Livestock Records and Their Value

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Importance of Record Keeping

Performance record keeping helps to identify which animals should be

- Kept as replacements
- Culled
- Sire the best youngstock

Example from PSU:

-We make a comparison of lambing percentages on a 100-ewe flock

-Assume that lambs will bring an average of $150 per head at weaning. For a flock lambing at 150% this would mean an income of $22,500 if all the lambs are sold. If the flock is lambing at 175%, this will bring the income up to $26,250.

-Production costs and management practices are essentially the same, except for possibly a few extra dollars spent to flush the females during the breeding season.

-In this example, the producer increases income by $3,750 simply by making selection decisions based on performance traits and better managing nutrition, particularly with flushing.

First you need to ID your animals

The ideal identification is

- Permanent
- Resistant to loss or tearing
- Easy to read from a distance
- Easy to apply
- Gives all of the information about the animal from a glance

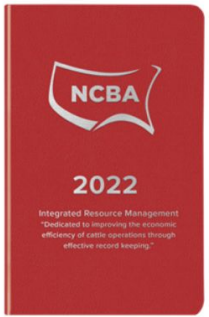
Whatever form of records that is most likely to be used by you is the right form!

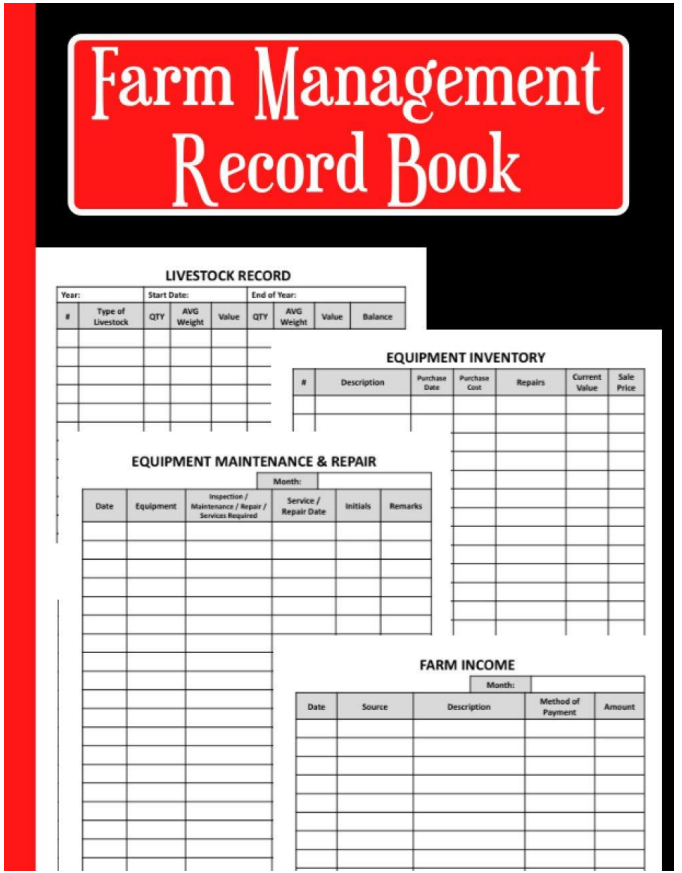
Paper/Written Records

-Cornell Beef Farm Account Book

Redbooks

The Redbook is a pocket-sized record book that contains more than 100 pages to record calving activity, herd health, pasture usage, cattle inventory, AI breeding and sales, plus a date book and notes section. The book also includes Beef Quality Assurance national guidelines and proper injection technique information.





Record Keeping Examples

Montana Rancher Record Notebook

Click here for a pdf of the complete Montana Rancher Record Notebook

Rancher Notebook Cow Production History Record

Here is a sample table for keeping cow production records for the year in the Rancher Notebook. Click here to download the pdf version.

Cow Production History

Cow ID:	**Description:**
Cow's Birth Date:	**Weaning Weight:**
Purchase Date:	**Purchase Price:**
Age at Purchase:	

Date of Cull	
Reason	
Sale Weight	
Sale Price	

Cow ID:

Production Record

	Calving								Weaning			
Year	Cow Age	Calf ID	Birth Date	Birth Weight	Calf Vigor	Calving Problems	BCS at Calving	BCS at Breeding	Weaning Weight	BCS at Weaning	Pregnant or Open	Keep or Cull

This notebook is modified for Montana ranchers from the Florida Beef Cattle Ranch Record Book, University of Florida Extension, Doug Mayo, Livestock Extension Agent.

