Murray Grey

AMERICAN MURRAY GREY ASSOCIATION EST 1971

Breeder's Handbook

Guidance for Breeders of the American Murray Grey Association

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American Murray Grey Association Breeder's Handbook

The Breeders Handbook provides crucial information about the AMGA's Charter, Bylaws, and Rules, along with other key programs relevant to Murray Grey breeders. This publication serves as an important resource for managing business as a Murray Grey producer.

The Rules of the American Murray Grey Association are established by the Board of Directors under the authority of the Association's Bylaws. These rules are crafted to reflect the latest industry practices and are designed to be easily accessible to members.

It is essential for members and participants in Association programs to understand and adhere to all Rules, policies, and guidelines.

As with any organization, the Association's policies, reference materials, Rules, and listings are frequently updated throughout the year.

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*AMGA SALE PACKET FOR NEW MEMBERS

Welcome!

Murray Grey
AMERICAN MURRAY GREY ASSOCIATION EST 1971

Welcome to the American Murray Grey Association

We are proud to offer the following services to our members:

- Registry Services
- EPD Development
- Sanctioned Shows
- Annual National Show
- Breed Up Program
- Square Meater Endorsement
- Publications
- Historical Records
- Genetic Records
- Pedigree Search
- Structured Committees
- Association Meetings
- Breeder Support
- Youth Programs
- Marketing Services

As a full service registry we invite you to grow your Murray Grey herd with us! Please visit our website, utilize the many resources offered, follow us on social media, and get involved with growing this great breed.

WWW.AMERICANMURRAYGREYASSOCIATION.COM
PO BOX 537, CARROLLTON, OHIO, 44615
502.384.2335

MURRAY GREYS, BRED BY CHANCE

History of the Murray Grey Breed

The Murray Grey originated in Australia, specifically the upper Murray Valley on the New South Wales/Victorian border at the Sutherland family's Thologolong property in 1905.

The first Grey calves were bred by chance. Legend has it, a Grey calf was born to a light roan Shorthorn cow and an Aberdeen Angus bull. In the beginning, the Grey calves were an embarrassment when they appeared in a herd of black Angus cattle. It became apparent however, that these unique cattle grew quickly, were superior feed converters, and possessed carcass merit. Local cattlemen were impressed by the Grey's size & appearance and began developing the breed initially referred to as "Mulberries".

The founding female went on to produce 12 off color calves throughout her lifetime. Then along with a few other Shorthorn females mated to Angus bulls, Mrs. Ena Sutherland developed a herd. The small herd of Mulberries later sold to Peter & Ena's daughter Helen who operated as Michaelong stud. Under Helen's care, these special cattle began to develop a name for themselves, and the first Murray Grey bulls began to take hold in the 1930's. The first Murray Grey sire being Thologolong Australia, who went on to produce many champions, launching Murray Grey cattle into the future.

The American Murray Grey Association

Murray Greys were first introduced to the United States by semen import in 1969. The first 50% Murray Grey calves were born in 1970, the American Murray Grey Association was organized in September of 1971, and the first live imports arrived in 1972.

Founded by 9 cattlemen and ranchers, the AMGA was established as a 501 NFP organization. The Association is managed by a 6-member Board of Directors, elected by the membership. Following start up of the Association originally located in Billings, Montana, Mr. Norm Warsinky served as the first Executive Secretary.

In 1977, the American Murray Grey Association reported having 570 breeders, more than 250 of them being Lifetime Members. With 163 purebreds, and 8,900 percentage cattle.

In October 1998, the American Murray Grey Association hosted the Murray Grey World Congress at the Northern International Livestock Expo in Billings, MT. The membership voted at the Annual Meeting to combine performance data, thereby giving AMGA breeders access to Expected Progeny Differences (EPDs).

The American Murray Grey Association is a full service breed registry providing pedigree registration, genetic performance evaluation (EPDs), sanctioned Murray Grey shows, breed promotion, and member support.

MURRAY GREY BREED CHARACTERISTICS

All Murray Grey cattle are to be of "moderate" size, with enough length and thickness to be well balanced and proportionate. We expect strong heart girth and adequate spring of ribs. Murray Grey's should have a strong, straight top line, with minimal slope from hooks to pins. Murray Grey's should express muscle development in the economically important rear quarters and loin. We do not judge our cattle simply by hip height; they must be three-dimensional.

Murray Greys are to have sound feet and legs. Cow hocks and sickle hocks are not desirable. Our cattle should have short, strong pasterns and sound hooves. Murray Greys must have a free and open stride, indicative of the ability to walk and cover ground while foraging for food and when breeding.

Murray Grey's are refined of bone and we do not discriminate against fine boned cattle. Smaller bone lets Murray Grey cattle deliver much higher dressing percentage and cutout than other breeds.

Murray Grey cattle can range from "light silver" through various shades of "dun" to black. The dun color may range from light tan to dark, chocolate brown. Purebred cattle with distinguishing patches of white above the belly are not eligible for registration and should be disqualified from showing.

Occasionally, Murray Grey's will have small, circular patches of off-color hair on the body. We do not discriminate against these "birth marks". Sometimes, we see a dappled pattern under the coat of some Murray Greys; this is normal and is not cause for discrimination.

There is no discrimination for or against any color, except as noted above.

Murray Greys must have dark skin color and pigment as seen around the eyes, on the muzzle and on the hooves. Females are to have gray teat ends. Calves with pink skin or hooves cannot be registered and cattle with very light pigment should be discriminated against.

All Murray Greys must be polled. Calves born with scurs are not eligible for registration and cattle showing signs of scurs or surgical removal of scurs should be disqualified from showing.

Bulls are expected to be masculine. We expect bulls to have significant scrotal development.

Females are to be feminine, but with strength and capacity. Both sexes should have a strong, broad face and muzzle, indicative of the ability to consume large amounts of forage.

MURRAY GREY COLORS

Murray Grey cattle come in a variety of colors. When registering calves you will be asked to identify the color of the animal. Listed below are the common mature coat colors, with their codes for registration. Murray Grey calves are born a cool silvery grey to even shades of blue. This color coat will evolve to warmer tones as they mature.

(L) Light Silver:

The lightest shade of silver, often born with pinkish skin that turns grey as they mature. Caution should be taken with light silver to not reach a point of registration disqualification.

(S) Silver:

Common color, born a light powdery silver with grey skin.

(N) Dun:

Less common color, often times accompanied by dappling. Dun cattle tend to have a dark stripe down the topline, lots of countershading, and are born a light blue color.

(D) Dark Grey:

Often times considered "chocolate", dark grey cattle are born nearly black.

(B) Black:

This one is easy to tell apart!

MEMBERSHIP TYPES

Annual Active:

An Annual Active Membership is available to an individual, family, partnership or incorporated companies that are owners or breeders of Murray Grey cattle. An annual fee is required of each membership. An annual member may register cattle, vote and hold office. Applications for membership must be made in writing on an official application form every year. (Refer to: Section 3 & 4 of the bylaws) Memberships are due January 31st, and expire December 31st.

Annual Associate Membership:

An Associate Membership is a non-voting member who wants to help the advancement of the Association, and will receive the AMGA Newsletter. Applications for membership must be made in writing on an official application form. (Refer to: Section 3 & 4 of the Bylaws) Memberships are due by January 31st and expire December 31st.

Junior Membership:

Junior memberships are available to individuals under 21 years of age. Junior members are non- voting members and may not hold office. They will be able to register & transfer cattle. If a Junior wishes to register cattle **not** in conjunction with their parent's herd they will be required to apply for their own Herd Name and Unique Tattoo.

Gift Membership:

Gift membership can be purchased for a first time buyer. Please contact AMGA to see if your buyer is eligible. The fee for a gift membership is one-half the cost for a new member. (See fee schedule)

AMGA REGISTRY TYPES

The Registry of The American Murray Grey Association is the official record of Murray Grey Cattle Registered in the United States. All Purebred animals should comply with the American Murray Grey Characteristics.

Group BreedPlan:

In conjunction with the Murray Grey associations in Australia, Canada, New Zealand, & United Kingdom, AMGA offers its members genetic performance evaluation based upon the Whole Herd Reporting concept. In Group BreedPlan, members submit performance data on all calves born in the reporting year whether or not they register those calves. Members using this option report performance data and receive corresponding Expected Progeny Differences (EPDs) on their cattle. EPDs are a fundamental management and marketing tool in many segments of the cattle industry.

Pedigree Only:

To meet the needs of all Murray Grey owners, the AMGA also offers a "pedigree only" option for members who do not need EPDs in their management or marketing programs. In this system members register only those calves they want registered and do not submit performance data. Animals registered under either program have the same status as registered Murray Greys.

Percentage Recording:

The AMGA still has an "open herd book". Meaning, members can record cattle that only have one Murray Grey parent. These "percentage" cattle can be up bred to "purebred" status - greater than 7/8 Murray Grey blood for females and greater than 15/16 Murray Grey blood for bulls.

Cattle bred up from registered Angus base will be accepted in the "International Evaluation Purebred" category, making them eligible for export to Australia, New Zealand and Great Britain. Cattle originating from other than registered Angus base are considered "North American Purebreds" and can be exported into the Canadian registry.

SQUARE MEATER ENDORSEMENT

Square MEATers are designed around the motto:
“8 pounds in a 5 pound sack.”

