93	2.60	6.3	83	1.9	1.6	1.96	85	2.17	1.34	-0.02	2630	G
24	MR JACEY DECOY 57578-ET	203HO03005	54	2841	208	97	2.72	5.9	84	1.9	1.1	1.03	87	1.04	0.77	-0.67	2628	G
25	SEAGULL-BAY JODANCER-ET	29HO18018	110	1298	231	96	2.62	5.9	86	2.3	-0.3	1.44	89	1.13	-0.41	0.38	2624	G

August 2019



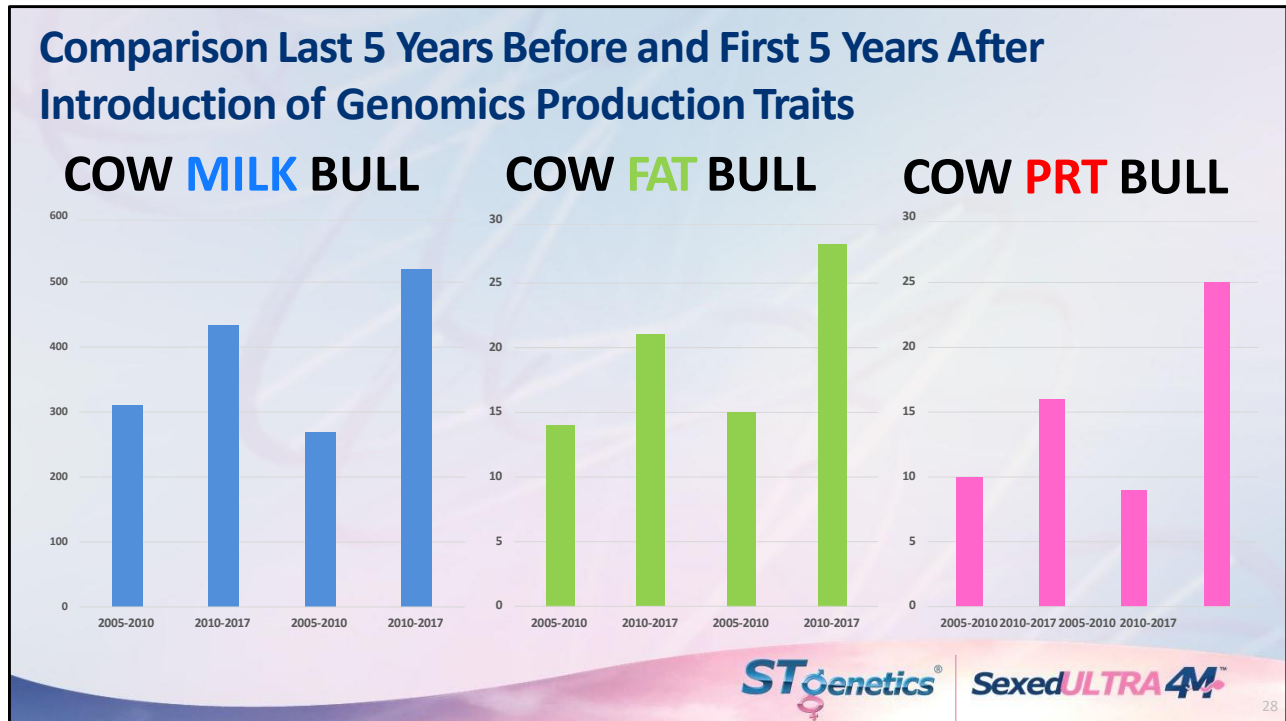
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## Top 20 TPI Genomic Young Bulls – August 2019