AI Breeding Record

Cow ID	Location	1st AI Service	Bull ID	Estimated Calving Date	2nd AI Service	Bull ID	Estimated Calving Date	Technician

This notebook is modified for Montana ranchers from the Florida Beef Cattle Ranch Record Book, University of

Bull ID:

Bull Production History

Bull ID:	Description:
Bull's sire:	Sire Breed:
Bull's Dam:	Dam Breed:
Birth Weight:	Weaning Weight:
Purchase Date:	Purchase Price:
Age at Purchase:	

Production Record

Year	Bull Age	Date In	Pasture	BCS In	# Cows	Date Out	BCS Out	Comments

Cull Date	Reason	Sale Weight	Sale Price

This notebook is modified for Montana ranchers from the Florida Beef Cattle Ranch Record Book, University of Florida Extension, Doug Mayo, Livestock Extension Agent.

Cattle Performance Analysis
Year:

		# Head and Weight
Breeding		
	# Cows Exposed	
Calving		
	# Calves Born	
	# Live Calves	
	# Dead Calves	
Weaning		
	# Calves Weaned	
	# Steers Weaned	
	# Heifers Weaned	
	# Bulls Weaned	
	Avg. Wean Wt.	
	Avg. Steer Wt.	
	Avg. Heifer Wt.	
	Avg. Bull Wt.	
Preg Check		
	# Cows Bred	
	# Cows Open	
	# Cows Culled	

Pregnancy percentage = (# Cows Bred ÷ # Cows Exposed) × 100
Calving percentage = (# Calves Born ÷ # Cows Exposed) × 100
Weaning percentage = (# Calves Weaned ÷ # Cows Exposed) × 100

This notebook is modified for Montana ranchers from the Florida Beef Cattle Ranch Record Book. University of

Paint branded ewes

Paint branded lambs
Same number as dam

Too much ID

Production Records

Certain basic records should be kept to monitor flock performance. These include sire and dam, lambing date, sex of lambs, and ID of lambs. You may also want to record comments about lambing ease, the ewe's mothering ability, and the vigor of the lambs. Many producers record birth weights of lambs.

Sample barn record

Date lambed	Sire	Dam	Sex of lamb	Birth type	Birth weight	Lamb ID	Comments
2/26/19	Duke	121	R	2	9.0	1701	
2/26/19	Duke	121	E	2	8.5	1702	
3/2/19	Lincoln	423	E	3	7.0	1703	
3/2/19	Lincoln	423	E	3	8.0	1704	
3/2/19	Lincoln	423	E	3	7.6	1705	
3/3/19	Duke	312	R	2	10.0	1706	
3/3/19	Duke	312	R	2	**	**	Stillborn

Sample individual ewe record

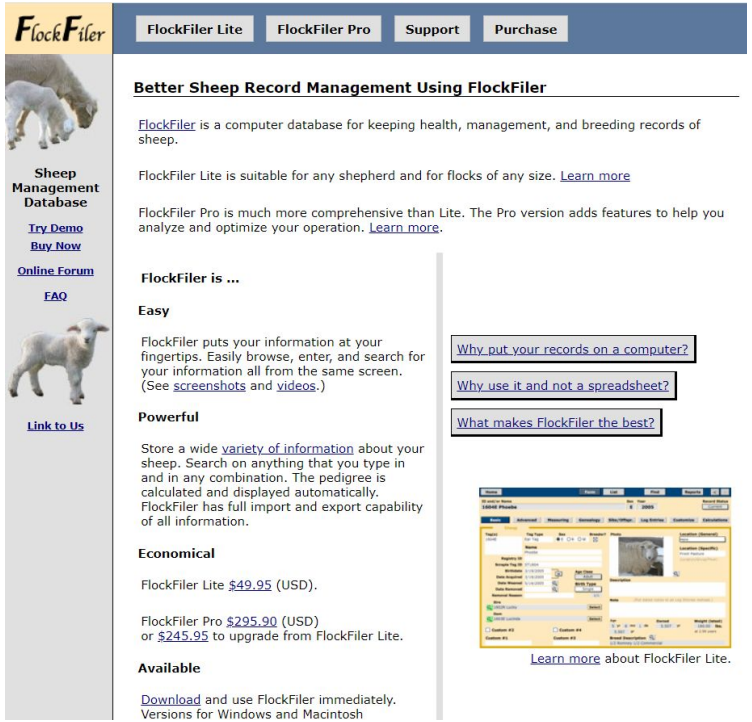
Ewe ID	1616	**Scrapie ID**	483	**Breed**	Katahdin
Date of birth	3/15/16	**Sire**	420	**Dam**	513
Type of birth	2 - 2	**Birth weight**	9.0	**Weaning weight**	70.0

