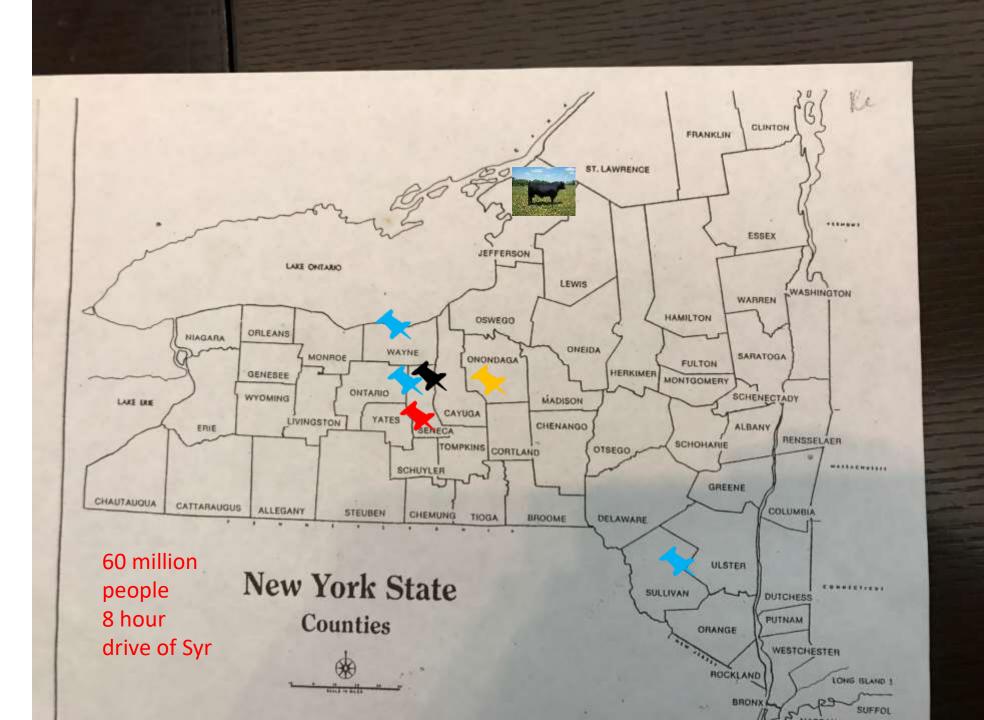
## **Improving Herd Genetics**

January 12, 2021

Rich Brown Equity Angus

315-406-5335





11

# Einstein's Definition of Insanity: Continue to do the Same Thing Expecting a Different Result

Improvement in Herd Genetics is Designed to Improve Farm Profit

To Improve Herd Genetics an Investment in <u>Dollars</u> and <u>Time</u> are Needed

### **What This Session Will Cover**

Why do You Want to Improve Herd Genetics?

What do Your <u>Customers</u> Really Want to Buy From You? (Potential Markets)

New York State Environment for Cattle.

Some Different Beef Cattle Breeds that fit in the Environment.

Two Ways to Improve Herd Genetics.

# Why strive for better Genetics

- Personal Preference
- Increased Profit Potential
- Higher Feeder Calf Prices
- Sale of higher quality meat results in new & repeat customers
- Potential for Breeding Stock Sales
- Similar cost of production



### **Potential Dollar Difference**

- 20 cent difference per pound, calf weight.
- 500 lb steer calf x 20 cents/lb = \$100 per calf.
- 15 steer calves to sell = \$1,500 cash increase.
- 15 heifer calves to retain = \$1,500 increased Value.
- Total of \$3,000 increased Value to Farm per year.
- For just 3 years increased Value to Farm is \$9,000.
- If your using a quality Bull also a Residual Value of \$1,000 est.

### **NEW YORK STATE ENVIRONMENT**

### Where you are affects Genetic Decisions

#### STRONG POINTS

- Relatively Inexpensive Feed
- Good quality land (3 acres/cow)
- Large Consumer Market Potential
- Multiple Processing Plants
- Excellent Transportation System
- Spring, Summer & Fall Weather

#### WEAK POINTS

- Producers Have Off Farm Income
- Small Herds
- Diversified / Non-uniform Cow Herds
- Few Buyers
- No Data Feed Back From Buyers
- Short Growing Crop Season
- Winter Weather & Mud

### CONTENTIAL BREEDS

### Rapid Large Growth

- Simmental
  - Gelbvieh
- Charolais
- Limousin
- Murry Gray
- Belgian Blue
- Piedmontese