Rank	Name	NAAB	PRODUCTION					HEALTH					CONFORMATION					TPI*
			PRO	FAT	MILK	FE	%R	SCS	PL	%R	LIV	FI	PTAT	%R	UDC	FLC	BWC	
1	PEAKALTAZZLE-ET	11HO15036	76	124	1689	279	76	2.70	8.5	72	4.9	1.4	1.72	73	1.92	0.49	-0.31	2977G
2	DENOVO 2800PRINCE-ET	29HO19010	63	123	1107	252	77	2.65	8.0	73	4.3	2.5	1.85	75	1.69	0.90	0.58	2940G
3	PINE-TREEHEROIC-ET	29HO19000	61	139	1334	286	77	2.78	7.3	73	3.7	0.7	1.72	76	2.25	0.89	-1.14	2928G
4	SILVERRIDGE VEINSTEIN-ET	200HO11586	76	104	1837	240	76	2.66	8.3	72	2.4	1.5	2.11	74	2.52	0.74	0.56	2918G
5	BOMAZFASTBALL-ET	200HO11505	77	98	2704	226	79	2.71	7.9	74	2.9	1.1	2.07	77	2.44	1.99	-0.10	2901G
6	PINE-TREE CWLEGACY-ET	7HO14250	63	109	1427	246	80	2.44	8.7	74	4.6	2.5	1.18	77	1.87	0.54	-0.81	2898G
7	MR DYNASTYNASHVILLE-ET	551HO03600	80	96	2124	249	77	2.69	8.8	74	4.3	2.0	1.55	76	1.54	1.53	-0.81	2897G
8	PLAIN-KNOLL SIMAGNITUDE-ET	7HO14792	46	89	1105	172	77	2.49	8.8	72	4.3	4.1	2.36	76	2.72	1.16	0.89	2891G
9	PEAKALTA PLINKO-ET	11HO15037	89	113	2080	288	76	2.71	7.3	72	2.8	1.8	0.78	73	0.76	0.26	-0.74	2870G
10	S-S-I PR RENEGADE-ET	250HO14134	74	104	1729	234	77	2.72	5.8	73	2.5	1.7	2.16	76	1.77	1.74	0.87	2869G
11	DELICIOUSH-NOON TAMPA-ET	551HO03797	77	79	2229	223	77	2.65	9.1	73	4.4	2.7	1.62	74	1.88	1.03	-1.10	2868G
12	DELICIOUS CHARL YIS-ET	551HO03872	57	91	1550	205	77	2.68	8.6	73	5.2	3.4	1.92	75	2.45	0.28	-0.50	2865G
13	EDG NOBLE IMPERIAL-ET	551HO03812	65	81	1528	208	77	2.62	8.2	72	4.6	2.9	1.92	75	2.60	0.82	-0.53	2864G
14	S-S-I BG FRZZLD RIVETING-ET	614HO14220	54	74	1320	174	79	2.41	8.8	74	5.2	3.2	2.02	78	2.70	1.33	0.11	2860G
15	CLAYNOOK ZONE-ET	200HO11667	79	125	1697	283	76	2.87	6.7	72	2.3	1.2	1.45	74	1.56	0.17	-0.02	2856G
16	ST GEN NOBLE DUBAI-ET	551HO03800	64	85	1357	215	77	2.69	8.5	73	5.7	2.4	1.89	75	2.48	0.67	-0.52	2853G
17	PROGENESIS MAESTRO-ET	200HO11330	66	94	1709	210	77	2.77	7.1	73	3.6	1.0	2.59	74	2.80	1.74	0.60	2851G
18	DENOVO 14652 ROYAL-ET	29HO18903	79	133	1861	295	79	3.11	4.3	74	-0.2	0.3	2.14	78	2.31	0.73	-0.47	2849G
19	DENOVO 15225 SELTZER-ET	29HO19087	71	90	1876	215	77	2.79	6.4	73	1.7	1.8	2.04	75	2.56	1.46	0.30	2849G
20	BLUMENFELD BLUECHIP-ET	200HO11687	63	113	1519	234	80	2.38	8.0	74	3.7	0.5	1.76	77	1.67	1.29	0.37	2848G