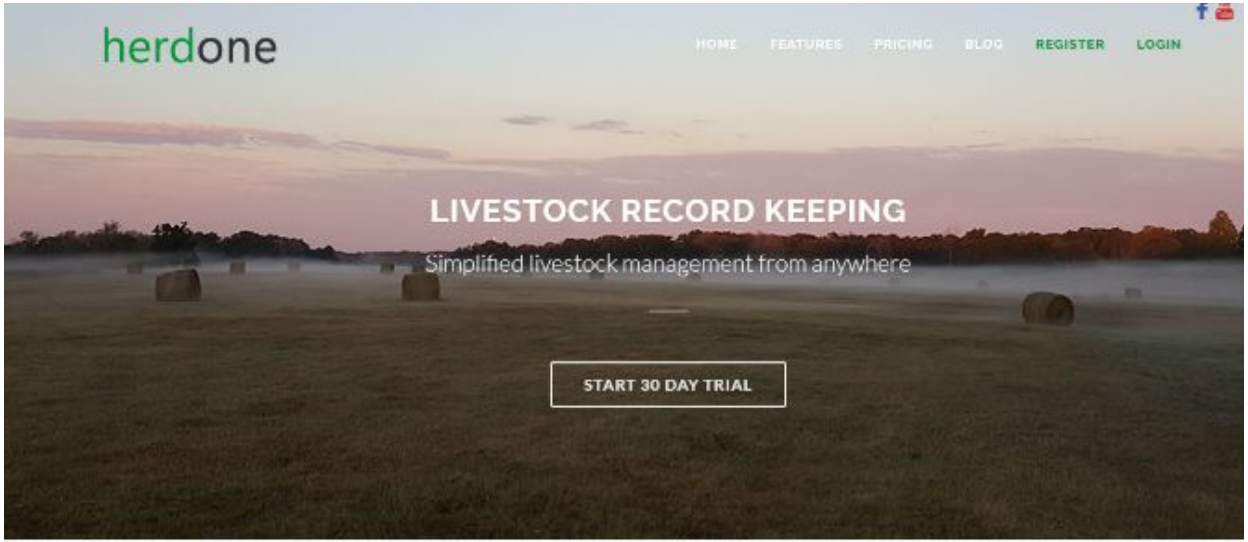
Date lambed	Sire	Sex of lambs	Birth weight	Type of birth	Type of rearing	Lamb ID	Date weaned	Weaning weight	Comments
3/1/17	Hondo	R	8.5	1	1	1750	7/15	68.0	sold
3/20/18	Ace	R	11.2	2	2	1832	6/1	71.0	sold
3/20/18	Ace	E	9.9	2	2	1833	6/1	65.0	sold
3/9/19	Duke	R	10.3	3	3	1935	5/25	64.0	kept
3/9/19	Duke	E	10.5	3	3	1936	5/25	62.0	kept
3/9/19	Duke	E	9.8	3	3	1937	5/25	58.0	kept

Lambs should be weighed at weaning to determine weaning weights and litter weaning weights for ewes. 120-day weights give an indication of post-weaning growth. Other records may be kept according to the goals of the individual shepherd.

To be used properly in selection, all records need to be adjusted to a common basis. Growth measures such as weaning weight need to be adjusted for sex of lamb, type of birth and rearing, age of lamb, and age of dam.

