

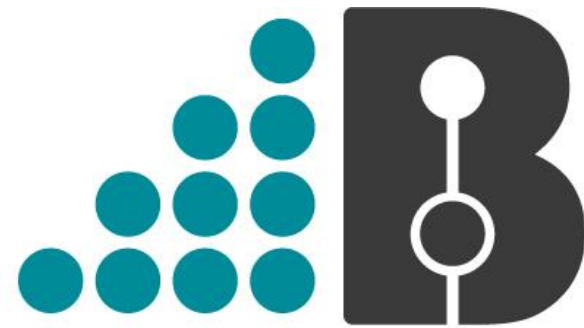


ANGUS
THE BUSINESS BREED

AGI Launches Dairy Crossbreeding Indexes: \$AxH and \$AxJ

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Thanks to all involved - collaborative effort



abacusbio.

BRIDGING SCIENCE & BUSINESS

The dairy cow is to the beef industry
what the laying hen is to the broiler
industry



Need to put a little
meat on them bones



Clear message from all segments

- Need to look like beef animals
 - Tall and narrow don't fit
- Carcass length can be a problem in Angus x Holstein crosses
- Sunken strips are a problem
- Additional emphasis on height and ribeye are will be required.





Terminal Index: Capturing Value from Birth to Carcass

- Dairy Farmer
 - Calving Ease and Birth Weight
 - Economics from USA Net Merit assumptions
- Grow-out and Feedlot performance
 - Modeled in a similar way to \$F
 - WW, PWG, Feed intake
 - Longer days on feed

Comparing Angus Terminal Values

- Similar traits included in
 - \$B – Beef Value
 - \$AxH – Angus-on-Holstein
 - \$AxJ - Angus-on-Jersey
- Additions beyond \$B
 - Muscling
 - Height
 - Calving Ease
 - Growth to Weaning

Table 1: Traits included in three American Angus Terminal \$Value indexes

| | \$B | \$AxH | \$AxJ |
|---------------------|-----|-------|-------|
| Calving Ease | | ✓ | ✓ |
| Growth to weaning | | ✓ | ✓ |
| Post-weaning growth | ✓ | ✓ | ✓ |
| Post-weaning intake | ✓ | ✓ | ✓ |
| Dressing Percent | ✓ | ✓ | ✓ |
| Yield Grade | ✓ | ✓ | ✓ |
| Quality Grade | ✓ | ✓ | ✓ |
| Muscling | | ✓ | ✓ |
| Height | | ✓ | |

\$Value – Birth to Carcass

| | \$B | \$AxH | \$AxJ |
|---------------------|-----|-------|-------|
| Calving Ease | | ✓ | ✓ |
| Growth to weaning | | ✓ | ✓ |
| Mature weight | | | |
| Fertility | | | |
| Docility | | | |
| Foot score | | | |
| Post-weaning growth | ✓ | ✓ | ✓ |
| Post-weaning intake | ✓ | ✓ | ✓ |
| Dressing Percent | ✓ | ✓ | ✓ |
| Yield Grade | ✓ | ✓ | ✓ |
| Quality Grade | ✓ | ✓ | ✓ |
| Muscling | | ✓ | ✓ |
| Height | | ✓ | |

Utilizes economics from
USA Net Merit assumptions

\$Value – Birth to Carcass

| | \$B | \$AxH | \$AxJ |
|---------------------|-----|-------|-------|
| Calving Ease | | ✓ | ✓ |
| Growth to weaning | | ✓ | ✓ |
| Mature weight | | | |
| Fertility | | | |
| Docility | | | |
| Foot score | | | |
| Post-weaning growth | ✓ | ✓ | ✓ |
| Post-weaning intake | ✓ | ✓ | ✓ |
| Dressing Percent | ✓ | ✓ | ✓ |
| Yield Grade | ✓ | ✓ | ✓ |
| Quality Grade | ✓ | ✓ | ✓ |
| Muscling | | ✓ | ✓ |
| Height | | ✓ | |



Growth from birth
to slaughter

\$Value – Birth to carcass

| | \$B | \$AxH | \$AxJ |
|---------------------|-----|-------|-------|
| Calving Ease | | ✓ | ✓ |
| Growth to weaning | | ✓ | ✓ |
| Mature weight | | | |
| Fertility | | | |
| Docility | | | |
| Foot score | | | |
| Post-weaning growth | ✓ | ✓ | ✓ |
| Post-weaning intake | ✓ | ✓ | ✓ |
| Dressing Percent | ✓ | ✓ | ✓ |
| Yield Grade | ✓ | ✓ | ✓ |
| Quality Grade | ✓ | ✓ | ✓ |
| Muscling | | ✓ | ✓ |
| Height | | ✓ | |