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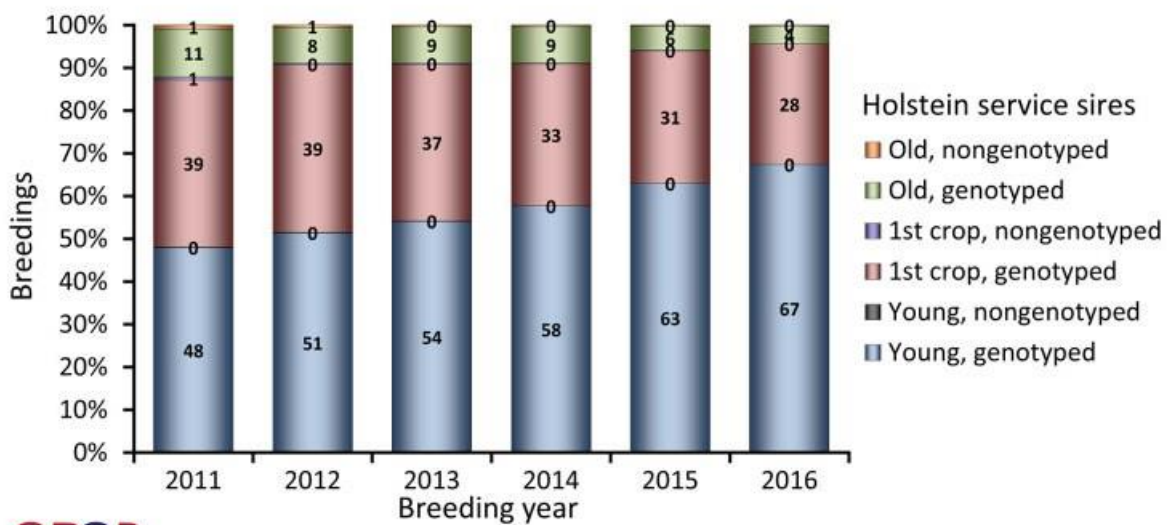


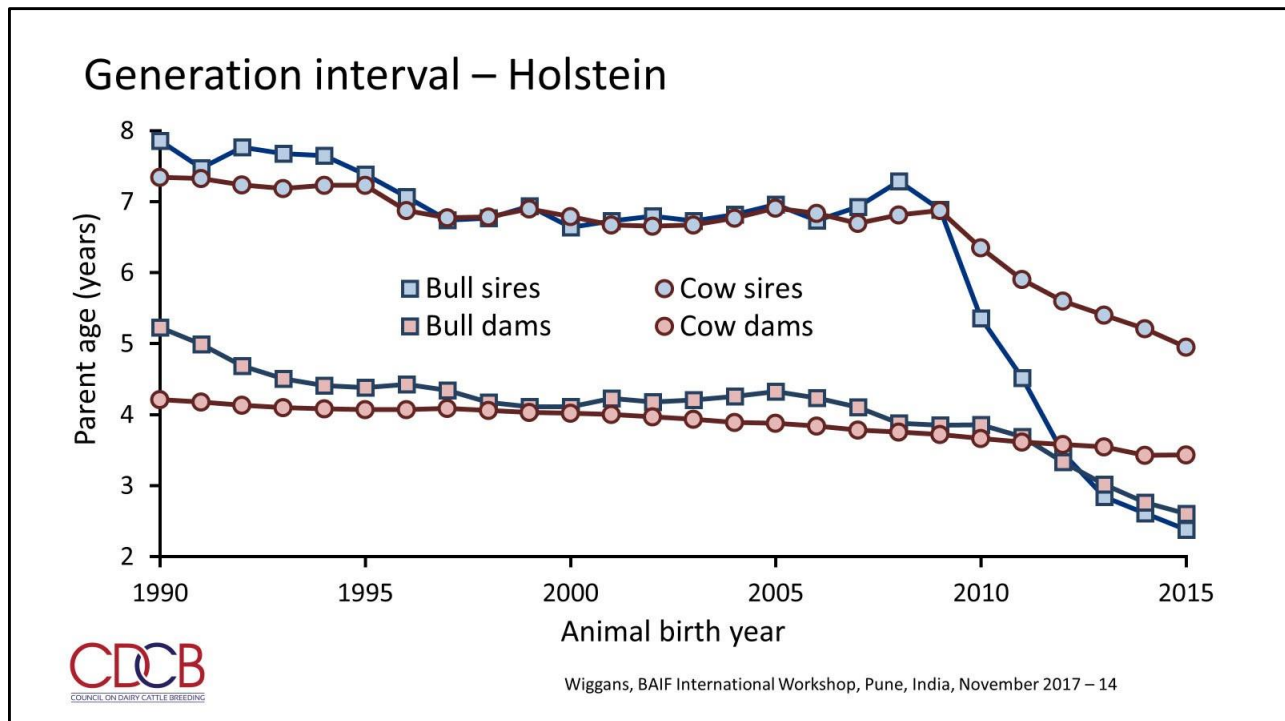
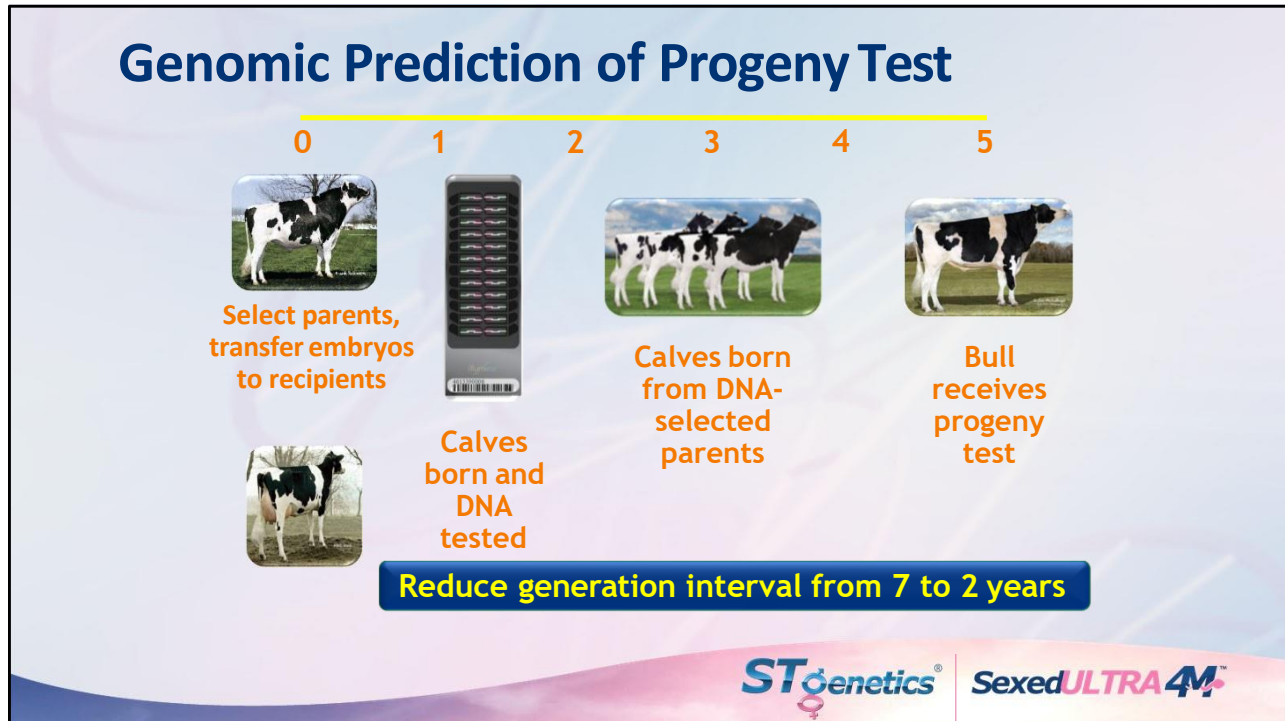
## Comparison Genomic to Proven Top 10