Digital/Computer Based Records





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EBVs and EPDs

- Estimated Breeding Values (EBVs) and Expected Progeny Difference (EPDs) are science-based, industry-tested measurements of heritable traits that can be tracked and measured. EBVs and EPDs are proven to improve on-farm productivity and enhance breeding decisions.
- For those familiar with Expected Progeny Differences (EPDs) used in cattle, EBVs are very similar. EPDs denote the breeding value of an individual animal's progeny whereas EBVs denote the value of the individual animal (stated simply EVB's are EPD's x2)


NSIP
National Sheep Improvement PROGRAM
America's GENETIC FOUNDATION FOR A PROFITABLE Sheep INDUSTRY
BECOME A MEMBER
FIND STOCK WITH EBVS
MEMBER SERVICES
EVENTS
RESOURCES
ABOUT
NSIP's Estimated Breeding Values Lead the Way to Genetic Improvement
Our Mission:
To provide predictable, economically important genetic evaluation information to the American sheep industry by converting performance records into relevant decision-making tools.
By using breeding stock with genetic predictability, all types of flocks have a foundation of genetic information upon which to build a superior and more consistent product to their customers, whether this be a feeder, packer or consumer. This genetic predictability is achievable through NSIP's Estimated Breeding Values (EBVs).
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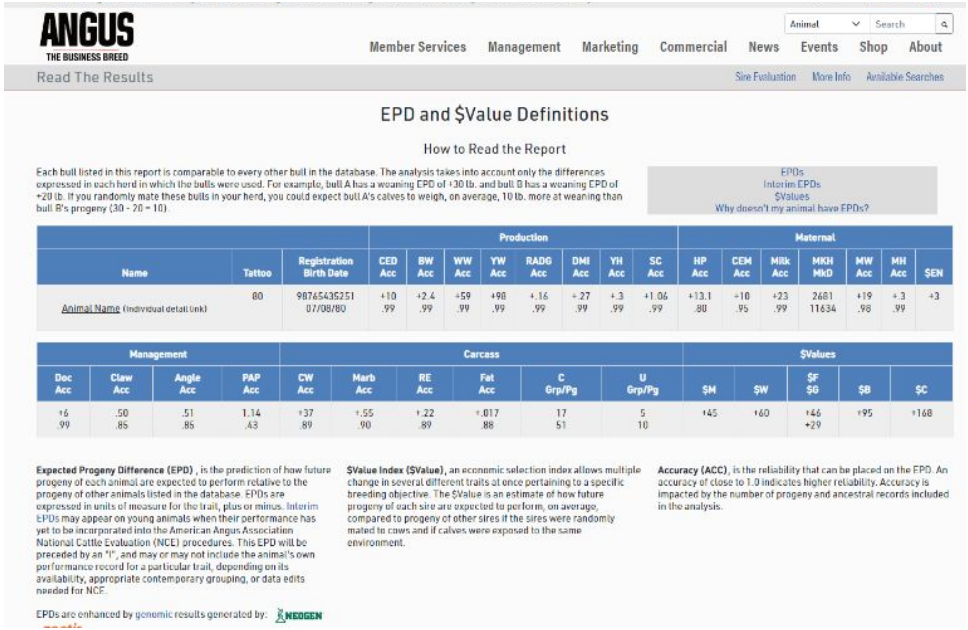
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Sire Evaluation
More Info
Available Searches
EPD and $Value Definitions
How to Read the Report
Each bull listed in this report is comparable to every other bull in the database. The analysis takes into account only the differences expressed in each herd in which the bulls were used. For example, bull A has a weaning EPD of +30 lb. and bull B has a weaning EPD of +20 lb. If you randomly mate these bulls in your herd, you could expect bull A's calves to weigh, on average, 10 lb. more at weaning than bull B's progeny (30 - 20 = 10).
EPDs
Interim EPDs
$Values
Why doesn't my animal have EPDs?
Production
Maternal
Name
Tattoo
Registration Birth Date
CED Acc
BW Acc
WW Acc
YW Acc
RADG Acc
DMI Acc
YH Acc
SC Acc
HP Acc
CEM Acc
Milk Acc
MKH MkD
MW Acc
MH Acc
$EN
Animal Name (individual detail link)
80
98765435251 07/08/80
+10 .99
+2.4 .99
+59 .99
+98 .99
+.16 .99
+.27 .99
+.3 .99
+1.06 .99
+13.1 .80
+10 .95
+23 .99
2681 11634
+19 .98
+.3 .99
+3
Management
Carcass
$Values
Doc Acc
Claw Acc
Angle Acc
PAP Acc
CW Acc
Marb Acc
RE Acc
Fat Acc
C Grp/Pg
U Grp/Pg
$M
$W
$F $G
$B
$C
+6 .99
.50 .85
.51 .85
1.14 .43
+37 .89
+.55 .90
+.22 .89
+.017 .88
17 51
5 10
+45
+60
+46 +29
+95
+168
Expected Progeny Difference (EPD), is the prediction of how future progeny of each animal are expected to perform relative to the progeny of other animals listed in the database. EPDs are expressed in units of measure for the trait, plus or minus. Interim EPDs may appear on young animals when their performance has yet to be incorporated into the American Angus Association National Cattle Evaluation (NCE) procedures. This EPD will be preceded by an "I", and may or may not include the animal's own performance record for a particular trait, depending on its availability, appropriate contemporary grouping, or data edits needed for NCE.
$Value Index ($Value), an economic selection index allows multiple change in several different traits at once pertaining to a specific breeding objective. The $Value is an estimate of how future progeny of each sire are expected to perform, on average, compared to progeny of other sires if the sires were randomly mated to cows and if calves were exposed to the same environment.
Accuracy (ACC), is the reliability that can be placed on the EPD. An accuracy of close to 1.0 indicates higher reliability. Accuracy is impacted by the number of progeny and ancestral records included in the analysis.
EPDs are enhanced by genomic results generated by:
NEOGEN