Square Meater cattle are a new breed from Australia, created in the 90’s by Rick Pisaturo. Square Meaters are derived through genetic selection of pre-1970’s style Murray Grey cattle focused on animals with frame scores between 1-3. Squares should be well muscled animals that excel in grass programs.

Following the lead of the Australian Square Meater Association, many breeders are targeting these Square Meater cattle that will finish at 900-1,100 pounds, yielding 450-650 pound carcasses. Breeders like to have these steers ready to harvest between 16 and 20 months of age.

To help theses breeders identify and label their unique product, the American Murray Grey Association offers the **Square MEATer Endorsement** program. AMGA members who are targeting these smaller cattle can have the registration certificates stamped with the AMGA Square MEATer Endorsement stamp.

Square Meater Endorsement Process:

1) Take animal shoulder measurement at appropriate age:

AGE	BULLS	FEMALES
12 MONTHS	40”- 45”	39” - 44”
18 MONTHS	43” - 48”	41” - 46”
24 MONTHS	45” - 50”	43” - 47”

2) Submit the measurements of qualifying cattle to AMGA and have them recorded on the registration certificates.

INFORMATION TO REGISTER

Dam Requirements:

Signatures of the owner (or lessee) of the dam of the calf at the time of birth are required on the registration application.

The dam must be registered or leased in the name of the member applying for registration. A formal copy of all leases must be on file with the AMGA Office.

Calf Requirements:

You may apply for and receive registration papers as soon as a calf is born.

Calves, born after the purchase of a cow, will be registered in the name of the person owning the dam at time of birth. Their Unique Tattoo and Herd name will be used on the resulting calf. If change of ownership occurs on a cow, after the birth and before the registration of the calf, the usual transfer must be filed for the dam and the calf to be registered by seller, then transferred separately.

In case of multiple births, the sex of each animal must be reported, even if only one twin is registered. The word twin will appear on each registration certificate. In case twins are of opposite sex, the female cannot be registered. The "breeder" of an animal is the registered owner or lessee of the dam at the time of "conception". The "first owner" is the registered owner or lessee of the dam at the time she "dropped" the calf. When a cow produces embryos, the "breeder" is the registered owner of the donor cow. The "first owner" will be the registered owner of the recipient cow when the calf is born.

Duplicate Certificates:

A duplicate certificate may be issued if the registered owner or his authorized agent files a request, on a form supplied by the Association, stating the reason that the original was lost, destroyed, or otherwise unattainable.

All registration certificates, when received from the AMGA office, **should be checked immediately to determine if correct**. If an error is found, the certificate should be returned for correction. Errors made by the office will be corrected with no charge. If Breeder or owner makes an error, a correction fee will be charged.

Death of an animal:

When a registered animal dies, regardless of cause, the registration certificate should be sent to the Association office with a statement of cause of death.

Transfer of Registration Certificates:

Membership in AMGA is NOT required to perform an animal transfer. It is required that an application for transfer be completed, on the reverse side of the registration certificate, including animal information, date of sale, buyers complete information, & sellers complete information and sent to the National office, with the proper fee, within 45 days of the date of sale. If a calf is sold before it has a registration certificate, a form for an unregistered calf shall be completed (form is under the form section of this guide). The form must be completed and sent back to the National Office. The transfer fee is the responsibility of the seller unless noted otherwise. A late fee is required on ALL animals transferred after 45 days from date of sale. All signatures of listed owners must appear on the transfer unless a signing authority document has been provided. All transfers shall be either typewritten or written in ink. When transferring a bred female, the service certificate must be completed on the back of certificate, showing service sire and breeding date.

In the case where an entire herd is transferred to a new owner, one application for transfer may be completed to which a list of animals to be transferred is attached. The completed transfer form and registration certificates of the listed animals must be sent to the National Office with the appropriate fees.

Application for Registration from Other Countries:

Seller and buyer must sign the registration certificate, giving date of sale and importation from the country of origin. In case of a bred female, service sire and service date must be indicated along with a copy of the service sire's registration certificate. Bulls whose semen is imported for use in the USA must be registered in the registry of the American Murray Grey Association before any offspring can be registered.

DNA Testing:

All sires, used for artificial insemination that is collected after January 1, 1999, must have a DNA record on file with the National Office. Any sire that was collected prior to January 1, 1999 must have a DNA record on file with the AMGA Office.
Once it has been decided to DNA test an animal, contact a certified testing laboratory

and send a copy of the results to the AMGA Office. If AMGA questions parentage of an animal, they may request parent verification from the member.

AI Bull Requirements:

All AI Bulls must be registered with the American Murray Grey Association. All AI bulls must be DNA tested and results kept in the AMGA Office files. All AI bulls must be tested and found free of a-mannosidosis **beginning January 1, 1999. (See Appendix for more detailed information)**

Ruling for A-Mannosidosis Carriers:

Any animal testing positive for a-mannosidosis will not be eligible for registration. Registration on such animals will be canceled. Any animals, already produced by an animal that has tested positive for a-mannosidosis, will require testing. (At owner's expense) All animals that test positive will have their papers canceled.

ET (Embryo Transfer) Requirements:

The owner of the **Donor** Cow is the Breeder of any resulting calves. As of January 1, 2001, Applications for recording Transplanted embryos or storage of embryos (Certificate of Embryo Recovery Form) is required to be on file prior to the submission of a transfer of ownership or application for registration.

Transfer of Ownership, Embryo Transfer:

The proper form identifying the recipient dam and embryo, must be completed and submitted to the AMGA Office each and every time a recipient cow, carrying an embryo, has been transferred. In case of the sale of a frozen embryo, the Transfer of Ownership Embryo Transfer must be completed and submitted to the AMGA Office. When embryos are sold, there is a transfer fee to be paid by the Seller, unless notice to the contrary is given to the AMGA office.

Importing Embryos:

Embryos imported from foreign countries must have both sire and dam DNA tested and copies of their registration certificates placed in the National Office before application for registration of the ET calf will be accepted.

Embryo transplants, flushed after January 1, 1999, must be accompanied by DNA test results from the calf's sire and dam with the calf being parent verified. Embryo transplants, from flushes prior to January 1, 1999, must be accompanied by DNA results from the calf's sire and dam with the calf being parent verified.

It is required that both the donor cow and the bull to be used in embryo transfer are DNA tested before female is flushed.

Breeder's Records:

It is recommended that each active member shall keep a private herd record, including all entries concerning his/her herd, of all of their Murray Grey animals that are registered in the Association. These records shall be current and shall be made available to be inspected by the Association.

BASIC REGISTRATION RULES

-Either sire or dam must be registered with AMGA
-Registration is offered to any animal with at least 3/8 (37.5%) MG blood
-Percentage cattle can be bred up to Purebred status
-Females are Purebred at 7/8 (87.5%) MG blood
-Males are Purebred at 15/16 (93.75%) MG blood
-Color & polled requirements (Section 10 - 1(d)) affect only Purebreds

-The current owner of the dam at time of birth should register the calf.
-Every Murray Grey calf that is eligible for registration should be tattooed with the Unique tattoo and herd ID before it is sold.
-Seller should provide a completed "Transfer of Eligible but Unregistered Animal" application to any buyer of each eligible, but unregistered that they may sell.

-Use the "Birth Worksheet and Registration Application" form to register calves
-Provide dam & sire registration numbers
-Type of mating - AI, ET, or natural service
-Tattoo information
-Date of Birth
-Sex
-Color
-Number Born - twin or triplet
-Name (limited to 24 spaces)
-Heifers twinned with a bull are not eligible for registration unless accompanied by a veterinarian's statement that she is intact, or that she is safe in calf.
-Calves that are born as twins must have the word "Twin" included on the registration application with the sex of the other twin indicated.
-Calves can be registered any time after birth.
-Registered Murray Greys will carry the prefix of the registering member. The "given name" may be changed provided that the animal does not have any progeny registered.

The complete rules of registration are in Section 10 of the Association's Bylaws.

HERD NAME PREFIX AND UNIQUE TATTOO

Herd Name:

You must have a herd name registered with the American Murray Grey Association. You must use it in naming your cattle. Herd names are prefixes used in naming registered cattle to identify the owner at **BIRTH**. Selecting a herd name and registering it with the American Murray Grey Association ensures that only you can use it in naming your cattle. Placing the herd name first will allow all cattle to appear in listings together when they are sorted alphabetically. The name on your membership application can be different from your herd name. There are restrictions on the words you can use in a herd name. Names such as "FARM", "RANCH", "LTD", "CORP, as part of a name, **are not** allowed. Names of United States government leaders **are not** allowed. Letters to abbreviate a herd name **are** allowed. (Example Herd Name--- Double G) Cattle would be named “Double G Susie”.

Unique Tattoo:

Each member, who wishes to register cattle with the American Murray Grey Association, must secure the right to use a set of Unique Tattoo letters **THAT WILL BE AUTHORIZED FOR THAT MEMBER’S EXCLUSIVE USE IN TATTOOING**. The Unique Tattoo letters shall be made up of any combination of two, three or four letters (no numbers and do not use the letter **“Q”**). These letters shall be registered with the American Murray Grey Association for the exclusive use of that member. Registered Unique Member Tattoos may be transferred if the registered owner or representative makes an application to do so. (Example Unique Tattoo—GG) Tattoo would be “GG 01x”.