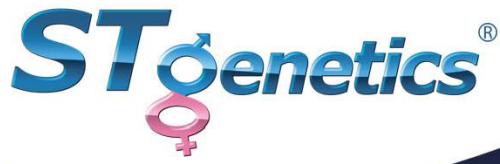
	2017 NM\$	2014 NM\$	PA 2014 NM\$	Daughters 2017	AI Sons 2017
Proven	563	543	311	9,733	16
Genomic	668	666	511	3,886	50
Difference	105	123	200	5,847	34



## AI breedings to genomic bulls







# Genomic Testing



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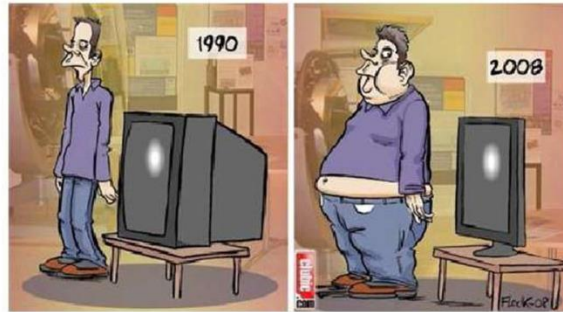
Remember  
Me?

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## How TECHNOLOGY has affected our lives?