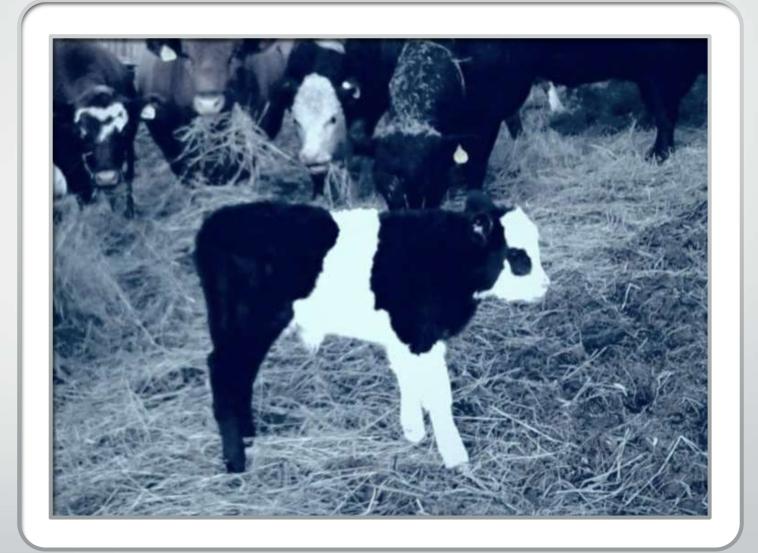
### **BRITISH BREEDS**

- Excellent Marbling
  - Black Angus
  - Red Angus
  - Hereford

### Calf For Sale

•How much will you pay per pound for this calf? Given that the high price for the best calves today is \$1.30/lb.

Assume the calf is 500 pounds.





## Feeder Cattle Sale- Finger Lakes Livestock Exchange, Canandaigua, NY Sale- 4/1/2017 1007 head

Prices range down from this according to quality, condition, fill and vaccination.

KIND	WEIGHT	WEIGHT	LOW	HIGH
Beef Steers	301 lbs.	500 lbs.	43	154
Beef Steers	501 lbs.	700 lbs.	58	138
Beef Steers	701 lbs.	701 lbs. plus	60	125
Beef Heifers	301 lbs.	500 lbs.	50	135
Beef Heifers	501 lbs.	700 lbs.	40	131
Beef Heifers	701 lbs.	701 lbs. plus	72	120
Beef Bulls	301 lbs.	500 lbs.	40	143
Beef Bulls	501 lbs.	700 lbs.	60	127
Beef Bulls	701 lbs.	701 lbs. plus	79	106
Beef Replacements			300.00 head	1325.00 head



## How Do You Pick Replacements?

- Pet Disposition
- Out of Favorite Cow
- Long Eyelashes
- Wife's Favorite Pet
- First One on Trailer
- Eats Cookies
- Looks Pretty

- Consultant/Do Farm Visits
- Pedigree
- EPDs (Expected Progeny Differences)
- Enhanced EPDs with Genomics
- Ultra Sound Testing
- Physical Appearance
- Market Potential

## **Ways to Improve Genetics**

- Buy in high quality cattle from a <u>reliable source</u> that doesn't have health issues or play games with the genetics. i.e. names or EPD's Ask Questions
- Buy Embryos; yearlings; heifers; cows; and bulls Ask Questions
- Can I see the dam/sire at your farm?
- Is the bull semen & genetic defect tested?
- Is the Heifer/Cow genetic defect tested?
- Is the farm on the NYSCHAP herd health program or a Closed Herd?
- Has the Registration Name been changed? (Farm Name Change \$5.00)
- Visit the Farm Purchasing from & Observe All Aspects of Management
- Raise your own by using AI; Quality Bulls and Researching Available Data.

### Registration Number

+\*19814495 Equity 131 Duchess 79 DWF

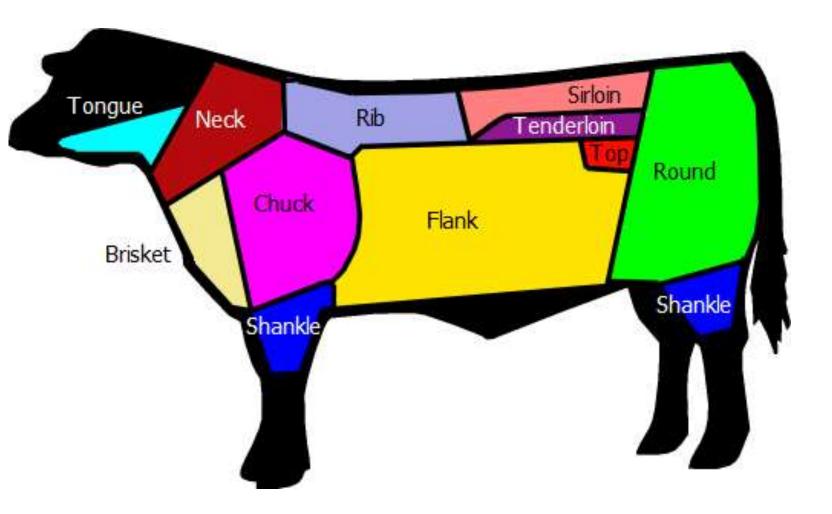
+ Is a Embryo Calf

\* Is a Calf with Both Parents and the Mating DNA Verified

Equity is the Farm Name (Easily Changed \$5.00)

**DW** Dwarfism Gene

DWF, DWC, DWP



What we're really selling!

## What are consumer's demanding?

- TASTY Marbling
- **TENDER** Age
- SAFE & HEALTHY Source of PROTEIN
- CONSISTENT QUALITY
- HUMANE TREATMENT
- FOOD SAFETY
- CHEAP & ABUNDANT
- ENVIRONMENTALLY FRIENDLY



Fig. 1: Historical USDA Prime grading percentage 0.05 0.04 0.03 0.02 0.01

2006

2008

2010

2012

2004

■ USDA Prime Grading % (High)

2002

2000

1998

2016

2014

Source: Urner Barry.