Animal Identification Tattoo:

In addition, a two to four digit tattoo that consists of a number the year letter (see year chart following) shall also be used. Females should be tattooed in the Left ear, leaving room for the brucellosis tattoo that is required to go in the Right ear. Bulls may be tattooed in the Right ear. (See Section C - Forms)

TATTOOING BASICS

Tattooing Equipment

-tattoo pliers
-numeric and letter tattoo digits
-tattoo paste ink (green preferable) and toothbrush for application -alcohol disinfectant and soft cloth
-record book

Tattooing Procedure

-check each tattoo on a piece of cardboard before applying it to the animal's ear
-It is best to tattoo in the RIGHT ear for bulls & LEFT ear for females.

(To determine right and left, stand behind the animal, facing the direction the animal is facing)

-be sure animal is properly restrained in chute
-clean the ear with alcohol and soft clothe
-apply tattoo ink to the area where tattoo is to be applied

-apply tattoo pliers with correct digits between the ribs of the ear
-rub ink into the holes, applying more than what was put on the ear first

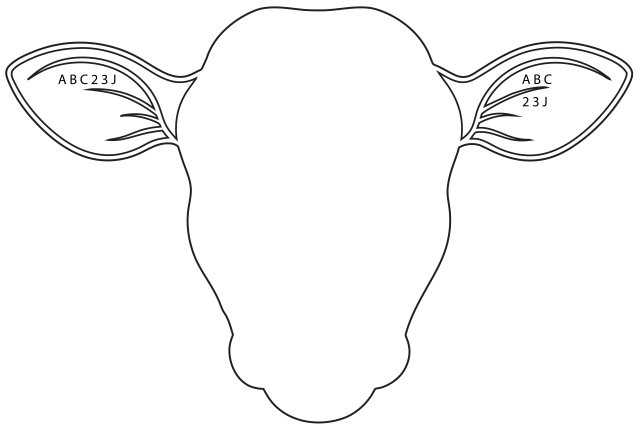
-a properly applied tattoo will be legible for the entire life of the animal

Year and Corresponding Letters

The drawing shows the unique tattoo as ABC and the herd number as 23. The year letter J shows the calf was born in 1999. Year letter should be at the end of the tattoo.

YEAR	LETTER
2024	M
2025	N
2026	P
2027	R
2028	S
2029	T
2030	U
2031	W
2032	X
2033	Y
2034	Z
2035	A

*Letters I, O, Q, and V are not used



NAMING MURRAY GREY CATTLE

All animals registered with the American Murray Grey Association must be named in accordance with the following rules:

Herd Name:

You must have a registered herd name with the American Murray Grey Association. You must use it in naming your cattle. Herd names are prefixes used in naming registered cattle to identify the owner at BIRTH. Selecting a herd name and registering it with the American Murray Grey Association ensures that only you can use it in naming your cattle. Placing the herd name first will allow all cattle to appear in listings together when they are sorted alphabetically.

Twenty-four Characters:

Names shall not exceed twenty-four characters including all letters, spaces, dashes or apostrophes.

No Duplicate Names:

Duplicate names are not permitted.

AMGA May Refuse:

The Association may refuse the use of any name, which may be misleading as to origin, or relationship of an animal. Names of United States government leaders shall not be used.

Imported Animals:

Imported animals shall be registered with the same name as shown on the foreign registration certificate.

Name Changes are Allowed:

See By-Laws Section 10, #2, letter H, number 2.

***Many breeders choose to name their animals starting with the same letter as the tattoo letter year. This is not a requirement, but common practice. Refer to Tattooing Basics, Page 17 for the letter year chart.**

CUSTOMARY CATTLE SALE PROCESS

This page is an outline of common sale procedures for cattle producers. It is important for sellers to factor in the expense of a sales transaction into the price of their cattle.

Customary Seller Responsibilities:

- Brand Inspection
- Bill of Sale
- Health Certificate (if animal is traveling)
- State specific vaccines such as Brucellosis
- Shipping Permit (varies by state, often times handled by vet)
- BSE (Breeding Soundness Exam) for bulls
- Trichomoniasis for non-virgin bulls
- Pregnancy confirmation check (if requested by buyer)
- Any other testing relevant to state
- **Provide to Buyer**:
    - Copy of Registration Papers
    - Bill of Sale, health documents, brand inspection
    - Vaccine/deworming history
    - Breeding status for females
    - AMGA Welcome Letter
    - Gift Membership to AMGA
    - Unique Tattoo and Herd Name Prefix Application
- **Send to AMGA Office:**
    - Original signed Registration Papers with buyer info filled out
    - Fee Sheet & payment

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LIVESTOCK BILL OF SALE

DATE OF SALE:
SELLER- OWNER OF LIVESTOCK:
NAME:
RANCH NAME:
ADDRESS:
PHONE #:
PURCHASER OF LIVESTOCK:
NAME:
ADDRESS:
PHONE #:
VACCINES/DEWORMER RECORD:

DESCRIPTION OF LIVESTOCK:

TAG ID#:	REG. #:	COLOR:	BRAND ID:	PRICE:
			TOTAL:	

Your registration papers have been forwarded to the American Murray Grey Association for transfer, and will be mailed to you shortly. Thank you for your purchase of Murray Grey cattle!

A GIFT FOR YOU

Official Registry Services

As members of the American Murray Grey Association,

we:_____

have provided you an **Annual Membership** to the American Murray Grey Association. Your registration certificates have been sent in for transfer, all fees are paid!

Maintaining registration records helps establish and grow the Murray Grey breed, registered cattle often times hold more resell value. If you wish to continue registry services with your cattle, please refer to the AMGA website's Breeder Handbook with information on how to establish a herd name, and unique tattoo.

www.AmericanMurrayGreyAssociation.com

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Beef Gestation Table

Based on 283-day gestation

Bred Jan	Calve Oct	Bred Feb	Calve Nov	Bred Mar	Calve Dec	Bred Apr	Calve Jan	Bred May	Calve Feb	Bred June	Calve Mar
1	10	1	10	1	8	1	8	1	7	1	10
2	11	2	11	2	9	2	9	2	8	2	11
3	12	3	12	3	10	3	10	3	9	3	12
4	13	4	13	4	11	4	11	4	10	4	13
5	14	5	14	5	12	5	12	5	11	5	14
6	15	6	15	6	13	6	13	6	12	6	15
7	16	7	16	7	14	7	14	7	13	7	16
8	17	8	17	8	15	8	15	8	14	8	17
9	18	9	18	9	16	9	16	9	15	9	18
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13	22	13	22	13	20	13	20	13	19	13	22
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15	24	15	24	15	22	15	22	15	21	15	24
16	25	16	25	16	23	16	23	16	22	16	25
17	26	17	26	17	24	17	24	17	23	17	26
18	27	18	27	18	25	18	25	18	24	18	27
19	28	19	28	19	26	19	26	19	25	19	28
20	29	20	29	20	27	20	27	20	26	20	29
21	30	21	30	21	28	21	28	21	27	21	30
22	31	22	1	22	29	22	29	22	28	22	31
23	1	23	2	23	30	23	30	23	1	23	1
24	2	24	3	24	31	24	31	24	2	24	2
25	3	25	4	25	1	25	1	25	3	25	3
26	4	26	5	26	2	26	2	26	4	26	4
27	5	27	6	27	3	27	3	27	5	27	5
28	6	28	7	28	4	28	4	28	6	28	6
29	7			29	5	29	5	29	7	29	7
30	8			30	6	30	6	30	8	30	8
31	9			31	7			31	9		
Jan	**Nov**	**Feb**	**Dec**	**Mar**	**Jan**	**Apr**	**Feb**	**May**	**Mar**	**June**	**Apr**

Bred July	Calve Apr	Bred Aug	Calve May	Bred Sept	Calve June	Bred Oct	Calve July	Bred Nov	Calve Aug	Bred Dec	Calve Sept
1	9	1	10	1	10	1	10	1	10	1	9
2	10	2	11	2	11	2	11	2	11	2	10
3	11	3	12	3	12	3	12	3	12	3	11
4	12	4	13	4	13	4	13	4	13	4	12
5	13	5	14	5	14	5	14	5	14	5	13
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15	23	15	24	15	24	15	24	15	24	15	23
16	24	16	25	16	25	16	25	16	25	16	24
17	25	17	26	17	26	17	26	17	26	17	25
18	26	18	27	18	27	18	27	18	27	18	26
19	27	19	28	19	28	19	28	19	28	19	27
20	28	20	29	20	29	20	29	20	29	20	28
21	29	21	30	21	30	21	30	21	30	21	29
22	30	22	31	22	1	22	31	22	31	22	30
23	1	23	1	23	2	23	1	23	1	23	1
24	2	24	2	24	3	24	2	24	2	24	2
25	3	25	3	25	4	25	3	25	3	25	3
26	4	26	4	26	5	26	4	26	4	26	4
27	5	27	5	27	6	27	5	27	5	27	5
28	6	28	6	28	7	28	6	28	6	28	6
29	7	29	7	29	8	29	7	29	7	29	7
30	8	30	8	30	9	30	8	30	8	30	8
31	9	31	9			31	9			31	9
July	**May**	**Aug**	**June**	**Sept**	**July**	**Oct**	**Aug**	**Nov**	**Sept**	**Dec**	**Oct**