Re-parameterized for dairy beef system

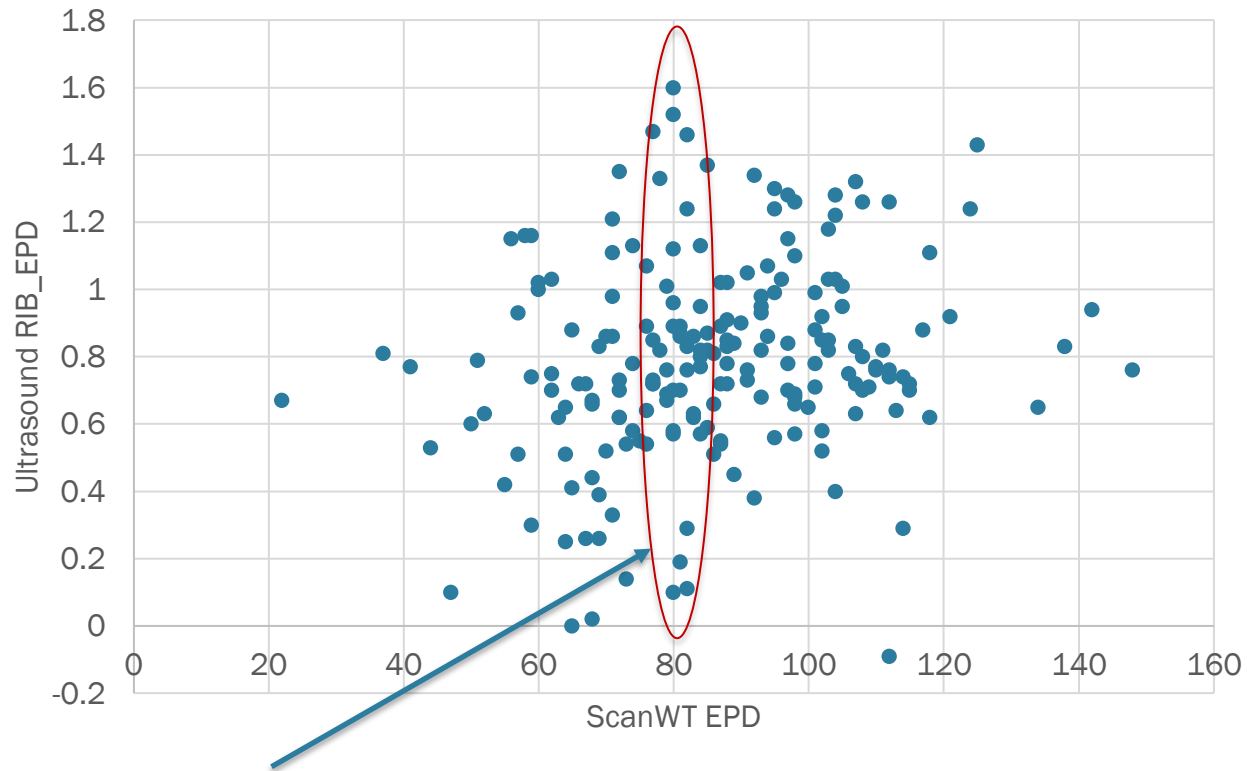
- Slower growth
- Poorer conversion
- Less fat cover
- Fed for longer

\$Value – Birth to carcass

| | \$B | \$AxH | \$AxJ |
|---------------------|-----|-------|-------|
| Calving Ease | | ✓ | ✓ |
| Growth to weaning | | ✓ | ✓ |
| Mature weight | | | |
| Fertility | | | |
| Docility | | | |
| Foot score | | | |
| Post-weaning growth | ✓ | ✓ | ✓ |
| Post-weaning intake | ✓ | ✓ | ✓ |
| Dressing Percent | ✓ | ✓ | ✓ |
| Yield Grade | ✓ | ✓ | ✓ |
| Quality Grade | ✓ | ✓ | ✓ |
| Muscling | | ✓ | ✓ |
| Height | | ✓ | |