PRODUCTION EPDs

Calving Ease Direct (CED), is expressed as a difference in percentage of unassisted births, with a higher value indicating greater calving ease in first-calf heifers. It predicts the average difference in ease with which a sire's calves will be born when he is bred to first-calf heifers.

Birth Weight EPD (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.

Weaning Weight EPD (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.

Yearling Weight EPD (YW), expressed in pounds, is a predictor of a sire's ability to transmit yearling growth to his progeny compared to that of other sires.

Residual Average Daily Gain (RADG), expressed in pounds per day, is a predictor of a sire's genetic ability for postweaning gain in future progeny compared to that of other sires, given a constant amount of feed consumed.

Dry Matter Intake (DMI), expressed in pounds per day, is a predictor of difference transmitting ability for feed intake during the postweaning phase, compared to that of other sires.

Yearling Height EPD (YH), is a predictor of a sire's ability to transmit yearling height, expressed in inches, compared to that of other sires.

Scrotal Circumference EPD (SC), expressed in centimeters, is a predictor of the difference in transmitting ability for scrotal size compared to that of other sires.

MATERNAL EPDs

Heifer Pregnancy (HP), is a selection tool to increase the probability or chance of a sire's daughters becoming pregnant as first-calf heifers during a normal breeding season. A higher EPD is the more favorable direction and the EPD is reported in percentage units.

Calving Ease Maternal (CEM), is expressed as a difference in percentage of unassisted births with a higher value indicating greater calving ease in first-calf daughters. It predicts the average ease with which a sire's daughters will calve as first-calf heifers when compared to daughters of other sires.

Maternal Milk EPD (Milk), is a predictor of a sire's genetic merit for milk and mothering ability as expressed in his daughters compared to daughters of other sires. In other words, it is that part of a calf's weaning weight attributed to milk and mothering ability.

Herds (MkH) indicate the number of herds from which daughters are reported.

Daughters (MkD) reflects the number of daughters that have progeny weaning weight records included in the analysis.

Mature Weight EPD (MW), expressed in pounds, is a predictor of the difference in mature weight of daughters of a sire compared to the daughters of other sires.

Mature Height EPD (MH),expressed in inches, is a predictor of the difference in mature height of a sire's daughters compared to daughters of other sires.