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## UNLEASHING THE POWER OF GENOMIC TESTING

**Genetic** *Visions-ST*

1. Collect DNA Tissue Samples From Your Heifers
2. Submit Material at Laboratory (GeneticVisions)
3. Genomic Evaluations
  - Retrieve results 30 – 45 days after samples are received at the lab
4. Make Informed Selection and Breeding Decisions
  - About which females will create your best future generation and ensure genetic progress in your herd

**ST**genetics®

**Sexed**ULTRA4M™

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# Genomic Testing Supplies

Global pricing agreement with Allflex for in-country purchasing

TSU Tube



Applicator Pliers



STgenetics®

SexedULTRA4M™

**GENETICVISIONS®**



## Complete Traceability

**GENETICVISIONS®**

# Organize and Streamline your Genomic Sampling Process

CUSTOMER PORTAL



## Key Benefits

- 1 Ease of use and Simplicity
- 2 Order Status Visibility
- 3 Organization and Availability of Historical Data
- 4 Direct Online Interaction with Genetic Visions
- 5 Ensure More Lead Time for Genetic Visions to Begin Internal Processes

**GENETICVISIONS®**





## Why use matings at all?

Breeding strategy: Select bulls based on genetic merit

900 NM\$  
 2690 TPI  
 <7.0 SCE  
 >0 DPR  
 >130 CFP

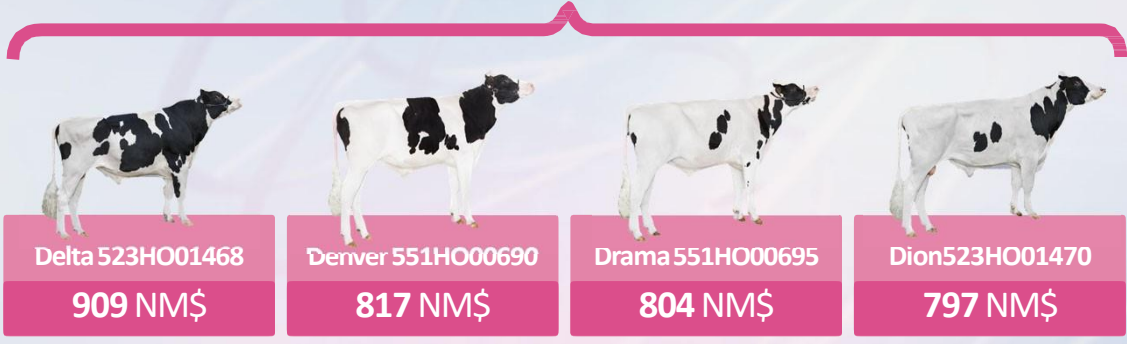
Basic	Prod	Health	Linear	Ped	PA	Extra	CAN	DEU
NAAB Codes <input type="checkbox"/> ? NAAB and/or Reg # or Copy From Excel	<input checked="" type="checkbox"/> TPI 2690 Less	<input checked="" type="checkbox"/> PTAM	<input checked="" type="checkbox"/> PTAT Less	<input checked="" type="checkbox"/> PL	<input checked="" type="checkbox"/> UDC Less	<input checked="" type="checkbox"/> FLC Less	<input checked="" type="checkbox"/> BSC Less	Highlight <input type="checkbox"/> ? Exclude Sire/Dam List
	<input checked="" type="checkbox"/> NMS 900	<input checked="" type="checkbox"/> DPR 0		<input checked="" type="checkbox"/> SCE 7				
	<input checked="" type="checkbox"/> CMS							
	<input type="checkbox"/> FMS							
Short Name	Contain <input type="checkbox"/>	Red Carries <input type="checkbox"/>	Polled Carries <input type="checkbox"/>	Add AVGs <input type="checkbox"/>				
<input checked="" type="checkbox"/> Reg Name		Add Colors <input type="checkbox"/>	Header Lock <input type="checkbox"/>	Bull Picture <input type="checkbox"/> ?				