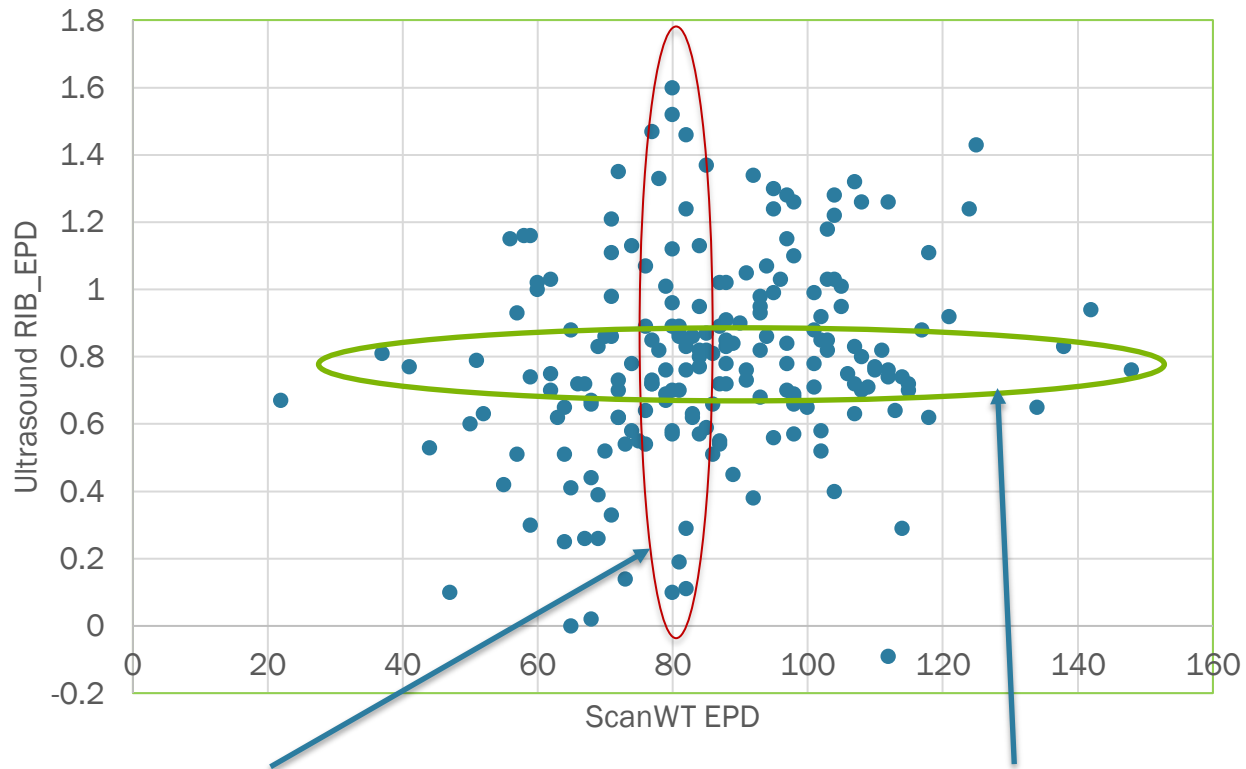
New traits added to penalize bulls with poor muscling or excessively tall

Determination of Muscling



These animals all have similar Weight EPD, but vastly different Ultrasound RIB-EYE Area EPD

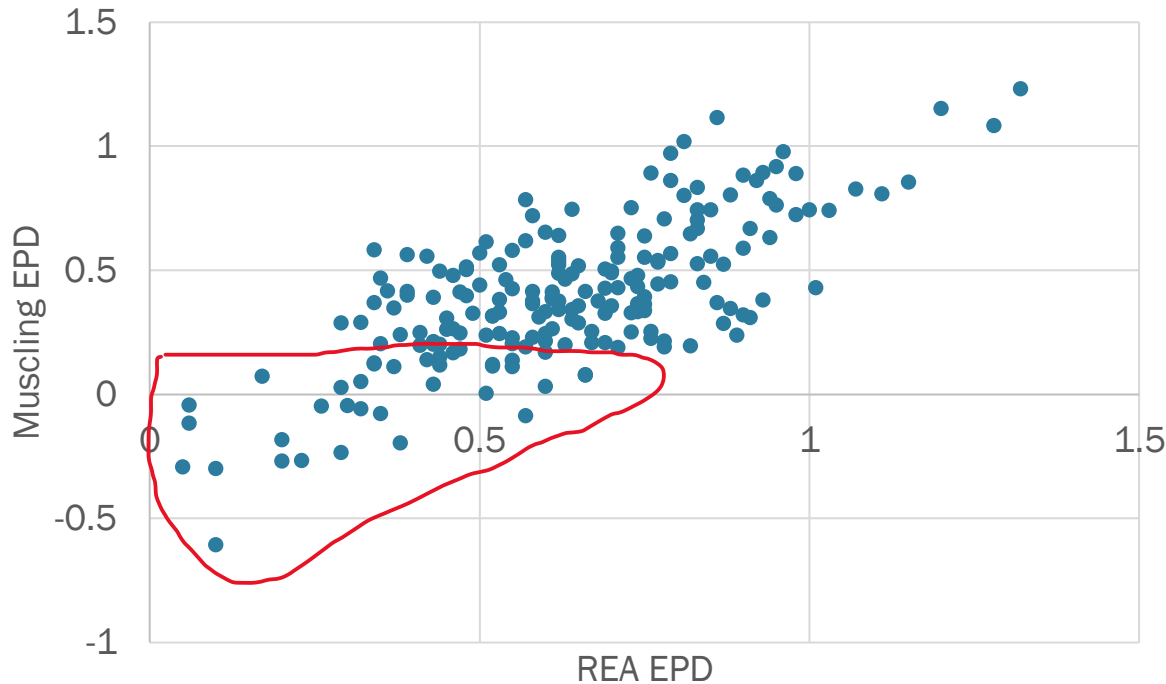
Determination of Muscling



These animals all have similar Weight EPD, but vastly different Ultrasound RIB-EYE Area EPD

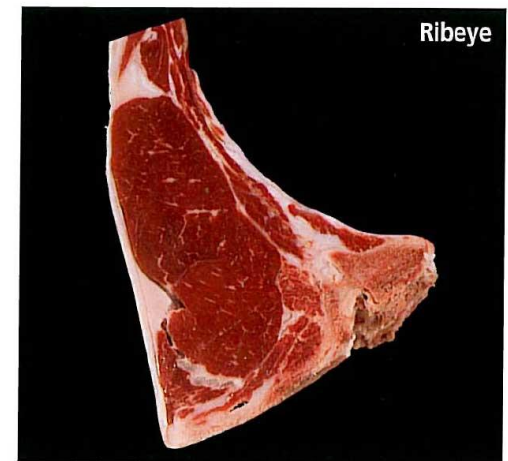
These animals all have similar RIB-EYE EPD, but vastly different Weight EPD