Cow Energy Value ($EN), expressed in dollar savings per cow per year, assesses differences in cow energy requirements as an expected dollar savings difference in daughters of sires. A larger value is more favorable when comparing two animals (more dollars saved on feed energy expenses). Components for computing the cow $EN savings difference include lactation

MANAGEMENT EPDS

Docility (Doc), is expressed as a difference in yearling cattle temperament, with a higher value indicating more favorable docility. It predicts the average difference of progeny from a sire in comparison with another sire's calves. In herds where temperament problems are not an issue, this expected difference would not be realized.

Claw Set EPD (Claw), is expressed in units of claw-set score, with a lower EPD being more favorable indicating a sire will produce progeny with more ideal claw set. The ideal claw set is toes that are symmetrical, even and appropriately spaced.

Foot Angle EPD (Angle), is expressed in units of foot-angle score, with a lower EPD being more favorable indicating a sire will produce progeny with more ideal foot angle. The ideal is a 45-degree angle at the pastern joint with appropriate toe length and heel depth.

Pulmonary arterial pressure EPD (PAP), is expressed in millimeters of Mercury (mmHg), with a lower EPD being more favorable indicating a sire should produce progeny with a lower PAP score. PAP score is an indicator of susceptibility to high altitude disease commonly experienced at elevations greater than 5,500 feet. Selection for this trait aims to improve the genetic potential for a sire's progeny to have lower PAP scores thus a lower chance of contracting high altitude disease increasing the environmental adaptability of cattle living in mountain areas.

$VALUE INDEXES

$Value indexes, an economic selection index allows multiple change in several different traits at once pertaining to a specific breeding objective. The $Value is an estimate of how future progeny of each sire are expected to perform, on average, compared to progeny of other sires if the sires were randomly mated to cows and if calves were exposed to the same environment. More Info

Maternal Weaned Calf Value ($M) , an index, expressed in dollars per head, predicts profitability differences from conception to weaning with the underlying breeding objective assuming that individuals retain their own replacement females within herd and sell the rest of the cull female and all male progeny as feeder calves. The model assumes commercial producers will replace 25% of their breeding females in the first generation and 20% of their breeding females in each subsequent generation. Traits included are as follows: calving ease direct, calving ease maternal, weaning weight, milk, heifer pregnancy, docility, mature cow weight, claw set and foot angle.

Weaned Calf Value ($W), an index, expressed in dollars per head, to predict profitability differences in progeny due to genetics from birth to weaning. The underlying objective being producers will retain 20% of the female progeny as replacements and sell the rest of the cull females and their male counterparts as feeder calves. Traits included are as follows (in no particular order): birth weight, weaning weight, milk, and mature cow weight.

Feedlot Value ($F), an index, expressed in dollars per head, to predict profitability differences in progeny due to genetics for postweaning feedlot merit compared to the progeny of other sires. The underlying objective assumes producers will retain ownership of cattle through the feedlot phase and sell fed cattle on a carcass weight basis, but with no consideration of premiums or discounts for quality and yield grade. Traits contributing directly to the index are as follows: yearling weight (gain), carcass weight and dry-matter intake.

Grid Value ($G), an index, expressed in dollars per carcass, to predict profitability differences in progeny due to genetics for carcass grid merit compared to progeny of other sires. The underlying objective assumes producers will market cattle on an above-industry-average carcass grid. Traits included in the index are as follows (in no particular order): carcass weight, marbling, ribeye area, and fat.

Beef Value ($B), a terminal index, expressed in dollars per carcass, to predict profitability differences in progeny due to genetics for postweaning and carcass traits. This terminal index assumes commercial producers wean all male and female progeny, retain ownership of these animals through the feedlot phase and market these animals on a carcass grid. Traits included in the index are as follows: yearling weight, dry-matter intake, marbling, carcass weight, ribeye area and fat.