## Compare Mating One Cow with Four Full Brothers

MGGS: Planet  
MGGD: Miss Elegant Delight

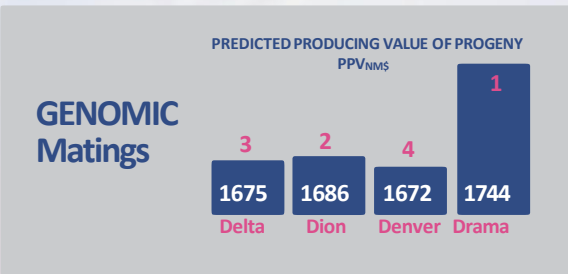
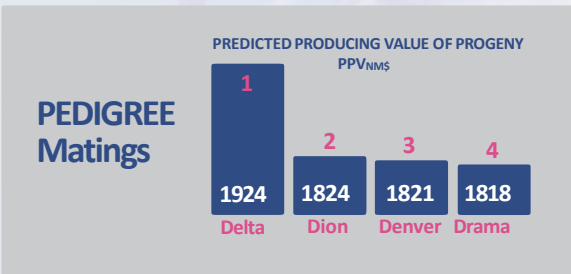
MGS: Robust  
MGD: OCD Planet Danica

SIRE: Mogul  
DAM: Miss Ocd Robst Delicious



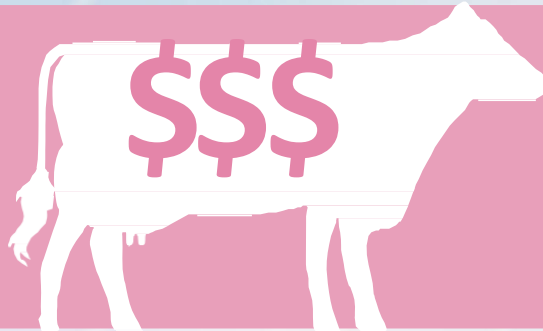
## Why is Genomic Information Critical?

<b>Delta</b> 523HO01468 909 NM\$ Progeny Results: Pedigree INB: 11.5% Genomic INB: 21.5%	<b>Denver</b> 551HO00690 817 NM\$ Progeny Results: Pedigree INB: 11.5% Genomic INB: 17.5%	<b>Drama</b> 551HO00695 804 NM\$ Progeny Results: Pedigree INB: 11.5% Genomic INB: 14.5%	<b>Dion</b> 523HO01470 797 NM\$ Progeny Results: Pedigree INB: 11.5% Genomic INB: 17.0%
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## What makes our program different?

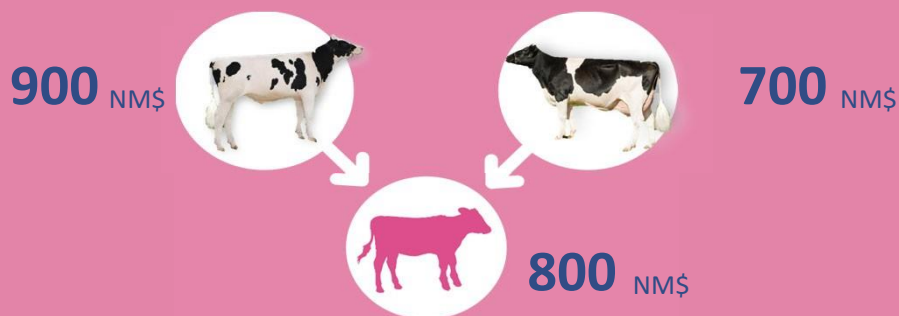
Program does not maximize each mating, but increases the profitability of the next generation



Mating results are calculated to increase the selected economic trait to the greatest potential in the offspring created by a specific group of females and bull team selected

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## Modern Mating Programs Utilize Parent Average PTAs



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# Predicted Producing Value (PPV)

Chromosomal Mating provides the Predicted Producing Value of the progeny or PPV

PPV measures how the female will perform in the herd

PPV= EBV adjusted for EFI penalty

$$(PTA \text{ Bull} + PTA \text{ Dam}) + \text{Inbreeding Depression} * (\text{EFI Penalty Sire} + \text{EFI Penalty Dam}) - (\text{Actual Inbreeding} * \text{Inbreeding Depression}) = \text{PPV}$$

"Sun, C., Vanraden, P., O'Connell, J., Weigel, K., and Gianola, D. 2013. Mating programs including genomic relationships and dominance effects. Journal of Dairy Science. 96:8014–8023. doi:10.3168/jds.2013-6969"