REA EPD and Muscling



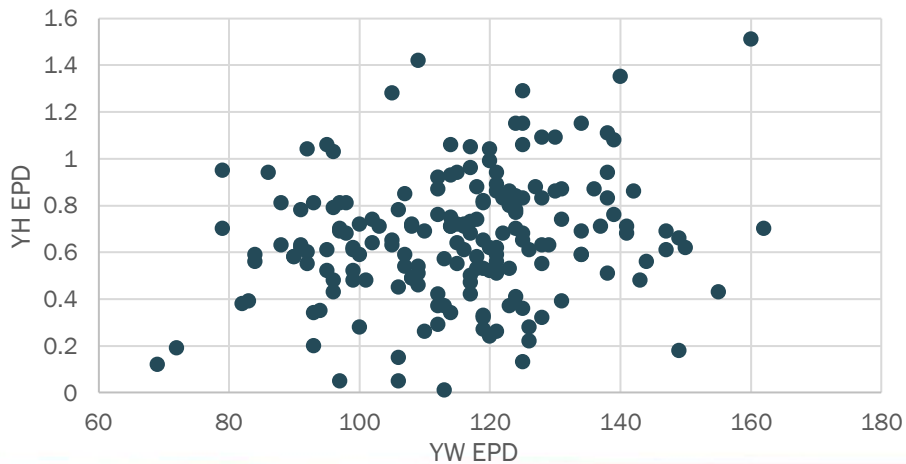
Poor muscling will lead to increased percent Sunken Strips

Sunken Strip frequency 3X higher in AxJ vs. AxH
Creates a non-linear economic emphasis