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

NATIONAL CATTLEMEN'S ASSOCIATION GOALS		
NCA Goals of cow herd	**Optimum Range**	**Target**
REPRODUCTION		
Age at puberty	12 - 16 months	14 months
Scrotal circumference(cm) at 14 months	32 - 40cm	36cm
Reproductive tract score at 14 months	4 to 5	5
Heifers weight at puberty	600 to 900 lbs	700lbs
Bulls weight at puberty	900 to 1100 lbs	1000lbs
Age at first calving (months)	23 to 25 months	24 months
Birth weight Calves from Heifers	75 to 90 lbs	85lbs
Body condition score (BCS)	4 to 6	5
Postpartum interval	55 to 95 days	75 days
Calving interval	365 to 390 days	365 days
Calving season	45 to 90 days	65 days
Calf crop weaned (% cows exposed)	80 to 90 %	86%
Cow Longevity (years of age)	8 to 15 years	12 years
Mature Cow weight at BCS 5 (lbs)	900 to 1300 lbs	1100 lbs
GROWTH SPECIFICATIONS		
Steer weaning weight 205 days old(7 mos.)	450 to 600 lbs	525lbs
Steer YW graze/Background wean to feedlot	600 to 800 lbs	700lbs
Steer YW weaning and direct to feedlot	800 to 1100 lbs	1000lbs
Feedlot gain (lbs per day)	2.5 to 3.5 lbs	3
Feedlot feed efficiency(steers) high energy diet	5 -7 lbs fed/lb gained	6
Days on feed(high energy feedlot ration)	60 to 120 days	90 days
Frame score Steers	4.5 to 6.5	5.5
Frame score Cows	4 to 6	5
Frame score Maternal Bulls	4 to 6	5
Frame score Termional Bulls	6 to 8	7
CARCASS TRAITS SPECIFICATIONS		
Carcass weights (lbs)	650 to 800 lbs	735 to 750 lbs
Ribeye area (ins.)	12 to 16 sq inches	12.5 to 14
Yield grade	<3.5	<3.0
Quality grade	upper 1/2 of select	Low choice or >
Dressing percentage		63% or >

HIP HEIGHT (INCHES) FRAME SCORE

BULLS

Frame Score = -11.548 + .04878 (Height) - 0.0289 (Days of Age) +
0.00001947 (Days of Age)2 + 0.0000334 (Height) (Days of Age)

Age in Months	Frame Score 1	2	3	4	5	6	7	8	9
5	33.5	35.5	37.5	39.5	41.6	43.6	45.6	47.7	49.7
6	34.8	36.8	38.8	40.8	42.9	44.9	46.9	48.9	51.0
7	36.0	38.0	40.0	42.1	44.1	46.1	48.1	50.1	52.2
8	37.2	39.2	41.2	43.2	45.2	47.2	49.3	51.3	53.3
9	38.2	40.2	42.3	44.3	46.3	48.3	50.3	52.3	54.3
10	39.2	41.2	43.3	45.3	47.3	49.3	51.3	53.3	55.3
11	40.2	42.2	44.2	46.2	48.2	50.2	52.2	54.2	56.2
12	41.0	43.0	45.0	47.0	49.0	51.0	53.0	55.0	57.0
13	41.8	43.8	45.8	47.8	49.8	51.8	53.8	55.8	57.7
14	42.5	44.5	46.5	48.5	50.4	52.4	54.4	56.4	58.4
15	43.1	45.1	47.1	49.1	51.1	53.0	55.0	57.0	59.0
16	43.6	45.6	47.6	49.6	51.6	53.6	55.6	57.5	59.5
17	44.1	46.1	48.1	50.1	52.0	54.0	56.0	58.0	60.0
18	44.5	46.5	48.5	50.5	52.4	54.4	56.4	58.4	60.3
19	44.9	46.8	48.8	50.8	52.7	54.1	56.7	sa.7	60.6
20	45.1	47.1	49.1	51.0	53.0	55.0	56.9	58.9	60.9
21	45.3	47.3	49.2	51.2	53.2	55.1	57.1	59.1	61.0

HEIFERS

Frame Score = -11.7086 + 0.4723 (Height) - 0.0239 (Days of Age) +
0.0000146 (Days of Age)2 + 0.0000759 (Height) (Days of Age)

Age in Months	Frame Score 1	2	3	4	5	6	7	8	9
5	33.1	35.1	37.2	39.3	41.3	43.4	45.5	47.5	49.6
6	34.1	36.2	38.2	40.3	42.3	44.4	46.5	48.5	50.6
7	35.1	37.1	39.2	41.2	43.3	45.3	41.4	49.4	51.5
8	36.0	38.0	40.1	42.1	44.1	46.2	48.2	50.2	52.3
9	36.8	38.9	40.9	42.9	44.9	47.0	49.0	51.0	53.0
10	37.6	39.6	41.6	43.7	45.7	47.7	49.7	51.7	53.8
11	38.3	40.3	42.3	44.3	46.4	48.4	50.4	52.4	54.4
12	39.0	41.0	43.0	45.0	47.0	49.0	51.0	53.0	55.0
13	39.6	41.6	43.6	45.5	47.5	49.5	51.5	53.5	55.5
14	40.1	42.1	44.1	46.1	48.0	50.0	52.0	54.0	56.0
15	40.6	42.6	44.5	46.5	48.5	50.5	52.4	54.4	56.4
16	41.0	43.0	44.9	46.9	48.9	50.8	52.8	54.8	56.7
17	41.4	43.3	45.3	47.2	49.2	51.1	53.1	55.1	57.0
18	41.7	43.6	45.6	47.5	49.5	51.4	53.4	55.3	57.3
19	41.9	43.9	45.8	47.7	49.7	51.6	53.6	55.5	57.4
20	42.1	44.1	46.0	47.9	49.8	51.8	53.7	55.6	57.6
21	42.3	44.2	46.1	48.0	50.0	51.9	53.8	55.7	57.7

Breed Association codes - use for identifying configuration of recipient cows or percentage animals.

AFRICANDER (AF)

ANGUS (AN)

ANKINA (AK)

ANKOLE-WATUSI (AW)

AMERICAN BREED (AE)

AMERIFAX (AM)

BARZONA (BA)

BEEFALO (BE)

BEEF FRIESIAN (BF)

BEEFMASTER (BM)

BELGIAN BLUE (BB)

BELTED GALLOWAY (BG)

BLONDE d'AQUITAINE (BD)

BRAFORD (BO)

BRAHMAN (BR)

BRAHMOUSIN (BI)

BRALER (BL)

BRANGUS (BN)

BROWN SWISS (beef) (SB)

CANADIENNE (CN)

CHARBRAY (CB)

CHAROLAIS (CH)

CHI-ANGUS (CG)

CHIANINA (CA)

DEVON (DE)

DEXTER (DR)

DUTCH BELTED (DL)

ERINGER (ER)

FLAMANDE (FA)

FRIBOURG (FR)

GALLOWAY (GA)

GELBVIEH (GV)

GRONNINGEN (GR)

GUZERAT (GZ)

GYR (or Gir) (GY)

HAYS CONVERTER (HC)

HEREFORD (horned) (HH)

HEREFORD (polled) (HP)

HIGHLAND (Scotch) (SH)

HYBRID (Alberta) (HY)

INDU BRAZIL (IB)

KOBE (Wagyu) (KB)

LIMOUSIN (LM)

LINCOLN RED (LR)

LUING (LU)

MAINE-ANJOU (MA)

MANDALONG SPECIAL (ML)

MARCHIGIANA (MR)

MAREMMANA (ME)

MUESE-RHINE-ISSEL (MI)

MURRAH (MU)

MURRAY GREY (MG)

NELLORE (NE)

NORMANDE (NO)

PARTHENAISE (PA)

PIEDMONTESE (PI)

PINZGAUER (PZ)

RANGER (RA)

RED ANGUS (AR)

RED BRAHMAN (RR)

RED BRANGUS (RB)

RED DANE (RD)

RED POLL (RP)

ROMAGNOLA (RN)

ROTBUNTE (RO)

SALERS (SA)

SANTA GERTRUDIS (SG)

SENEPOL (SE)

SHORTHORN (beef Scotch) (SS)

SHORTHORN (Polled) (SP)

SHORTHORN (Illwara) (IS)

SIMBRAH (SI)

SIMMENTAL (SM)

SOUTH DEVON (DS)

SUSSEX (SX)

TARENTAISE (TA)

TEXAS LONGHORN (TL)

WELSH BLACK (WB)

WEST FLEMISH RED (WF)

WHITE PARK (WP)

CROSSBREEDS (XX)

GROUP BREEDPLAN GENETIC EVALUATION

EPD (Estimated Progeny Difference)

It is important to understand that the adjusted weights and ratios used in figuring EPDs indicate relativity within the Murray Grey breed only. They cannot be compared to EPDs of other breeds,

When EPDs were developed most breeds set up their base values and used weights adjusted to 205 days and 365 days as their weaning and yearling evaluation. The American and Canadian Murray Grey did not start developing EPDs, partially because they were so few in number. Australia and New Zealand however, did start developing a reporting system in the mid 1970's. The American Murray Grey has made the decision to join data with Australia and New Zealand. Over 500,000 Murray Greys are already recorded, giving the breed extremely accurate genetic evaluation.