1996

## What Traits Contribute to the Bottom Line of a Cow/Calf Producer?

- TOTAL WEIGHT OF CALF CROP
  - # calves (affected by fertility)
  - Avg Weaning Weight Breed of Cattle make a Difference (mature size)
- QUALITY OF CALVES
  - Carcass (IMF, REA, Backfat) "Guessing or Data"
  - Condition (Target BCS 5 not skinny but not fat)
- Farm Health Reputation: Johnes Disease, Respiratory, Mycoplasma (stress) etc. **BOOTS**
- Angus Premium

# What Traits Contribute to the Bottom Line of a Feedlot Operation?

#### PURCHASE PRICE AND SALE PRICE

- QUALITY GRADE
  - Skeletal maturity (age) 14-18 months (Tenderness & Amount of Feed)
  - Marbling (Potential to GRADE: Prime; Choice; Select; Commercial)
- Yield (lbs sold & percent YIELD: 1; 2; 3; 4; 5)
  - REA size
  - Backfat & KPH fat waste
  - Hot Carcass Weight (Breed is Important)
- FEED EFFICIENCY (More data becoming available)
- Uniformity (Your Genetic Breeding Program)
- Health (Your Calves will develop your Farm Reputation)

## Expected Progeny Differences (EPDs)

### Performance, Pedigree, Progeny Data, Genotype

Calculated by a Single Step

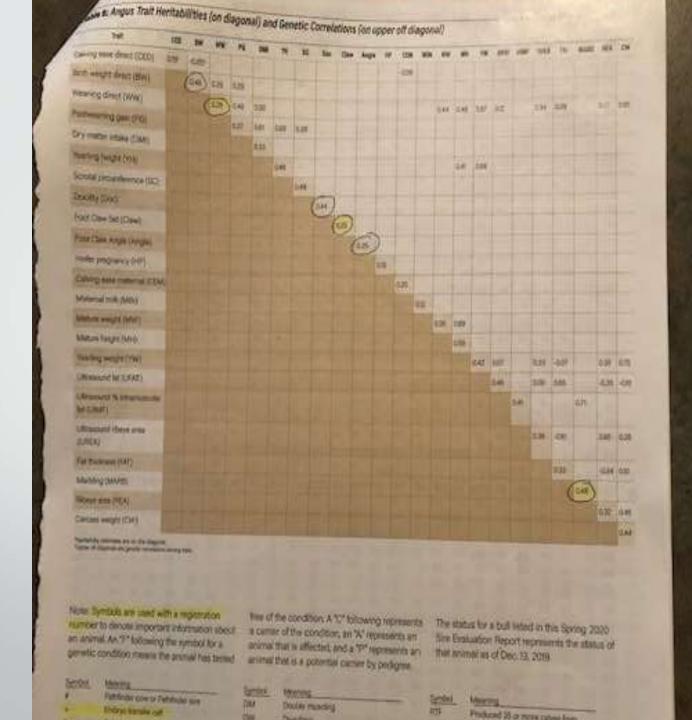
Best Linear Unbiased Predictor (BLUP)

Genotypes 40,000 Single-nucleotide polymorphisms (SNPs)

SSGBLUP or SINGLE STEP

### **EPDs**

- Birth Weight (BW), expressed in pounds, is a predictor of a sire's ability to transmit birth weight to his progeny compared to that of other sires.
   Heritability 0.46
- Weaning Weight (WW), expressed in pounds, is a predictor of a sire's ability to transmit weaning growth to his progeny compared to that of other sires. Heritability 0.28
- Marbling (MARB), expressed as a fraction of USDA marbling score, is a predictor of the difference in marbling of a sire's progeny compared to progeny of other sires. Heritability 0.48
- Angus.org Feb 2020 issue Angus Journal; Spring 2020 Sire Evaluation Report



## cross-Breed EPD Adjustment Factors

	to norges-breed EPU	5
Table 1: Adjustment facts	rs to estimate across-breed EPD	

lanie ii Mujusi	unem re			Milk	Marb*	RE	Pat	CH
Breed	BM	WW	YW		0.0	0.0	0.0	0.0
Angus	0.0	0.0	0.0	0.0	-0.32	0.06	-0.075	-67.3
Hereford	1.0	-16.1	-44.0	-10.4		0.24	-0.049	-14.4
Red Angus	2.5	-19.5	-29.8	2.7	-0.13	0.55	-0.025	7.2
Shorthorn	4.2	-32.5	-44.0	2.9	-0.05		-0.181	-72.5
South Devon	2.3	-27.0	-68.1	4.4	-0.38	0.40	-0.101	SOR MERCE
Beefmaster	4.0	21.3	-3.8	9.5		100 100 0	-0104	-36.6
Brahman	9.7	49.8	10.8	18.8		0.01	-0.164	-30.0
Brangus	2.7	14.2	0.5	15.8				
Santa Gertrudis	4.9	37.5	34.9	20.8	-0.46	0.14	-0.091	-10.8
Braunvieh	1.9	-19.4	-42.4	4.8	-0.65	1.05	-0.107	-51.7
Charolais	6.2	29.6	24.7	8.7	-0.31	0.82	-0.200	8.8
Chiangus	2.5	-21.0	-36.0	4.2	-0.47	0.57	-0,140	-17.8
Gelbvieh	3.3	-11.6	-19,6	12.4	-0.52	0.92	-0.102	-5.3
Limousin	2.2	-17.2	-48.6	-2.1	0.01	0.65	-0.021	-3.1
Maine-Anjou	1.6	-30.0	-63.1	-4.3	-0.46	1.02	-0.184	-32.9
Salers	0.6	-9.9	-41.8	7.1	0.09	1.16	-0.179	-43.0
Simmental	2.5	-13,0	-18.7	1.7	-0.08	0.48	-0.049	-5.4
arentaise	2.5	19.1	-15.8	22.4				
Madding companies 400								

<sup>&</sup>quot;Martiling score units: 4.00 = \$100; 5.00 = \$m00

Source: U.S. Meat Animal Research Cerner.