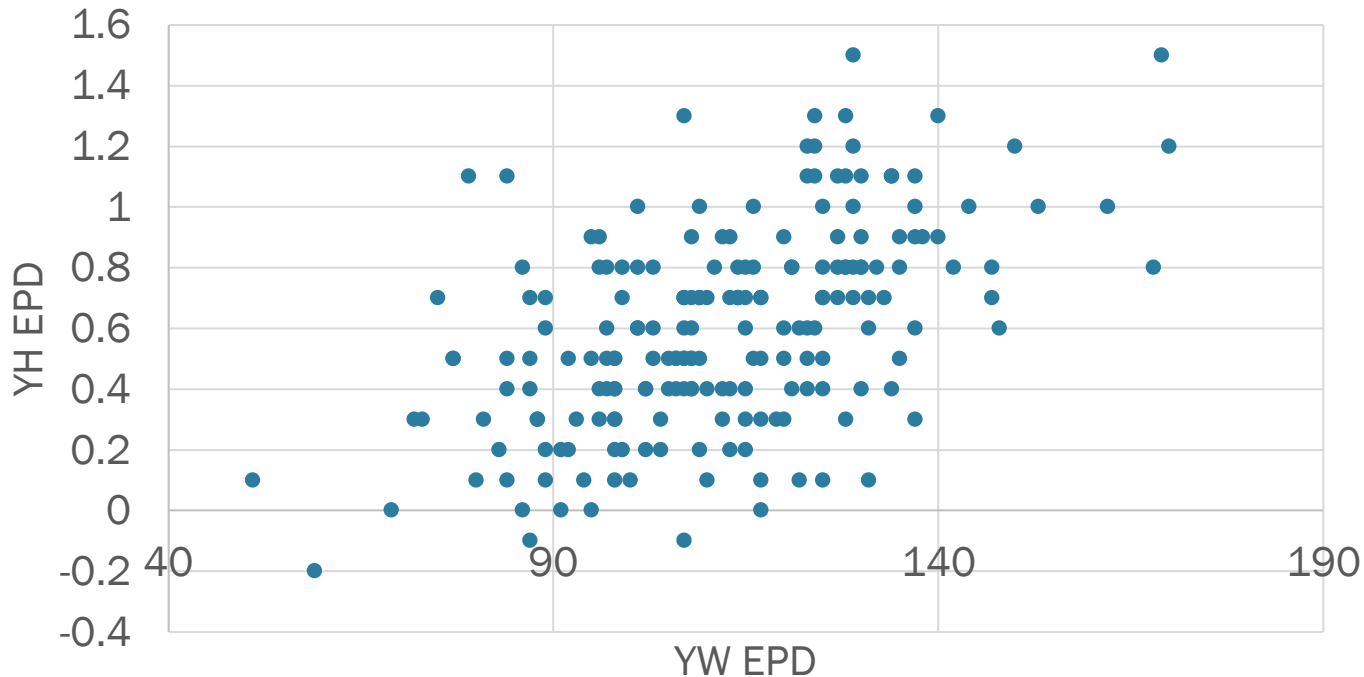
Dairy Type

Wide range in phenotype



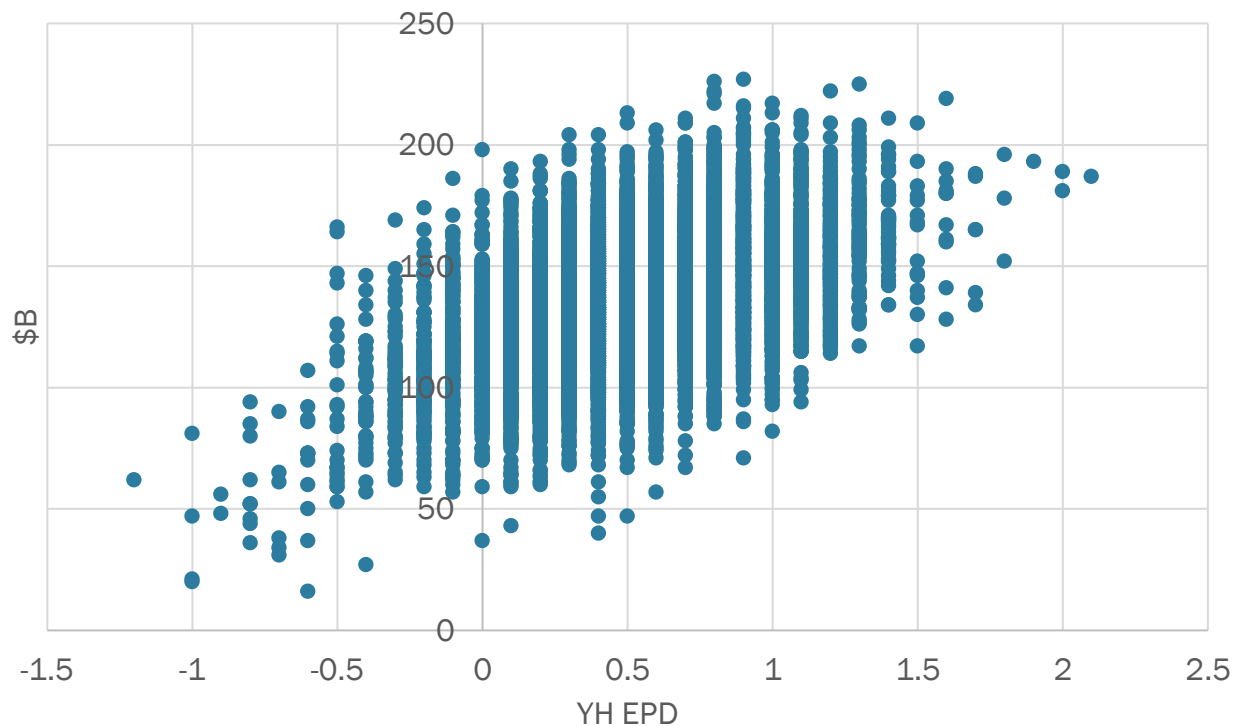
Horses for Courses