Group Breedplan Members receive the following Reports:

- Herd EPD Report --This report has EPDs for every animal identified in the GBP member's herd, including dams, sires, & calves.
- American Murray Grey Sire Summary—This report lists EPD's for all sires used in GBP herds that have at least 60% Acc. In Weaning weight or Yearling weights & have at least 2 years of progeny on test

BREEDING AND PERFORMANCE

Improving the quality of your beef cattle herd would seem to be simple: breed the best to the best. Putting this strategy into action is not so straightforward. What criteria will you use to decide what is best for your herd? There are many factors for the individual breeder to consider: your own environment and the resources available, the condition — both strengths and weaknesses—of your herd right now and the goals you have in your mind for your herd.

There are many different tools available to help today's cattlemen make selection decisions. EPDs are one of the best objective predictors of how well cattle pass on traits and can be a very powerful selection tool. While there's some complex math involved in calculating them, EPDs are not a magic formula. The better they are understood the more useful EPDs will be. Research shows that up to 90% of the genetic change in a herd will come through sire selection. One reason for this is a bull can have many progeny within a single breeding season while a cow is usually limited to a single calf. There are many subjective and objective criteria available to a bull buyer. Details like color, size, conformation, stance and walking ability can all be judged by "eyeballing" an animal. Many long time breeders become quite skilled at making subjective judgements about the best bull based on these criteria. Still others can include an assessment based on their knowledge of the traits of the ancestors represented on the animal's pedigree. A lot of potentially useful information about genetics is not available simply from physical assessment of an animal. Looking at an animal cannot tell you if the bull will sire calves with low birth weights that grow fast, provide easy calving, good milk production, fertility or carcass traits. In the end what the breeder really wants to be able to do is to objectively compare animals within a breed, regardless of their age or herd location. If we are able to isolate the influences in an animal's performance that is due to genetics from those influences due to environment the breeder can select animals with the particular traits that he wants to pass on to the next generation. EPDs can help us do this.

Building an EPD starts by collecting basic data for comparison. One could collect data on nearly anything. Cattlemen are generally interested in economically valuable traits such as mothering ability, growth and carcass traits. The data for most EPDs is collected by measuring and weighing animals, their offspring and their parents. Birth weights, calving ease scores, 205 day weights (weaning weight) and 365 day weights (yearling weight) can all be observed recorded and then used to rank animals in the same contemporary group. **(A contemporary group is a group of animals from the same herd, year and season raised together under the same conditions.)**

Taking this basic data from numerous herds, we are able to arrive at an estimate of value for each animal, compared to the breed average for each trait. **This value is called an Expected Progeny Difference (EPD)** and it is the most accurate way to rank animals on genetic merit for various traits. An EPD is a prediction of how offspring of an animal may perform based on the information we have about the performance of that animal, its parent and other relatives. It is a measure of the value of the animal as a parent for a particular trait. It is important to understand that EPDs are just a predictor and many factors can cause the quality of the EPD to vary between bulls in the same sire summary. EPDs are not absolute figures. They are estimates based on averages. They allow you to fairly compare bulls from different environments, different herds and different contemporary groups within a breed. In summary an EPD is a way of estimating the genetic potential of an animal based on its own performance and pedigree records and those of all the animals to which it is related (especially parents and offspring).

The quality of performance information is up to you as a breeder. The reliability of EPDs depends on the performance data submitted by breeders. The quality of data is important. The more data available the more reliable the EPDs will be. Selectively reporting data means that some animals with all their progeny reported will be unfairly compared to those animals with only their “best” reported. That is why the American Murray Grey Association has made the decision to go to Whole Herd Reporting. This will cause submission of ALL performance information for a herd regardless of whether the calf will be registered or not. Even if a calf dies it still should be reported so that the cow receives credit for having a calf. Of course the quality of the data is important. It is VITAL that breeders supply COMPLETE and ACCURATE information and indicate the management of the animals so that the animals can be compared as contemporaries. (If you are graining several or only one animal, they need to be noted as a different group then other animals being fed differently).

The idea of a contemporary group is to compare like to like. All animals within a contemporary group should be from the same herd, the same year, and season and most importantly **RAISED TOGETHER UNDER THE SAME CONDITIONS.** If some animals are treated better than the others in the age group then their performance will falsely appear better at the expense of the others in the group. If anything is done differently to some of the animals then they should be put in a separate contemporary group. Some reason to split off into another management group includes: sickness, creep feeding, different pasture conditions any kind of special treatment (good or bad). All management differences since birth must be considered because management during one period can influence performance in subsequent periods. Even if the two

groups were together SOME of the time this means they were APART some of the time. So the management was not identical and this can influence performance. For example when animals have been placed in different contemporary groups prior to weaning they will remain in different groups, even if the animals are feed together after weaning. This is because management prior to weaning still impacts post-weaning gain. It is the job of the statistical model to account for differences in environment and make adjustments accordingly to arrive at comparable EPDs.

Make sure the animals in your management groups are treated alike and then let the formula do its work. Just as putting together animals that have been treated differently results in unfair comparisons, inaccurate weights will also unjustly make some animals appear better or worse than others. Birth weights should be taken by 24 hours after birth. 205-day weight should be taken between 180 and 300 days and 365-day weight should be taken between 301 and 500 days. You should try to weigh as close to these dates as possible and weigh all cattle of the same sex on the same day using the same scale.

RECOGNIZED AI SIRE LIST

Please refer to the AMGA Bylaws and Breeders Handbook for detailed rulings, such as the 1999 rule, in regard to AI sire usage. AMGA makes no claims to test results listed, this list is provided as a courtesy to AMGA members.

*Bulls listed in green have BOTH a negative A-Manno test and DNA on file.
*Bulls listed in red have only DNA unless stated otherwise

Additional test results are provided by breeder courtesy, untested bulls have no result listed.