Combined Value ($C), an index, expressed in dollars per head, which includes all traits that make up both Maternal Weaned Calf Value ($M) and Beef Value ($B) with the objective that commercial producers will replace 20% of their breeding females per year with replacement heifers retained within their own herd. The remaining cull heifer and steer progeny are then assumed to be sent to the feedlot where the producers retain ownership of those cattle and sell them on a quality-based carcass merit grid. Expected progeny differences (EPDs) directly influencing a combined index: calving ease direct (CED) and maternal (CEM), weaning weight (WW), yearling weight (YW), maternal milk (Milk), heifer pregnancy (HP), docility (DOC), mature cow weight (MW), foot angle (Angle), claw set (Claw), dry matter intake (DMI), marbling (Marb), carcass weight (CW), ribeye area (RE) and fat thickness (Fat).

Table 4. Adjustment Factors to Estimate across-breed EPDs.

Breed	Birth Wt. (lb)	Weaning WT. (lb)	Yearling Wt. (lb)	Maternal Milk (lb)	Marbling Score[a]	Ribeye Area (in^2)	Fat Thickness (in)	Carcass Wt. (lb)
Angus	0.0	0.0	0.0	0.0	0.00	0.00	0.000	0.0
Hereford	1.4	-16.5	-44.4	-12.5	-0.30	0.02	-0.073	-71.1
Red Angus	2.6	-19.4	-31.4	1.5	-0.03	0.25	-0.040	-13.2
Shorthorn	4.5	-34.4	-46.6	-0.1	-0.07	0.47	-0.032	5.6
South Devon	2.6	-29.9	-55.4	3.1	-0.53	0.64	-0.213	-68.8
Beefmaster	4.0	23.4	1.1	7.7				
Brahman	10.3	53.3	14.4	16.7		0.03	-0.166	-35.9
Brangus	3.1	14.9	5.3	12.9				
Santa Gertrudis	5.2	40.4	39.8	16.8	-0.44	0.12	-0.085	-12.3
Braunvieh	2.2	-21.1	-46.6	4.1	-0.61	1.00	-0.100	-53.4
Charolais	6.6	32.7	23.2	8.1	-0.29	0.79	-0.201	5.1
Chiangu	2.8	-21.1	-36.2	2.5	-0.47	0.59	-0.142	-19.3
Gelbvieh	2.9	-15.5	-27.1	8.2	-0.37	0.66	-0.066	1.5
Limousin	2.5	-16.9	-53.9	-2.4	-0.03	0.59	-0.024	-5.1
Maine-Anjou	2.4	-30.3	-55.2	-7.0	-0.43	0.95	-0.179	-35.1
Salers	0.9	-11.2	-48.0	5.6	0.07	1.08	-0.177	-47.6
Simmental	2.8	-11.6	-19.2	1.8	-0.12	0.45	-0.049	-7.5
Tarentaise	2.7	20.2	-12.1	15.7				

Imagine:

How are you currently selling your animals. What would 10% increase in production mean for that market channel? For your costs?

Some production benchmarks commonly used:

-Number of Cattle/Sheep/Goats/other species

-Youngstock death loss

-Average daily gain

-Pounds weaned/females exposed

-Percent calf/lamb/kid/other crop

Some production benchmarks commonly used:

-Average weaning weight

-Conception rate

-Birth weight

-Rib eye area

-Calving/lambing/kidding ease

Montana and Florida Rancher Notebooks

https://animalrangeextension.montana.edu/beef/documents/RancherNotebook.pdf

https://sfyl.ifas.ufl.edu/media/sfylifasufledu/jackson/documents/Record-Book-Sheets.pdf

What do I do with my records?

Develop SMART Goals

- Specific
- Measurable
- Attainable
- Realistic
- Timebased

Goal	Date	Progress	What changed?	Mitigating Factors
Increase Avg WW by 20 lbs by 2023	Nov 2019	550 lbs	Baseline	
	Nov 2020	560 lbs	New bull	
	Nov 2021	545 lbs	Creep feed	Drought
	Nov 2022	565 lbs	Creep feed + pasture rejuvenation with legumes	
	Nov 2023	570 lbs	Nothing	

Desirable Traits & Trade-offs

Desirable Trait	Trait Selection Trade-offs
Improved carcass muscling	More days on feed
Higher calf weaning weight	Greater cow feed requirement, greater cow milk production
Increased rate of gain on feed	Increased cow size
Increased milk production	Increased feed requirements, due to milk production

Keep records and use them!

You are 42% more likely to achieve goals if you write them down!

Please contact me!

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