Carcass length in Holstein causes a concern



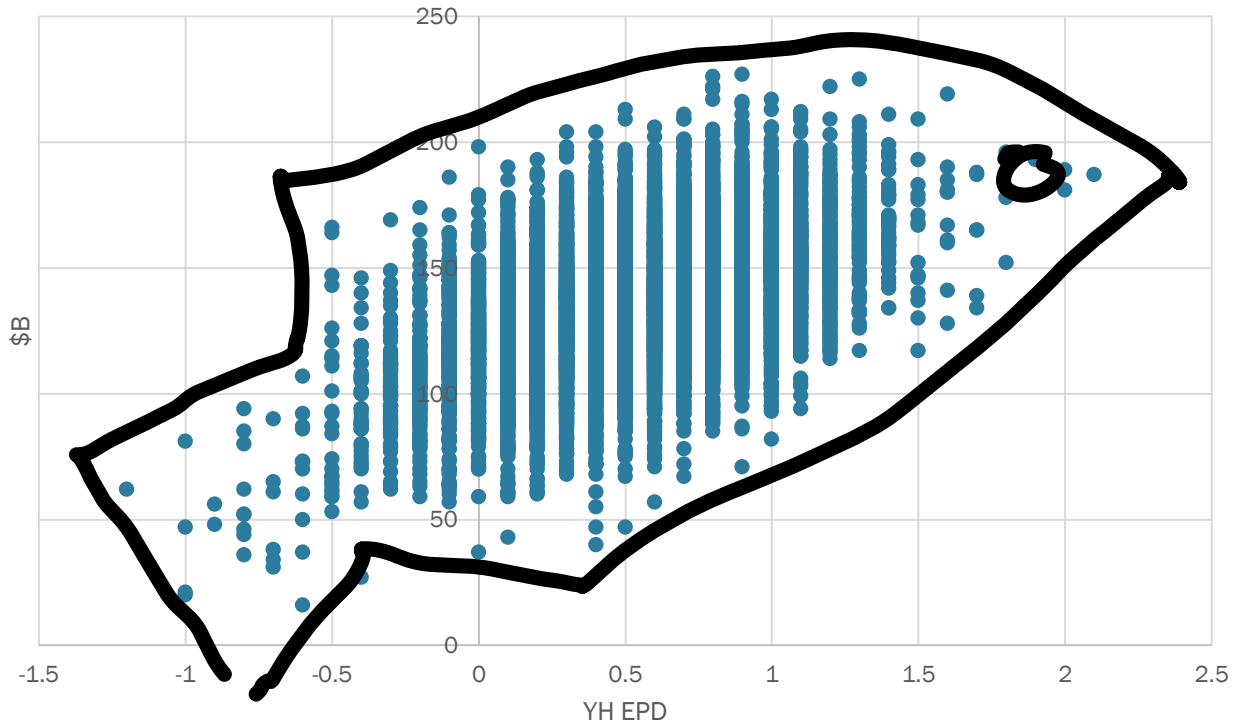
Proportion of AxH steers too long

\$B and YH EPD are positively correlated (0.47)