BULL NAME	REG #	BORN	TESTS	BULL NAME	REG #	BORN	TESTS
A							
ADINA NEPTUNE	55670	2009	MA-F	LERWICK PARK BUCKLEY B2	54222	2006	MA-F
ADINA QUASAR	55663	2012	MA-F	LERWICK PARK ZEPPELIN	52903	2004	MA-F
ADINA TITANIUM	57078	2015	MA-F	LGR DELMONICO	57141	2016	MA-F
ADINA WAYLON	58674	2018	MA-F	LGR ECLIPSE	57761	2017	MA-F, M-0, RC
ADINA YAHOO	59959	2020	MA-F	LGR FLINTLOCK	58239	2018	MA-F
AG FELIX 110F	61039	2018	MA-F	LILYVALE DYNAMIC	51512	1992	MA-F
AHF FORCE	57807	2017	MA-F	LINDALE JAKE	50460	1999	MA-F
ALZ ZINNELS VALER	54700	2009	MA-F	LINDSAY ELECT	31889	1985	MA-F
B				M			
BALLEE CAESAR	26245	1983	MA-F, M-0	MELJAYS MR NICE GUY	UNKNOWN	1997	MA-F
BALLEE THUMBS UP E665	UNKNOWN	1998	MA-F, M-0	MICHEALONG CAN INVASION	2034	1971	MA-F
BANKSIA RIDGE CAESAR C10	58162	2007	MA-F	MICHEALONG GRASSHOPPER	1946	1973	MA-F
BANKSIA RIDGE ZORRO Z27	52902	2004	MA-F	MONARCH OAK EXTRA	50059	1999	MA-F
BB BACKBONES GENERAL	56962	2015	MA-F	MONTEREY MARSHALL	31131	1989	MA-F
BB MAJOR 417	56576	2014	MA-F, M-0	MONTEREY REFLECTION	61138	2020	MA-F
BB NAVAJO	58839	2013	MA-F, M-0	MONTEREY QUICKSILVER Q152	61139	2019	MA-F
BB UNCLE TONY	56178	2012	MA-F	N			
BCF MINUTEMAN SUPREME	7019	1979	MA-F, M-0	NANGARA QUARTERBACK Q1	60853	2019	MA-F, M-0
BOTTLESFORD KUDOS	58171	2014	MA-F, M-0	NEWHAVEN PARK PERICLES	50317	1995	MA-F
BUNDALEER DADDY COOL	59771	2008	MA-F, M-1	O			
BUNDALEER XROAD	52874	2002	MA-F, M-1	OLD WEST MAXIMILLION 6G	59886	2019	MA-F
C				OLYMPIAS PELION	25004	1976	MA-F
CADELLA PARK GOLDEN BOY	2054	1972	MA-F	P			
CADELLA PARK MINUTEMAN	2003	1966	MA-F, M-1	PCC DC SPECIAL 5327K	61162	2022	MA-F, M-1, HB
CMF CAJUN ATLAS	60028	2015	MA-F	PCC DC STAR 5326K	61161	2022	MA-F, M-0, HB
CMG COWBOY 1	60037	2014	MA-F, M-0, CA-F	PRH SHOWBOAT LAZAR	53950	2008	MA-F
CMG THUNDER	60049	2017	MA-F	PRH THUMBS UP BEN	54336	2006	MA-F
CRANBROOK VIRTUE V15	52232	2000	MA-F	S			
D				SCHWARZERDE CESARS SHANE	57217	2015	MA-F
DECO POLYTEX AMBROSE	55859	2011	MA-F	SCHWARZERDE EVAN	58211	2017	MA-F
DRM DUKE	60081	2020	MA-F, M-1	SOLITUDES DYNAMIC	56246	2014	MA-F
E				SOLITUDES KING TUT	54659	2010	MA-F, HB
EAGLE ROCK SENSATION	53185	2006	MA-F	SOUTHEND NARSSIST	TBD	2017	MA-F,
EAGLES RUN ALLIANCE 342T	53281	2007	MA-F	STILLWATER BIG KAHUNA K67	60794	2022	MA-F, M-0, HB
EAGLES RUN HIGH ROLLER 272R	52829	2005	MA-F, M-0, CA-F	STILLWATER BIG SKY 18H	59502	2020	MA-F
EAGLES RUN IRON CROSS 347T	53253	2007	MA-F, M-1, HB	STILLWATER KILOS K55	60802	2022	MA-F, M-0, HB
EAGLES RUN JUST BECAUSE 209P	52037	2004	MA-F	SUNNYRIDGE GO DADDY	58973	2019	MA-F
EAGLES RUN KAURI 288S	52925	2006	MA-F	SW BIG BANG	58507	2018	MA-F
EAGLES RUN LOBO 429U	54024	2008	MA-F	T			
EAGLES RUN LUXOR 415U	54012	2008	MA-F	TARLINA COOMUNGA C57	60854	2007	MA-F
EAGLES RUN LYCAON 340T	53231	2007	MA-F	TEMAR LOTUS L62	CMGP8064	1991	MA-F
EAGLES RUN MIKHAIL 621H	60963	2020	MA-F, M-0, HB	THE GLEN GURU	51511	1993	MA-F, CA-C
EAGLES RUN QUEST 363T	53389	2007	MA-F, M-1, HB	THE GLEN SHOWBOAT	CMGP6381	1981	MA-F, CA-C
EAGLES RUN ROMONOV 568B	56779	2014	MA-F, M-0, HB	THURLOO PARK WINCHESTER	55035	2001	MA-F, M-1
EAGLES RUN SMOKIN GUN	51186	2001	MA-F	TWIN FIR BLACK HAWK	51671	2003	MA-F, M-0
EAGLES RUN TOR 359T	53387	2007	MA-F	TWIN FIR BLACK POWDER	50267	2000	MA-F
EAGLES RUN XPRESS 471	54409	2009	MA-F, M-1, HB	TWIN FIR ORLANDO	51673	2003	MA-F
EAGLES RUN XTERRA 505X	54827	2010	MA-F, M-1, HB	TWO BYRDS HURRICANE POWER 9H	60183	2020	MA-F, M-1
G				TWO BYRDS LEGEND 1L	61180	2023	MA-F, M-0
GANADO LIONEL	60852	2015	MA-F, M-0	V			
GENTLE ACRES TROJAN 66C	29037	1993	MA-F	VACA ROJA SAKO	55731	2008	MA-F
GLENBROOK OP ECLIPSE	56275	2014	MA-F	VACA ROJA TROUBLE	55732	2008	MA-F
H				VICTORY DARE ME	57381	2016	MA-F
HA MAXIMUM 43M	51715	2002	MA-F	VICTORY GRANT	59677	2019	MA-F, M-0
HA MCKINLEY 45M	51718	2002	MA-F	VICTORY POWER PLAY	55956	2013	MA-F, M-0
HA MR MUSCLE	50326	2000	MA-F	VICTORY SUPER POWER	58526	2018	MA-F, M-0
HA XPRESS 27X	54589	2010	MA-F	W			
HD MAXIMUS 11M	51540	2002	MA-F	WALLAWONG NEW KID ON THE BLOCK	59773	2017	MA-F, M-1
HD TOTAL ECLIPSE	53568	2007	MA-F, M-0	WALLAWONG UNDER THE RADAR	57565	2010	MA-F, M-0
HERONDALE SHANE	52827	2005	MA-F	WALLAWONG VINNIE ROE	58104	2011	MA-F, M-1
J				WAROOK ZENDA	1960	1983	MA-F
JB THE ROCK	52338	2005	MA-F	WCC FREIGHTLINER 64L	51567	2001	MA-F
JFP APACHE CHIEF	26694	1980	MA-F, M-0	WEE-GUN TJANDMARRA D583	40613	1996	MA-F
JOPA ELATION POWER	55403	1986	MA-F	WESTRIDGE JUSTIFIABLE 5J	60680	2021	MA-F
K				WESTRIDGE KREEDMOORE	61140	2022	MA-F
KARAKARA BURLEIGH 380	55739	2006	MA-F	WILLALOOKA PHARAOH P47	51544	1994	MA-F
KATUNA COURAGEOUS	51046	1999	MA-F	WOODBOURN FAME	1991	1984	MA-F
KEIGHLIANS WENSLEYDALE U1	52847	1999	MA-F	WOODBOURN PARINGA P49	61646	2018	MA-F
KING ZOG 09K	24962	1978	MA-F	WOODBOURN WARRIOR P69	59772	2005	MA-F, M-0
L				Y			
7 LAZY 11 GARLANDS LEGEND	56489	2014	MA-F	YAMBA WARATAH	52899	2001	MA-F
7 LAZY 11 SMOKE NO MORE	59149	2016	MA-F	YAMBA WEREWOLF	52900	2001	MA-F
LB GREY KRINGLE 6K	51638	2000	MA-F	YOUNG GUNS WYATT EARP W14	53138	2001	MA-F

BULL NAME	REG #	BORN	TESTS
PRE 1999			
ATI MARVEL	30678	1994	
BALMORAL ELATION*	18622	1978	MA-C
BARRAGUNDA ATLAS	1880	1963	
BIMBADEEN WESTWARD HO*	2018	1970	MA-C
BJ MA GRASSHOPPER	24078	1987	
BLACK BUTTE GAMBLER	32923	1997	
CADELLA PARK TRIGGER	2024	1967	
CHAOS ACRES ORION J-22	40261	1997	
CHAOS ACRES QUANTUM	40263	1997	
CORONATION SNOWMAN 51M	2063	1980	
CRANBROOK LUSTY*	32816	1991	MA-C
DOWN UNDER BOOMERANG	26814	1989	
DOWN UNDER SWAGMAN II	27317	1990	
HA GALAHAD	33069	1997	
JT JAGUAR 39B	28599	1992	
KCC DIPLOMAT'S BALLET 9C	29731	1993	
KCC DIPLOMATS MINUTE 39C	30183	1993	
KFL MAINLINE 11Z	27510	1990	
LINDALE HERCULES 315H	40180	1998	
LINDALE HOBO 306H	40173	1998	
LONGVIEWS ROCKLIFFE 1	25864	1987	
MANEROO GLADIATOR	2037	1968	
MARIRE GAMBLER 934	33327	1989	CA-C
MCC PARKNOOK GLADIATOR	25672	1987	
MCC TRIGGERS CHAMPION	7018	1979	
PARKNOOK PELION	1894	1965	
RED BUTTE PELION 516J	19519	1977	
ROBERN MISTER MUSCLE	FMGRETM2	1992	
SPECTRUM CASSIDY	27402	1991	
SPECTRUM KENTON	28094	1992	
SWG KHAN 6Y	29832	1989	
THE GLEN JINGLES	1902	1972	
TMR PREMIER	13031	1979	
TWIN FIR NEGOTIATOR T83	40308	1998	
TWIN FIR TROJEN	32951	1997	
WILLALOOKA POWER	31214	1987	
WILLOWCREEK JUMBOLAYA 19E	31221	1995	
WILLOW CREEK MARSHALL	40319	1997	
WILLOWDALE WEST WIND 3S	26929	1984	
POST 1999			
ATI AMAZING ASSET 0444	55276	2011	
ATI MAIN EVENT 030Y	55274	2011	
ATI MINUTE 1347A	56058	2013	
BANKSIA RIDGE YOGI BEAR Y15	54170	2003	
BANKSIA RIDGE YTTRIUM Y17	54169	2003	
SCRX JUMBO 154J	50457	1999	
CMF ANDOUILLE	56548	2013	
EAGLE ROCK ROYAL PROSPECT	52622	2005	
EAGLES RUN TOP GUN 289S	52926	2006	
GLENBROOK PABBYS MOE	55047	2007	
HA KEMO SABE	50327	2000	
HD SPIDERMAN 63S	53635	2006	
HD VOLTAGE 534V	54283	2009	
LASCH LUCAS 116A	56945	2013	
LASCH ROSCO 122A	56946	2013	
PRH SHOWBOAT BART	53949	2008	
PRH THUMBS UP ROCKY 089R	52705	2005	
SCHWARZERDE YOGI SHANE	55390	2011	
THE GLEN MANUEL S214	52846	1997	
VICTORY GO FOR EXTRA BROKE	59675	2019	
VICTORY MONARCH OAK LEGACY	59674	2019	
WISTERIA KNIGHT LIGHTENING	54748	2010	
WISTERIA LOWER DA BOOM	54746	2010	
WISTERIA TONGUELASHED	54743	2010	
WISTERIA WELL WORN LEVIS	54747	2010	

A-MANNO (MA):	FAWN CALF (CA):	MYOSTATIN (M)	COAT COLOR:
MA-F = clear	CA-F = clear	M-0 = free	RC = red carrier
MA-C = carrier	CA-C = carrier	M-1 = carrier	HB = non red carrier
		M-2 = affected	

HOW TO USE EPD's IN SIRE SELECTION

Each breeder must set his own selection goals, based on the needs of his operation, the situation for that trait in his herd, and his production environment.

It would be easy if we could assume that the highest EPDs are the best. Unfortunately, like most decisions, using EPDs for sire selection involves tradeoffs. For example, bulls with high growth EPDs may sire calves with a higher birth weight as well. And there may be other impacts on your operation to consider.