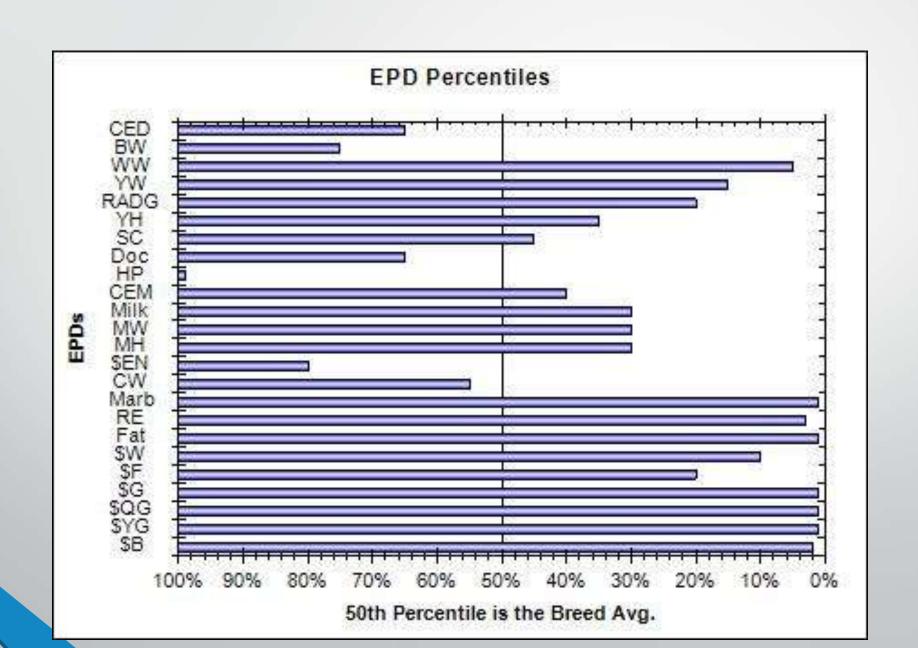
Table 2: Example of using across-breed adjustment factors to convert noncomparable within-breed EPDs to comparable across-breed EPDs

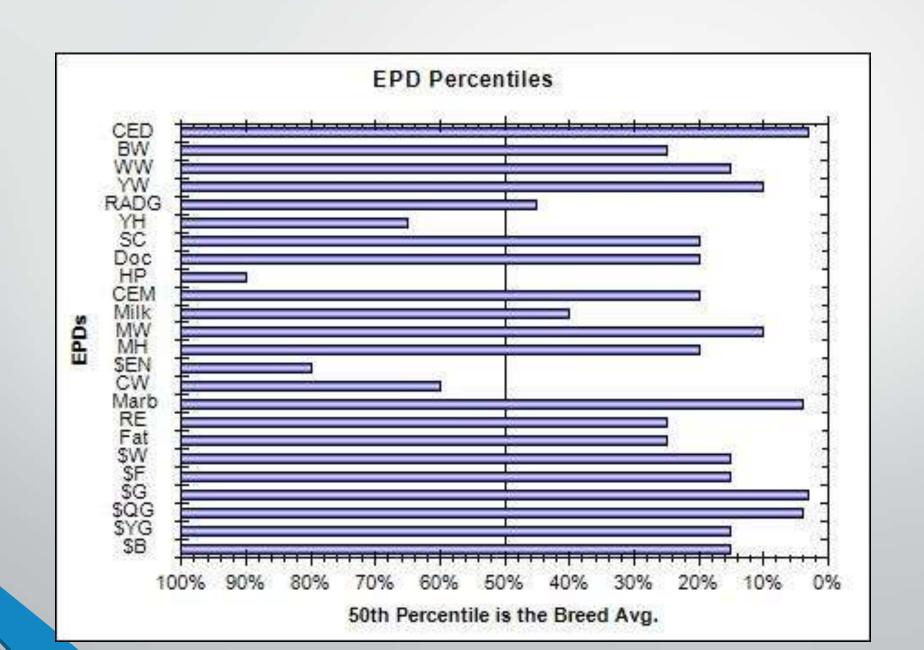
		BW	WW	YW	Milk
Angus	AB adj. factors!:	0.0	0.0	0.0	0.0
Bull #001	EPD2:	2.8	56	83	20
	AB-EPD3:	2.8	56	83	20
Simmental	AB adj. factors':	2.5	-13.0	-18.7	1.7
Bull #002	EPD*:	1.8	68	101	22
	AB-EPD!:	4.3	55	82	24