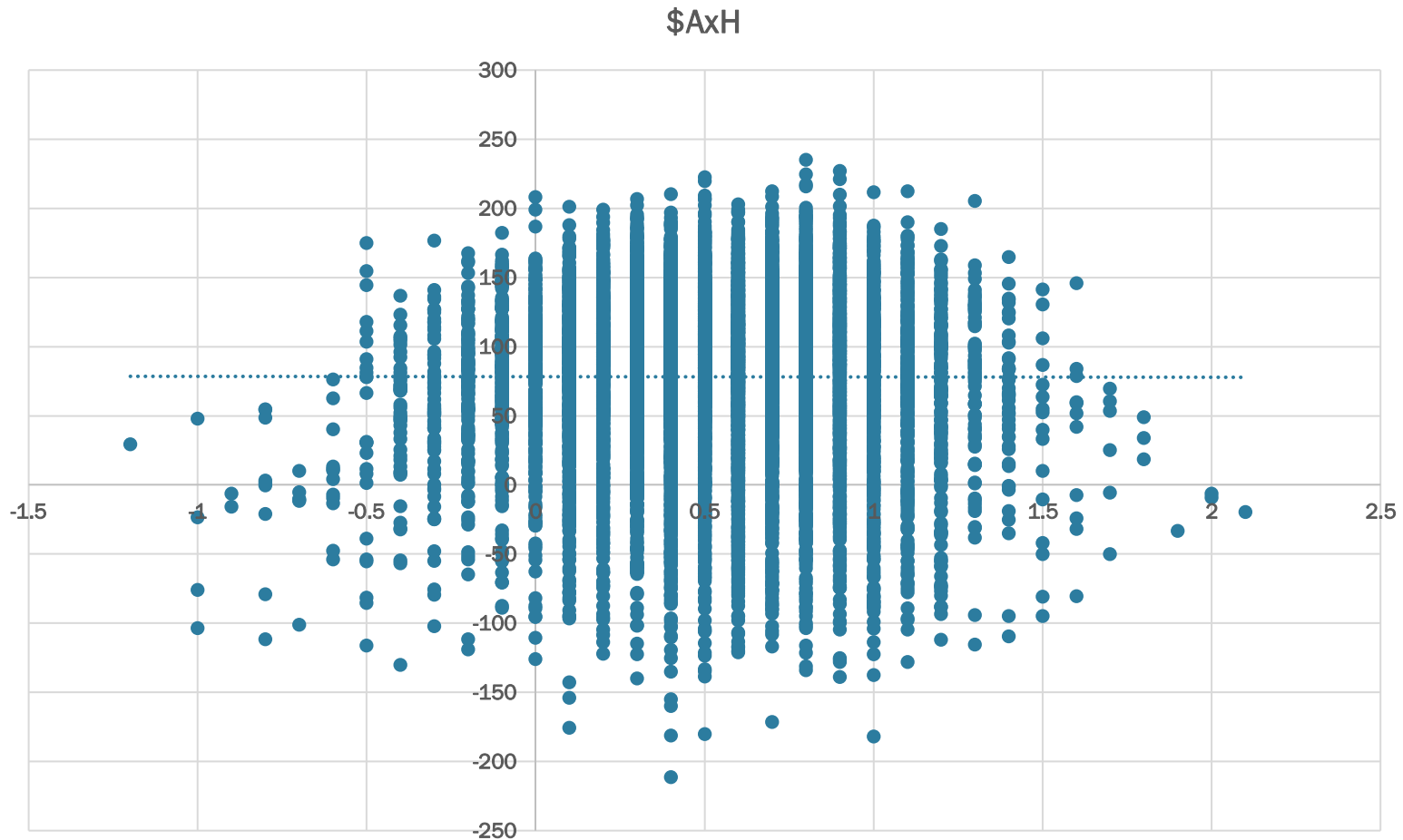


Correlation between YH EPD and \$B is 0.47

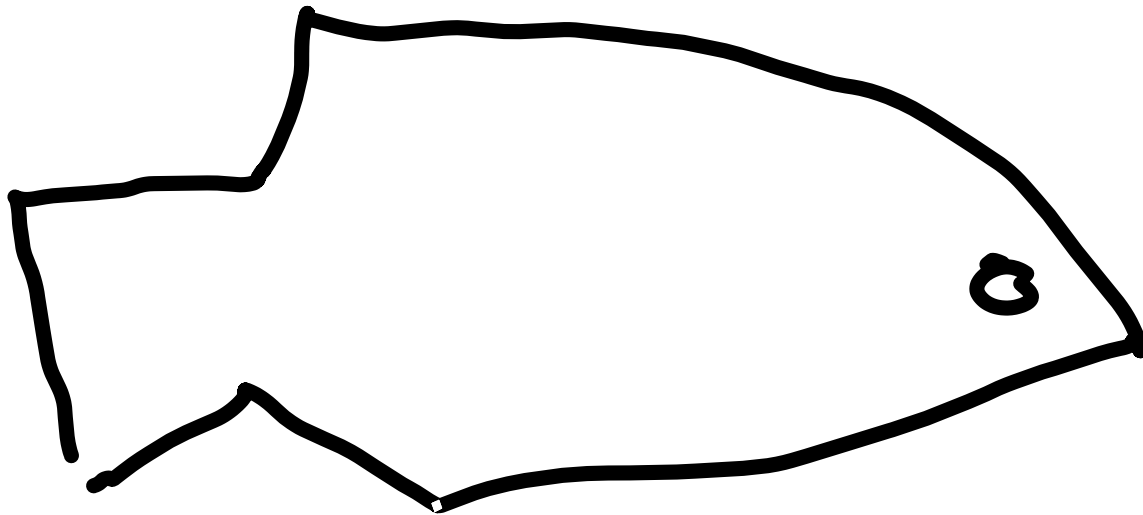
Can you see the rising fish?