To give some examples: for heifers, bulls with lower birth weights are advised, so a breeder may want to pay special attention to birth weight EPDs. If calves are being sold for slaughter, the milk EPD would generally not rate much attention. Yearling weight will be important if you want to ensure finished steers in the appropriate weight range.

In addition, reaction to selection can differ from trait to trait. This is because some traits are more "heritable" than others, and are more easily passed to offspring "Like father, like son". Growth traits, for instance, respond faster than milk production.

A balance of traits is required, and the perfect balance for you will depend on your climatic, nutritional and economic environment, as well as the management goals you have set for your herd.

One way to select for several traits is to set minimum and maximum acceptable levels for each trait, and then choose sires that meet that criteria. Another method would be to rank all sires, on each trait, then develop a weighted index which ranks each bull from one (most desirable) to five for each trait. The bull with the lowest total score would be your first choice.

SAMPLE SIRE SUMMARY EVALUATION:

	BIRTHWEIGHT (BW)		WEANING WEIGHT (WW)		YEARLING WEIGHT (YW)		MILK (M)	
SIRE	BW EPD	Ace.	WW EPD	Ace.	YW EPD	Ace.	M EPD	Ace.
A	6.6	0.75	31.3	0.75	39.5	0.68	-5.6	0.58
B	0.1	0.82	14.6	0.83	24.6	0.80	6.0	0.73
C	0.0	0.89	0.3	0.89	11.1	0.88	18.9	0.87
D	-5.9	0.87	-3.8	0.87	-14.4	0.86	10.3	0.85

Producer #1 wants a sire to use on heifers; he wants a bull with a low birth weight and he wants to keep some replacement heifers. His main concern is not performance. The sire that fits his needs is **Sire D.** He has a low birth weight EPD and above-average milk EPD.

Producer #2 has a sound breeding program, he wants a sire that will maintain performance and milking ability. He will select a bull for multi traits that increase performance and milk while maintaining calving ease. **Sire B** is his choice.

Producer #3 has a herd of above-average frame mature cows and is not planning to keep any replacement heifers. He wants a bull that will give him the most profit at weaning and/or yearling (slaughter) as he will sell his calves at weaning or at 12 to 14 months. **Sire A** will give him the best result in weaning weight or yearling weight. If heifers are kept they will, on average, be inferior for maternal milk.

Producer #4 wants to maintain his calving performance and growth performance but would like to increase the milking ability in his females. **Sire C** is his choice.

UNDERSTANDING ACCURACY

EPDs are designed to change so that we can continually include the new information that is collected as more progeny are born. Like the weather, the more information you have about past performance, the easier it is to try to get a picture of future performance. To evaluate how good a predictor the EPD will be, we assign it an accuracy value.

Again, it is important to stress that an EPD is simply a prediction of how the offspring of a breeding program may perform. Think of accuracy as the tool that helps you assess risk by telling you how much information is going into the creation of the EPD -whether the EPD estimate of future performance is based on lots of data or whether it really is just a guess at this point.

Accuracies do not tell us how variable an animal's offspring will be. Nor does it reflect the quality of the information used. If a breeder is using incorrect management group definitions, this will affect the quality of the EPD, but will not affect the accuracy.

The accuracy value has a range from 0 (very poor) to 99% (extremely accurate). 99% means the EPD is the almost exact correct measure of the bull's ability to produce offspring with the given trait, and zero means there is no information available for making such a prediction.

Generally, accuracy values of about 80% or higher are considered high accuracy, meaning the EPD is a pretty good predictor of performance, which is to say that there is little risk that the progeny performance of an animal with high accuracy will be very different from the prediction. Accuracy values between 60 and 80% are moderate and an accuracy value below 60% is considered low, and the likelihood of the outcome mirroring the EPD value is less.

Rick Bourdon of Colorado State University breaks up accuracy values this way, passing final judgment on the bull.

LOW	<40%	Unreliable
MEDIUM LOW	40-60%	Risky
MEDIUM HIGH	60-80%	Trustworthy
HIGH	>80%	Confident Accuracy

ANALYSIS OF EPDs

Data reported by individual Breeders to the American Murray Grey Association

(AMGA) will be forwarded to Agricultural Business Research Institute (ABRI) for analysis. Breeders will receive reports on their individual herds and an annual report for the United States. These two reports will be in EPDs (Expected Progeny Differences). An annual International Report will be done which will include United States, Canada, New Zealand and Australia, which will be in EBVs (Estimated Breeding values.) The major difference between EPDs and EBVs is that EPDs are in pounds and inches while EBVs are in kilograms and centimeters.

Since our individual and US reports are being published in EPDs we will use this term in explaining what Breedplan will be supplying us as breeders of Murray Grey Cattle.

Breedplan uses all available information for individual animals as well as its progeny and close relatives. They also take into account the influence of management, environmental effects and non-genetic effects. They do not provide absolute values of performance. These estimations allows us to compare expected progeny performance of different animals. The more information we as breeders provide the more accuracy we will have on our animals.

There are 7 economically important traits that will be included in our reports by Breedplan. EPDs used in conjunction with assessment for structural soundness, fertility, mature size and muscling will help take a lot of guesswork out of cattle breeding.

EPD Traits To Be Reported:

(CE) Calving Ease EPDs: are based on calving ease (CE) scores, birthweights and gestation length information. More positive EPDs are favorable and indicate easier calving. This means that a bull that is +5 for calving ease is predicted to have five percent more of his calves born unassisted than a bull with a calving ease EPD of zero.

(BWT) Birth weight EPD: based on the measured birth weight of animal adjusted for age of dam are: The lower the value the lighter the calf at birth and the lower the likelihood of a difficult birth. This is particularly important when selecting sires for use over heifers.

(SS) Scrotal Size EPD: calculated from the circumference of the scrotum, measured in centimeters and adjusted to 400 days of age. This EPD is an indicator of male fertility in regards to semen quality and quantity. Higher (positive) EPDs indicate higher fertility. Scrotal size is also positively associated with earlier age at puberty of bull and heifer progeny.

(MILK) 205 Day Milk EPD: is an estimate of an animal's milking ability. For sires this EPD indicates the effect of their daughter's milking ability on the 205 day weight of their calves. The higher (positive) the EPD for bulls the better his daughters are expected to milk. To improve milk in your female herd, select bulls with well above the current breed average EPD and with high accuracy. An animal's 205 Day Milk EPD is usually less accurate than its growth EPDs because of the lower heritability of the trait and the time lag before the performance of the daughter's calves becomes available.

(205) Day Growth EPD: (Weaning Weight) is an estimate of the animals genetic potential to produce growth from birth to weaning. It does not indicate milk. The offspring of a bull with a +10 is expected to weigh on an average, 8 pounds more at 205 days than the offspring of a bull with an EPD of +2 This weight is taken between 180 and 300 days of age and adjusted to 205 days. The dams age is also taken into consideration.

(365) Day Weight EPD: (Yearling Weight) is an estimate of the genetic potential to produce growth from birth to 365 days. A bull with a EPD of +25 is expected to produce progeny that weigh on average 20 pounds more than a bull that has an EPD value of +5. This weight is taken between 301 and 500 days of age and adjusted to 365 days. The dams age is also taken into consideration. This EPD is the best single estimate of an animal’s genetic merit for yearling weight.

600 Day Weight EPD: (Mature Weight) is calculated from weight of progeny taken 501 and 900 days and adjusted to 600 days. Dams age is also taken into consideration. This EPD is the best single estimate an animals genetic merit for growth beyond yearling age.

KNOWN GENETIC CONDITIONS

Alpha-Mannosidosis:

While the potential for Murray Grey cattle to develop any bovine genetic abnormality, there is currently only 1 for which the American Murray Grey Association requires limited testing and a 2 for which some breeders are testing. The Alpha - Mannosidosis mutation was so pervasive in Australian Angus cattle, and by extension, derivative breeds during the 1960s, that the Murray Grey Beef Cattle Society implemented A - Manno testing across the breed.

The American Murray Grey Association requires that all sires collected after January 1st, 1999 used in Al have a negative A - Mannosidosis test on file with the AMGA. A-Mannosidosis is a lethal disorder linked to a genetic condition affecting Angus, Murray Grey, and Galloway cattle. There are two versions of the condition caused by two separate genetic mutations, one affects Angus and Australian Murray Greys; the other affects the Galloway breed.

These two mutations cause the same disease and both affect the same gene. Affected calves express a number of symptoms including head tremors, incoordination, aggression, nervousness and failure to thrive. Most calves die shortly after birth or within the first year and some are aborted during pregnancy.

Known A- Manno carrier bulls in the United States:

Bimbadeen Westward Ho
Balmoral Elation
Cranbrook Lusty

Myostatin - Double-Muscling:

Several Murray Grey breeders in the United States are testing for the myostatin mutation that causes double-muscling. Murray Greys can carry the NT821 variant. While there have been very few “affected” in the breed, carriers are in the population and breeders are being proactive in their testing.

According to an article on the American Shorthorn Association's website,
"The double muscle condition arises from a genetic abnormality in the production of 'myostatin', which is a protein that acts on muscle cells' autocrine function to inhibit myogenesis: muscle cell growth and differentiation. It is encoded by the MSTN gene.

An animal with the defective gene lacks the myostatin protein and hence muscle growth is unregulated.