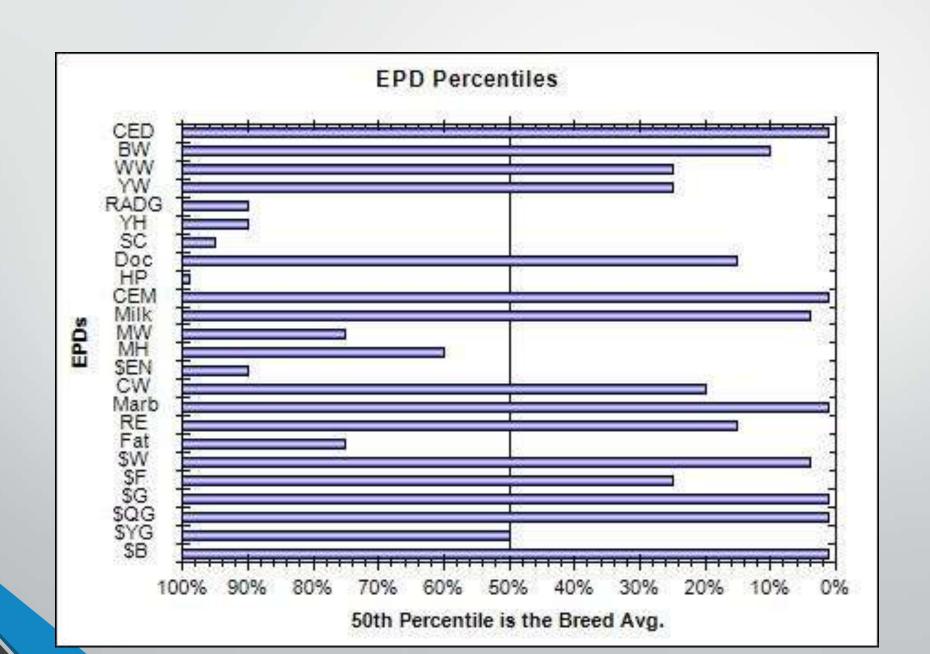
<sup>148</sup> adj. factors are the across-breed adjustment factors from Table 1.

EPDs are the within-breed EPD values from the breeds genetic evaluation for the bull of interest.

<sup>&#</sup>x27;Across-breed EPDs after adjustment factors are applied to within-breed EPDs.







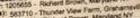
EPD Details

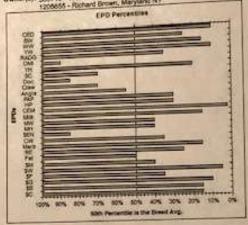
### AMERICAN ANGUS ASSOCIATION - THE BUSINESS BREED

### Equity 386 Duchess Autumn B Reg: AAA \*18543301 Cow

Size: SydGon Blacksmith 4010 AAA-17271732 [RDF] Date: Equity 180 Duchess Autumn Ob AAA-15748045
Birth Date: 66/15/2016 Tattoo: 386
Parents Ouesthed Size Control Size Control