\$AxH and YH correlation is basically 0

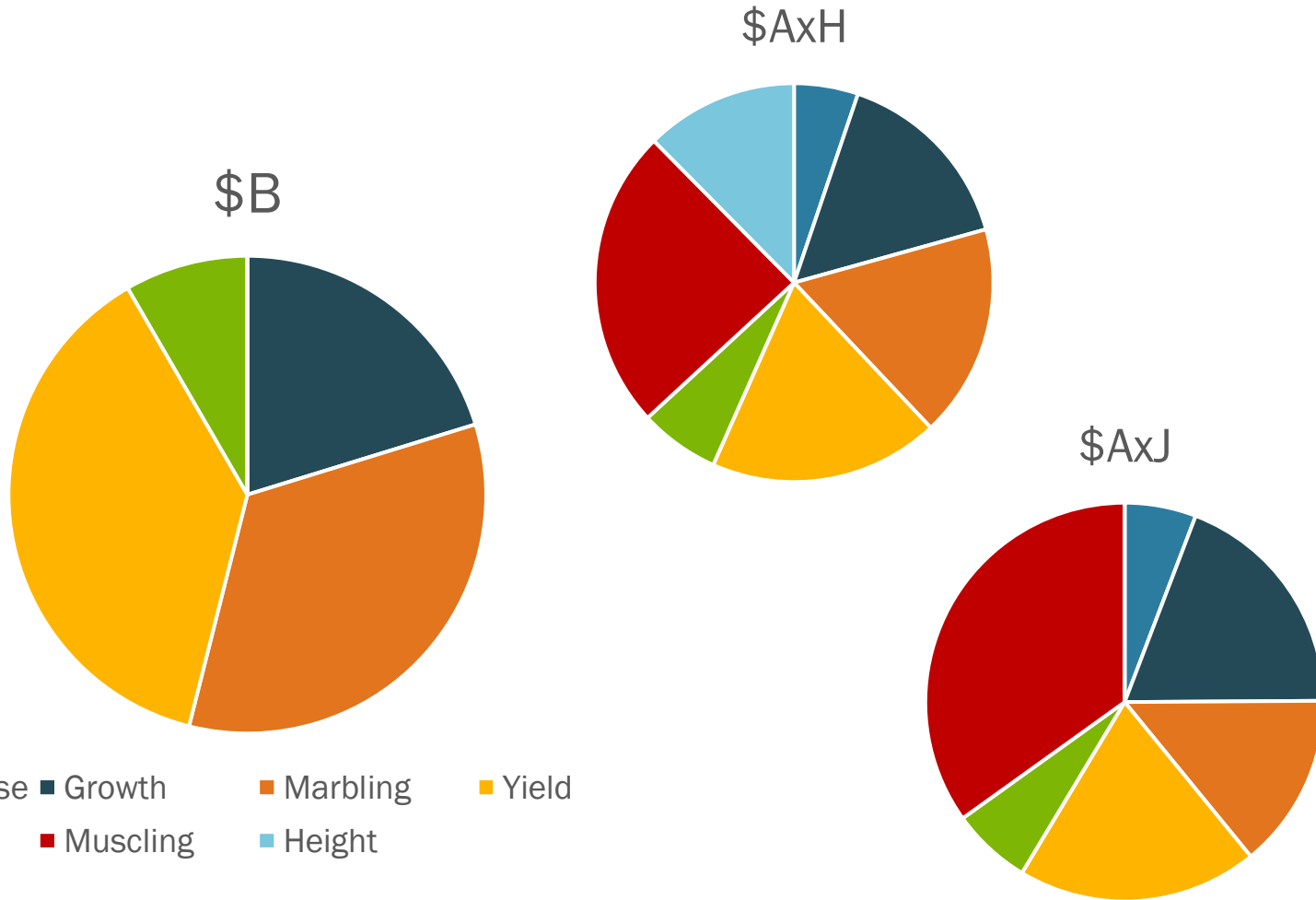


\$AxH Turns the fish from rising to level



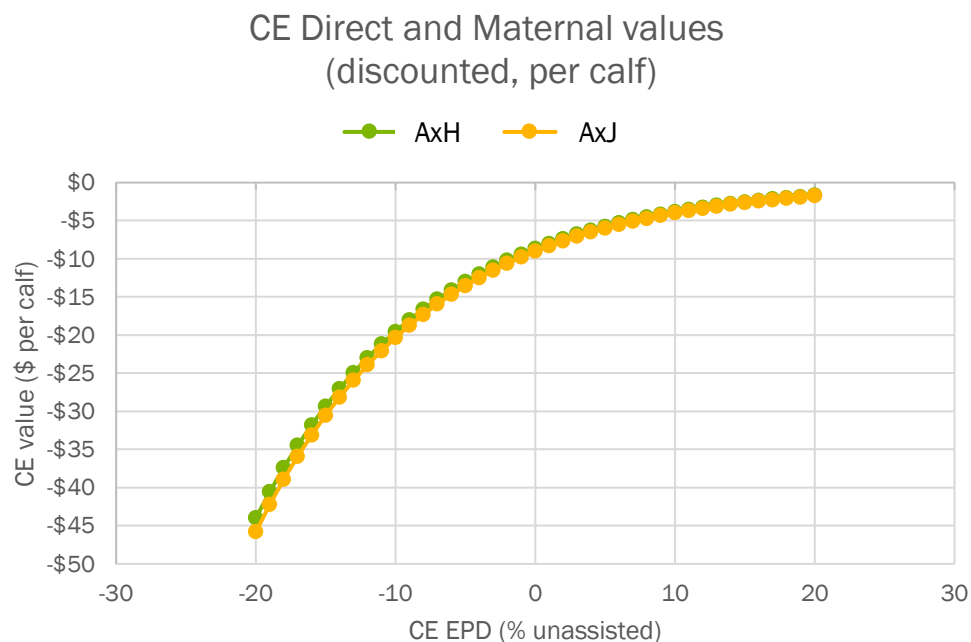
Correlation between YH EPD and \$AxH is Zero

Comparing Emphasis



Costs Associated with Calving Ease in a Dairy Production system

- Labor (similar to beef)
- Production losses
- Increased Days Open
- More services
- Increased risk of cow death



Correlation to \$B was moderate What is overlap in top 10 sires?

Top 10 \$B



| |
|-------------------------------|
| E W A West Point 7258 |
| DDD Blackcap W70 Discovery |
| E W A Ascend 7306 |
| WAR Cavalry B063 Z044 |
| Basin Disclosure 6287 |
| G A R Early Bird W935 |
| Byergo Black Magic 3348 |
| GAR Discovery 6737H |
| BJ New Dimension 6210 |
| K BAR Boomer |



\$AxJ
Angus on
Jersey
Value

7
.72

\$B

5
.67

\$AxH
Angus on
Holstein
Value

More ways to fail



Poor Calving Ease

Poor Muscling

Too much height

Longer Feeding Period



Bulls that tick all the “wrong boxes” will compound discounts and have a seriously negative \$AxH or \$AxJ

-200 AxH or AxJ is possible.

In a Nut Shell



- **Growth** – Similar to \$B – Highest in \$AxJ
- More **CED**
- **Muscle** – more in \$AxH and most in \$AxJ
- **Height** – High YH EPD penalized in \$AxH
- Similar **CW**
- Similar **MARB** in \$AxH, less in \$AxJ

Angus-on-Dairy Index Roll Out

- Which animals receive AXH and AXJ?
 - Only animals with all component EPDs
 - **Members:** Custom Animals Reports on Owned Animals
 - **Public:** *Non-parent bulls & A.I. permitted sires (searchable)*
- Where is it live?
 - AGI Homepage

6/1/2020

Dairy Index Search Results
AI Bulls AXH Order, Descending

| Reg Number | Name | Tattoo | Birth Date | \$AXH | \$AXJ | CED Acc | YW Acc | RADG Acc | YH Acc | CW Acc | Marb Acc | RE Acc | Fat Acc |
|------------|--------------|--------|------------|-------|-------|------------|-----------|-------------|-----------|-----------|-------------|-----------|------------|
| 1000000 | Garrett | 0000 | 00/00/00 | +231 | +269 | +12 | +149 | +32 | +1.0 | +85 | +1.35 | +1.39 | -.007 |
| | | | | | | .38 | .43 | .35 | .51 | .44 | .40 | .40 | .37 |
| 1000000 | Wesley Prime | 0000 | 00/00/00 | +222 | +265 | +14 | +162 | +36 | +1.1 | +69 | +1.53 | +83 | +0.04 |
| | | | | | | .45 | .52 | .44 | .61 | .46 | .40 | .40 | .38 |



Questions?

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