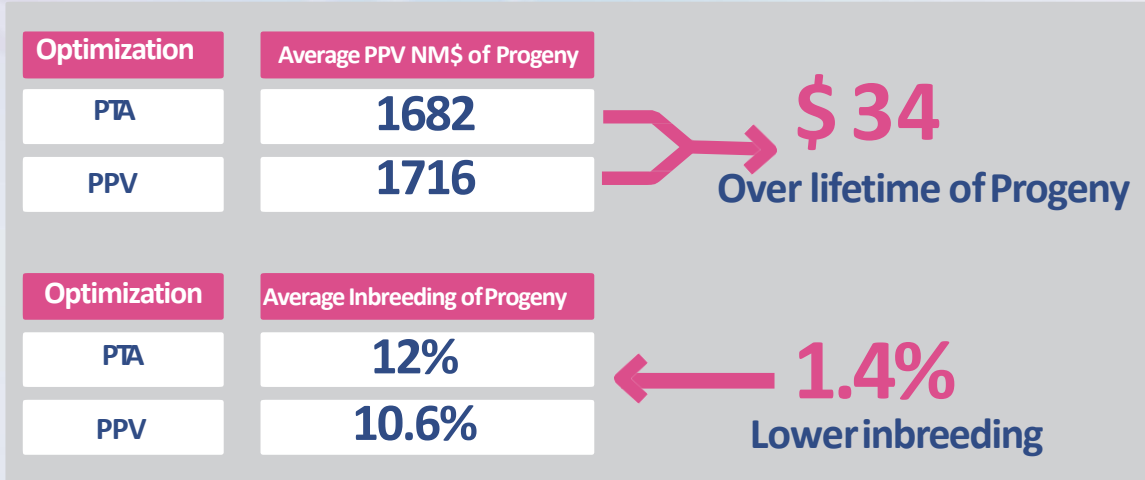
## Comparison: PTA vs. PPV

Mating Scenario 

- **100 Cow Herd** with genomic information
- Female NM\$ Range: **335NM\$ to 773NM\$**
- Optimization for NM\$

Paco551HO03594	Vince551HO03804	Slater551HO03673	Poncho551HO03722
1001 NM\$	949 NM\$	934 NM\$	927 NM\$

## Opportunity Cost



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## Opportunity Cost

Number of Cows	Opportunity Cost
100	\$ 3,400
5,000	\$ 170,000
10,000	\$ 340,000

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## 3 Ways to Avoid Leaving Money on the Table

### Utilize a mating program

- Identify the best mating pairs to make the most profitable offspring

### Genomic test females and use evaluations in mating program

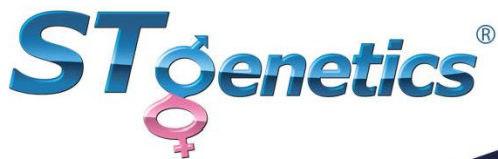
- Account for the actual inbreeding relationship of each mating pair to identify pairs with the highest progeny potential

### Optimize Predicted Producing Value or PPV

- Include the inbreeding depression of the selected trait
- Penalize the actual inbreeding relationship of each mating pair
- Calculate the best solutions to increase profitability in progeny



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## Breeding Strategies





## Breeding and Genomic Testing Strategies

- Whole herd
- **10 months — breeding age heifers**
- New born calves

### *What Are Your Goals?*

How will you utilize the information to make decisions?

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## This is the Future...

- Genomic testing females will become common practice
- Genomic testing will drive the use of Genetics and Sexed Semen
- The use of Sexed Semen will drive the practice of Genomic testing
- Herds will target to get their replacements from their best females
- Limit the production of Holstein bull calves

In cows sexed  
female semen on  
the top 40%

Sexed male  
Belgian Blue on  
the bottom 60%

Heifers sexed  
female semen on  
the top 40%

Sexed male  
Angus Mames  
Compass, Disciple  
60-70  
pound calves


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GLOBAL SUSTAINABILITY APPROACH:







**Profitability and ecofriendly based on  ranking**

EcoFeed rankings are based on 100 base system. Every 5 points are equivalent to one lb of less feed consumed per cow per day



... 75 80 85 90 95 **100** 105 110 115 120 125 ...