2718/2020



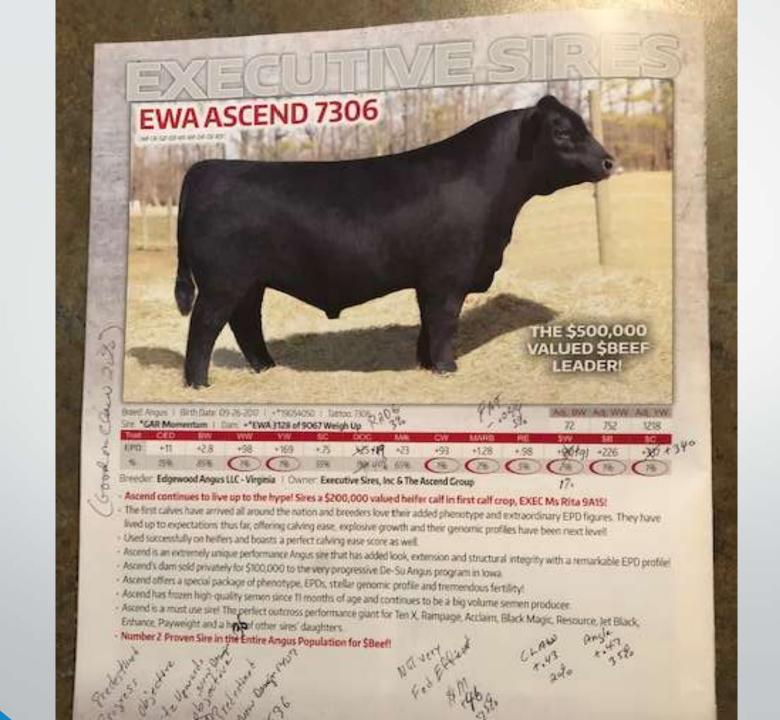


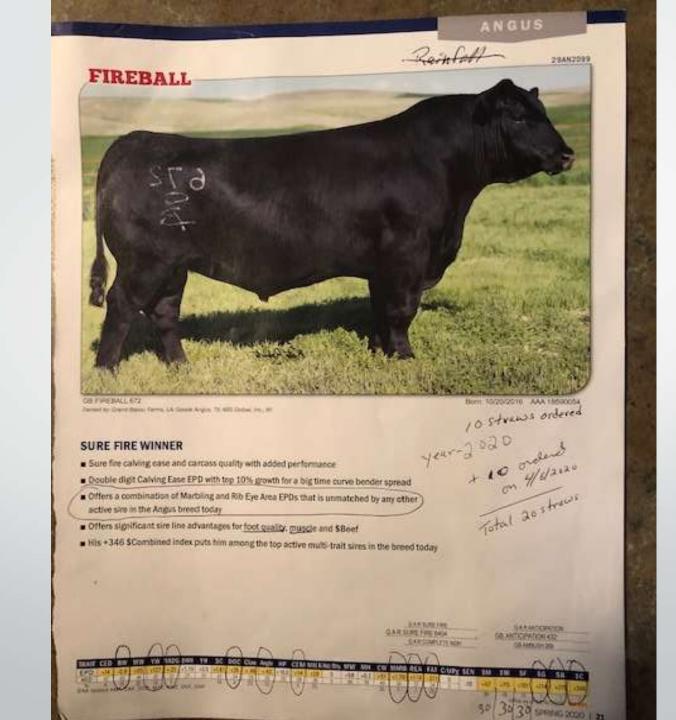
As of 12/17/2000

				-		_	-	100			laternel	DONORSON	1000	200000
CED AX	ACC TO	WWW Acc	ACT N	RADG ACE	DHI ACC %	YH ACK St	* S X	HP ACC	CEM ACC %	HILL ACC W	MIGH	MW ACE	AL AND STOR	SEN %
#12 33 10%	+11 -45 23%	+70 41 15%	*129 .36 10%	+.26 -20 35%	+1.63 -39 90%	43 20%	* 40 39 70%	*12.8 172.8 20%	150	+30 ,30 15%		160 .35 40%	38	-24 85%

	Manag	ement	
84.8	Circ Acc %	A STATE OF THE STA	AP AP
255	*.55 23 70%	+ 50 23 55%	+ 34 31 30%

Certain							SYaloes											
ON ACC	ACC	EL ACT	PM ACC No.	Carc Grp Prog	Using Grp Prog	SH	SW.	15	SG.	50	K							
H9 A0	*.98	+.77	+.008			+63	+80	+87	+70	+157	+257							
A0 35%	15%	15%	50%	1		40%	5%	35%	10%	15%	15%							





#### ANGUS



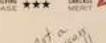
BITZ STELLAR 7260

Consid by Say Angus Harry, MY ARS chang by, or

BIN 123/2016 AAA 18397542

#### STELLAR PERFORMANCE AND DESIGN

- · 2017 Sitz Angus Sale topper
- . Outstanding maternal pedigne and design with althe SMaternal and Foot Starm orburs
- Super thick topped and their soled built that only improved his power hause phenotype, while breeding cows as a powring
- Senates his expression muscle, the first thing you will notice about STELLAR is the outstanding tool quality and added depth of beg.
- His progeny have donormal recent Dity Angus Ranch Select Including the saring bus size group and the \$105,000 top safer in the fall of 2019.



MOHEN SUBSTINION, 272 schedulers mark to be the IDMINISTRA MINORE 5/52 7PROE 2000

STATISTICS.



THE REST CONTRACTOR NAMED IN

CW MIRE REA FAT CUTY SEN SM SW SF EG SB SC



Ser Argus Harm, MC



Sto Angua Ramon, NY, Sur Jr Angua, NY, Lend's Hiller Angua, NY, & Can Impain, NY



Dougher but here 2300. Sto Argin ferms, MT

## - PROGRESS YEAR AFTER YEAR -

## **EQUITY ANGUS**

Equity Angus Calf Crop <u>AVERAGE</u> <u>EPDs</u>	CED	BW	ww	YW	SCR	DOC	MILK	MARB	REA	FAT	\$8
2008	6.7	0.9	36.1	62.4	0.30	4.1	19.0	0.38	0.12	-0.001	61.37
2009	10.5	-0.1	44.2	78.5		11.5	21.5	0.60	0.15	0.016	78.48
2010	10.6	0.8	48.0	83.8	0.76	8.3	21.4	0.60	0.35	0.006	81.16
2011	7.3	1.1	45.0	77.1			22.7	0.61	0.30	0.020	73.56
2012	7.3	0.9	46.3	79.6	0.66	9.0	19.4	0.50	0.26	0.007	76.46
2013	7.6	1.2	49.0	84.0	0.42	5.0	21.5	0.74	0.28	-0.002	88.64
2014	7.1	1.3	50.6	86.4	0.49	15.0	24.9	0.87	0.45	-0.010	94.60
2015	6.9	1.5	53.0	87.1	0.58	13.0	25.2	0.88	0.48	-0.007	96.20
Predicted 2016	7.0	1.5	55.4	88.3	0.61	16.0	25.4	0.91	0.49	-0.009	98.10



Rich Brown • (315) 406—5335 equityangus@gmail.com • www.equityangus.com Port Byron, NY

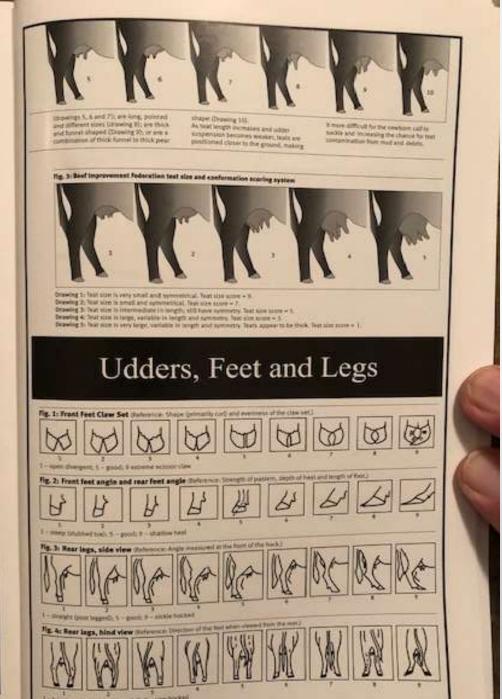
Cattle for the Future Today!

New Animal Set	Dar No. Reg. No. Name	Birth Date	Sex	No Tag Tatt	Ciro Dog Mo Dam Reg. No. Dam Name	Sire Reg. No. Sire Name	CED	BW	ww	YW	RADG	DMI	YH	SC	Doc	HP	CEM	Milk	MW	МН	\$EN	cw	Marb	RE	Fat
	AAA 18680003 (DOF-OSF) Equity 455 Duchess Excess	07/14/2015	lles.		AAA 17843720 Equity 34 Duchess Elise	AAA 17861130 Equity 383 Excess	+12	1 .30	+35	+67	+.17	05 .32	+.5 .32	36 .36	+16	+2.9	+11	+26	+49	+.4	-3.47	+20	+1.86	+.45	+.055
	AAA 17843720 (DDC) Equity 34 Duchess Elise	01/09/2014	С	34 34	AAA 16270655 Equity 39 Duchess Bell NCC1	AAA 16290873 G A R Progress	+15 .33	5 .36	+39 .28	+69 .31	+.16	+.19 .36	+.2	36 .39	+13 .29	+12.1 .27	+15 .16	+27 .22	+14	+,2	+.89	+17 .26	+1.46 .34	+.45	+.029
	AAA 17533320 ppon Equity 73 Noelle Avia	02/15/2013	С	73 73	AAA 16270656 Equity 59 Noelle Evangline	AAA 16290873 G A R Progress	+16 .38	2 .43	+37 .32	+69 .32	+.19 .36	+.15 .36	+.1 .36	15 .39	+14 .29	-1.0 .27	+15 .16	+28 .24	+47 .38	+.4 .22	-6.03	+15 .26	+1.35 .34	+.53 .31	+.005
	AAA 18322356 Equity 425 Noelle Rilee 93	06/01/2015	С		AAA 17533320 Equity 73 Noelle Avia	AAA 17533324 Equity 93 Dealer Progress	+12 .28	+.6 .32	+36 .23	+69 26	+.21 .31	07 .31	+.2 .31	33 .35	+16 .24	+2.2	+12 .08	+28 .14	+45 .32	+.4 .15	-5.79	+17	+1.35	+.58	+.033
	AAA 18325529 Equity 315 Ayaka Crish Pat	04/22/2015	С		AAA 16600584 Equity 110 Ayaka Gene NW	AAA 15676975 SQ Patriot 103R	+7 .27	+1.9 .34	+47 .25	+82 .20							+11 .13	+21 .17	1+30 .05	I+.5 .05	+.64	+35 .15	+1.16	+.59 .21	+.001
	AAA 18543301 Equity 386 Duchess Autumn B	05/18/2016	c		AAA 16748645 Equity 180 Duchess Autumn Ob	AAA 17871732 SydGen Blacksmith 4010	+14 .28	+.5 .33	+57 .24	+109	+.29 .32	+.15	+.9 .34	+.82	+21 .26	+12.9	+14 .07	+28	+50 .33	+.5	-15.36	+43 .18	+1.15	+.79 .25	+0 .29
	AAA 18091558 [AMF] Equity15 Ayaka Sue Patriot	01/28/2015	С	15 15	AAA 16872659 Equity 141 Gene 187 Ayaka 99	AAA 15676975 SQ Patriot 103R	+9 .25	2 .33	+48 .25	+80 .16							+12 .11	+19 .16	I+16 .05	I+.4 .05	+5.28	+28 .13	+1.12	+.60 .19	+.011
	AAA 18741891 Equity 47 Ayaka Ecco TS	03/01/2017	С	47 47	AAA 18091558 Equity15 Ayaka Sue Patriot	AAA 17633563 S A V Ten Speed 3022	1+7 .05	I+.4 .05	1+57 .05	I+100 .05							1+11 .05				-18.57	1+44 .05	I+1.06 .05	1+.77 .05	I048 .05
	AAA 18080992 Equity 45 Forever Lady Q181	02/15/2015	С	45 45	AAA 17143103 Equity 201 Forever Lady Q181	AAA 16645185 44 Conveyance 0X52	+6 .26	+.1 .35	+52 .27	+91 .21								+32 .18			-20.13	+49 .16	+1.01	+.89	+.026
	AAA 18324514 Equity 325 Forever Lady Cogi	04/26/2015	С		AAA 16491204 COGI Forever Lady 903	AAA 16645185 44 Conveyance 0X52	I+5 .05	I+1.1 .05	I+53 .05	1+92 .05							I+11 .05	I+34 .05			-23.47	+48 .15	+.99	+.47	014 .18
	AAA 18322355 Equity 405 Noelle Diane 93	05/21/2015	С		AAA 16848133 Equity 51 Noelle Karrie 79	AAA 17533324 Equity 93 Dealer Progress	+9 .18	+1.6	+42 .19	+74 .08							+10 .07	+27	I+18 .05	I+.2 .05	-2.28	I+20 .05	1+.97 .05	1+,39 .05	I+.009 .05
	AAA 17884772 [AMC DDF] Equity 144 Ayaka Kim	02/13/2014	С		AAA 16426086 Equity 109 Ayaka Duke	AAA 15676975 SQ Patriot 103R	I+9 .05	I+.4 .05	1+43 .05	1+72 .05							I+12 .05	I+22 .05	I+16 .05	I+.3 .05	+6.15	I+21 .05	I+.96 .05	1+.50 .05	I022 .05
	AAA 16748645 Equity 180 Duchess Autumn Ob	11/11/2010	С		AAA 16270655 Equity 39 Duchess Bell NCC1	AAA 13776378 S S Objective T510 0T26	+10 .36	+1.7	+50 .30	+90 .31	+.19 .40	+.38 .40	+.5 .37	+1.08	+13	+10.8 .28	+11 .19	+23 .25	+16 .40	+,2 .24	+1.83	+27 .27	+.91 .35	+.42	015 .35
	AAA 18091533 Equity 135 Blackbird Sara P	03/15/2015	С		AAA 17629372 Equity 233 Blackbird Molly	AAA 15676975 SQ Patriot 103R	+5 .29	+1.3	+50 .26	+83							+9 .12				+2.53	+29 .14	+.91 .17	+.41	024 .17
	AAA 18091559 Equity 175 Harmony Eve P	03/19/2015	С	110000	AAA 16577871 Equity 40 Roxy Harmony Pic	AAA 15676975 SQ Patriot 103R	+6 .26			+66									I+15 .05		+9.89	+21 .14	+.91 .17	+.51	028 .17
	AAA 18741892 Equity 57 Forever Lady Q181	03/03/2017	С		AAA 18080992 Equity 45 Forever Lady Q181	AAA 15015255 NCC Midland N001	I+10 .05	16 .05	1+44 .05	I+76 .05							I+11 .05	1+27 .05			-6.39	1+27 .05	I+.91 .05	1+.55 .05	1+.008 .05
	AAA 18383658 [AMIC] Equity 265 Ayaka Gladys Conv	04/10/2015	С		AAA 17190616 Equity 171 Ayaka Rosie 79	AAA 16645185 44 Conveyance 0X52	+6 .23			+80 .17									I+15 .05		-11.06	+38	+.90 .15	+.49	036 .16