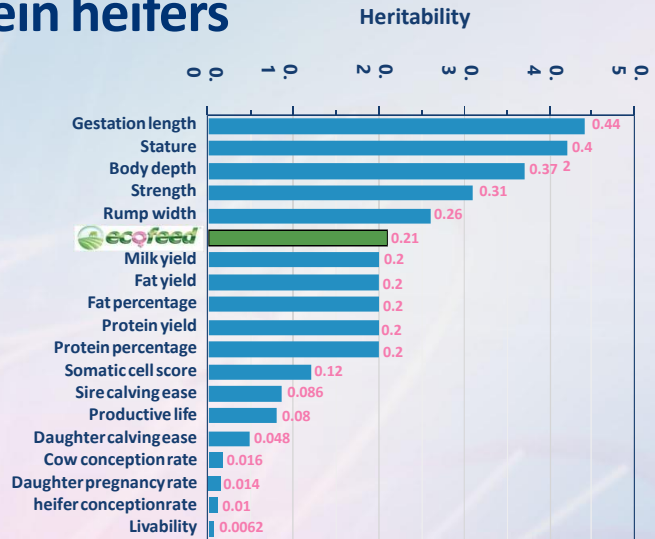
**Below Average**      **Above Average** 

# Single Step genomic evaluation of residual feed intake in growing Holstein heifers

## Results

- **Posterior** means (and standard deviations) for the heritability estimates were 0.21 (0.06) for the traditional animal model.
- **EcoFeed** is uncorrelated with any of the traits currently Holstein cows are selected for. Allowing us to improve EcoFeed while maintaining and improving all other traits.
- **Reliabilities:** 550 sires with daughters on test. 1 to 74 daughters (average 5). 13 with more than 30 daughters. Genomic reliabilities of the sires ranged from 0.08 to 0.76 with an average of 0.39.



## ecofeed DESIGNATED SIRES

Naab Code	Name	ecofeed	Rel. %	MILK	PTA Fat	% Fat	PTA Pro	% Pro	SCS	PL	DPR	GPTAT	SCE
203HO01468	Delta	105	73	1777	90	0.08	55	0	2.84	9.2	4.1	1.95	6.3
151HO00681	Rubicon	103	66	1317	106	0.2	49	0.03	2.84	7.7	2.5	1.95	7.3
513HO03091	Detour	105	65	1324	72	0.08	50	0.03	2.78	8.4	3.1	1.62	6.7
513HO03092	Charismatic	120	60	931	82	0.18	28	0	2.84	8.9	1.5	1.64	7
147HO02500	Comanche	113	54	1032	90	0.19	29	-0.01	2.96	7.5	2.1	0.92	6
147HO02462	Missouri	106	44	1906	46	-0.09	53	-0.01	2.69	6.2	1.6	1.82	7.4
203HO03112	Grid	102	39	1144	52	0.03	37	0.01	3.05	7.4	0.9	1.54	6.5
147HO02472	Kobra	102	37	595	37	0.05	33	0.06	2.81	5.9	2.4	1.68	6.6
151HO00757	Apollo*RC	102	37	1038	26	-0.05	34	0.01	2.59	5	3.4	2.18	8.7
151HO00759	Dealer	102	42	1423	36	-0.06	49	0.02	2.98	5.3	2.2	1.48	7
203HO01462	Juno	105	56	1589	59	0	44	-0.01	2.96	3.9	0.2	1.84	6.5
151HO00727	Link-Up	102	45	1877	40	-0.11	50	-0.02	2.93	4.4	-0.6	2.38	6.8
151HO00721	Lucent	102	39	716	42	0.06	47	0.09	2.72	6	1.1	1.18	6
151HO01619	Cade	103	51	453	19	0.01	22	0.04	2.58	6.9	5.4	0.49	4.2
151HO00664	Mador	107	44	1778	37	-0.11	36	-0.06	2.91	3.4	-0.3	2.03	8.5
151HO00653	Delorean	103	47	1150	23	-0.07	25	-0.03	2.87	6.9	1	1.65	8.9
151HO00628	Author	102	44	500	35	0.06	31	0.06	2.93	1.4	1.4	1.74	6
151HO00668	Lolo	102	38	807	35	0.02	16	-0.03	2.66	6.2	1	1.28	6.4
147HO02441	Determine	102	41	1467	30	-0.09	31	-0.05	2.89	7.5	0.5	0.65	8.6
203HO01268	Incharge	102	36	687	-1	-0.1	18	-0.01	3.04	1.2	-0.4	1.48	8.1
151HO00477	Acme*RC	101	40	-373	2	0.06	7	0.07	3.23	2.4	0.1	1.5	6.7

Thank you!



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