arlesworth Albion Rd. NY 14755 6-938-6676





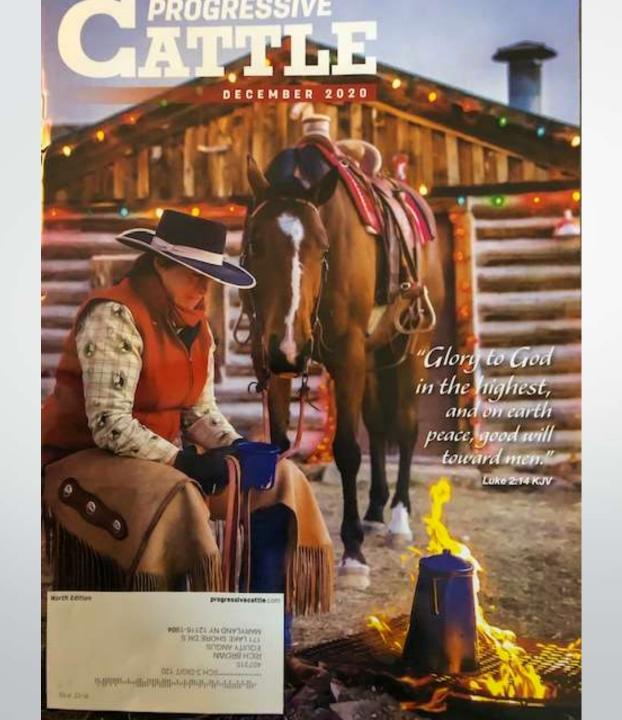




## How do I decide the correct Bull for each Cow? (Know your Cows) "Recommendations"

- Determine the number of cow groups in your herd. (1-4)
- Use \_\_\_\_\_ on cows that are feminine and sound but could use power and carcass traits.
- Use \_\_\_\_\_on cows that are balanced, moderate females that could use more maternal
- Use \_\_\_\_\_on cows that are big framed, have a lot of bone, or are very easy fleshing that could use more carcass traits, feed efficiency, and size moderation.
- Use \_\_\_\_\_ on cows that need claw and pastern improvement.
- My cell phone number 315-406-5335





### **TAKE AWAYS**

- Know Why You Want to Improve Herd Genetics
- Know What Your Customers Want to Buy
- Know Your Environment and the Breed Best Suited for You
- Develop a Plan to Improve Your Herd Over Time (Buy and/or Raise)
- Decisions made by using EPD's enhanced with Genomics
- Selections by evaluating Physical Characteristics of Animal
- Visit/Study Farms with Reputable Reputations and Observe Management

### THANKS FOR YOUR ATTENTION