The most obvious departure from normal in the phenotype of a double muscled animal is the enlargement of musculature, particularly in the rump and shoulder areas. There are however other traits which may or may not be significant, more particularly where the syndrome is fully expressed:

-Prominent creases between muscle groups
-Minimal fat cover and modified fat composition
-Shorter, thinner and less dense bones
-Delays in puberty, reduced fertility and reduced milk production
-Increased likelihood of dystocia
-Enlarged tongues in new born calves (Ed - making nursing difficult)
-Poorly developed genitals
-Increased susceptibility to respiratory disease
-Increased meat tenderness and yield"

Known Myostatin carrier bulls in the United States:

- Cadella Park Minute Man
- Thurloo Park Winchester
- Cadella Park Jesse
- Bundaleer X Road
- Wallawong New Kid on the Block
- Wallawong Vinnie Roe
- Rockliffe Patron
- Lochaber-Braes Diplomat
- Thurloo Park Winchester

Contractural Arachnodactyly (CA) ("fawn calf syndrome"):

CA calves are normally born alive and most can walk, suckle and survive. The birth weight of CA calves is normal. The phenotype is subtle and hence CA may not initially be recognized as an inherited defect.

Contractures which reduce the range of angular movement of the upper limb joints are present at birth in CA but are much less severe, without rigid joint contractures. Due to these contractures, CA calves at birth assume an abnormal crouched posture, resembling an elk or deer fawn, with the feet placed more to the rear that normal, hocks pulled up and back and the spine slightly arched. In their first days of life,

CA calves are also flat down on their pasterns. Although there is a reduced range of movement ("contracture") in the upper limb joints, particularly the hip, stifle and hock, there is an increased extensibility of the lower limb joints, particularly the pasterns.

CA affected calves are reported as taller and more slender, than their unaffected siblings. Australian researchers assert that the inability to passively extend the hip, stifle and hock joints to the normal extent by pulling downwards on the foot of a newborn calf -- while it is held on its side on the ground - is a valuable diagnostic sign in CA cases.

Affected calves can show significant recovery and usually appear relatively normal by 4 to 6 months of age. As weanlings and yearlings, the CA calves appear lighter framed and lighter muscled, particularly in the hindquarters. Most perform poorly and remain tall, slender animals with poor foot conformation.

The more normal appearance of CA cases as mature adults makes early evaluation of the phenotype essential. Australian researchers have also reported the early onset of degenerative arthritis in cows that were CA-affected as calves, particularly in the stifle joints.

Contractural Arachnodactyly carrier bulls in the US:

- The Glen Showboat (see AU database)
- Marire Gambler
- The Glen Guru

AMGA is consulting with breeders to monitor their findings. There are currently no discussions regarding Association monitoring or mandating testing.

Recessive Traits:

Murray Greys in the United States have largely been brought up to purebred by use of the Breed Up program. Additionally, Murray Greys were originated by cross breeding cattle. This presents an opportunity for recessive traits to appear occasionally such as; red carriers, horns/scurs, white markings. Breeders should not get discouraged by this, rather understand that it is a possibility in any herd.

DNA testing is available through many labs for some recessive traits, and breeders are encouraged to utilize these resources to lessen their chances.

TERMS AND DEFINITIONS

Accuracy – A measure of the reliability of an EPD. Accuracy values are reported as decimal numbers between zero and one. Values closer to one indicate larger amounts of available information and greater certainty that an animal's EPD will not change significantly, as more progeny information becomes available.

Adjusted weaning weight – A calf's weight taken at or near weaning adjusted to 205 days of age and adjusted for age of dam.

Adjusted yearling weight -- A calf's weight taken at or near yearling adjusted to 365 days of age. **ADG (Average Daily Gain) –** The gain in weight over a period of time (usually birth to weaning or weaning to yearling) divided by the time span in days.

Birth Weight EPD – An animal's expected progeny difference for mature dam equivalent birth weight of calf reported in pounds.

Breeder – The owner of a female at the time of conception is the breeder of the resulting calf.

Breeders herd – A show class in which the entry consists of a group of four (4) animals bred by one owner. Both sexes must be represented.

British breeds – Livestock imported into Canada at the turn of the century and originating in the British Isles.

Calf – An animal born in the current year.

Calving ease EPD – An animal's expected progeny difference for the ease with which its offspring would be born. A higher positive EPD predicts a higher percentage of unassisted calving. A lower or negative EPD predicts a lower percentage of unassisted calving.

Capacity – Overall volume of an animal having a direct relationship to weight.

Commercial cattle – Non-registered cattle.

Completeness – Refers to the animal that has fewer faults than the other animals that it is competing with.

Condition – Refers to the amount of fat cover on an individual animal. An overall conditioned animal is fat.

Cow & Calf – A female over two years of age, with a calf at side.

Crossbred – An animal which is produced from two or more breeds.

Crypotorchidism – A testicular abnormality in which either one or both of the testes fail to descend into the scrotum. It is thought to be determined by an autosomal recessive allele. Although the environment may play a role.

Cutability – The amount of lean meat in a carcass expressed as a percent of carcass weight. The warm weight of the carcass over the live weight of the animal gives you the dressing percentage.

Dam – The mother of an animal.

DNA (Deoxyribonucleic acid) – DAN is the most basic level of genetic information that gives an individual their characteristics.

Double muscling (inherited muscular hypertrophy) – A genetic mutation. Animals are extremely heavily muscled. The trait is associated with lower fertility in both sexes, increased difficulties in calving and increased susceptibility to stress. The heterozygote may be favored in some breeding programs because of the emphasis on muscular development and leanness in slaughter cattle. It is inherited as a simple recessive trait.

Dwarfism (snorter, long headed, buffalo) – A genetic defect. Dwarf calves are usually thick and blocky at birth. The difference between dwarfs and normal calves becomes more noticeable with age. They have deformed bone growth and the nasal passages, which cause difficulty in breathing, hence the name snorter. Inherited as a semi-lethal.

Exotic breeds – Livestock imported from European countries in the last few decades.

Expected Progeny Difference (EPD) – The expected difference in performance of an animal's progeny when those progeny are compared to progeny of an animal with an EPD of zero for the trait in question. EPD values are expressed in trait units; usually lbs. EPD values are relative. They do not indicate absolute levels of performance. Rather, they can be used to compare expected progeny performance of different animals.

Femininity – Refers to the refinement and sharpness of a female's structure and make-up.

Fitting or fitted – Preparing livestock for a show, both in feeding and conditioning, and outer appearance, which generally relates to hair (clipping and dressing).

Frame – Overall height and size of an individual.

Frame score – A score (from one to ten) used to describe relative frame size by relating the height of the animal to its age, in months. The height measurement is taken at the front shoulder or at the hip.

Fullblood – Relating to exotic breeds where both the sire and the dam are imports or direct descendants of imports.

Futurity – Competitions in which owners nominate their animals before the competition, with usually a higher fee. This fee is pooled back into the competition for the top placing animals.

Genetics – The study of the genetic variation and the mechanics of heredity. The term is also used to refer to the genetic composition of an animal or group of animals.

Genetic base – The standard or "zero" EPD for any trait. The base may be defined in different ways. Eg: The average genetic value for all animals born in the three previous years – a rolling base, or the average genetic value for all animals born in a particular year – a fixed base.

Genetic correlation – Correlations between two traits that arise because the same genes affect both traits. Weaning gain and yearling gain are two traits that are positively correlated. Birth weight and calving ease are two traits that are negatively correlated.

Genetic evaluation – A set of complex calculations (called Best Linear Unbiased Prediction – BLUP) designed to estimate the portion of variation in performance of animals which is due to genetics rather then environmental conditions. The results of these calculations are expected progeny difference for a variety of traits on each animal in the database.

Genetic trend – The average EPD for animals born in successive years illustrate changes in the breed's genetic merit for each trait over time.

Get of sire – A show class in which the entry consists of a group of animals (three or four) sired by the same bull. Both sexes must be represented.

Hairlessness (Hypotrichosis) – A genetic defect. Partial to almost complete lack of hair. Hair develops and is lost so an affected animal will vary somewhat in expression from month to month. Inherited as a simple recessive.

Heifer – A female who has not produced a calf because of her youth.

Herdsman – A person(s) responsible for the care and presentation of the livestock at the exhibition.The owners of the animals shown employ these persons.

Heritability – The proportion of variation in a trait that is due to heredity and is transmitted to offspring. Inheritability varies from zero to one. The higher the heritability of a trait, the more rapid should be the response to selection.

Heterochromia Irides (white eye) – A genetic defect. Symptoms of Heterochromia Irides are as follows: 1) deviation of normal coat coloring from black to diluted dark yellow to a rich, dark brown, 2) and change in the iris of the eye from normal dark black to blue-gray, giving the iris a double- ringed appearance when closely viewed, From a distance, the eyes appear white, 3) Nose or muzzle is a pale gray to brown, 4) The underlying skin under the hair coat is gray not black, 5) The obvious coat coloring abnormality of these cattle gets even lighter with age, 6) The above symptoms must be in combination with the unusual eye condition.

Hydrocephalous (water on the brain) – Excess fluid is present in the brain. Calves are usually born dead or die shortly after birth. Environmental factors can cause the disease as well as being inherited as a simple recessive.

Index (ratio) – An index number used to illustrate how the performance of one animal compared to the average of the group he was managed with. Index = individual performance/group average performance x 100.

Interim EPD – An EPD which is derived from parental EPDs and the individual's own within herd performance record rather than a national evaluation of all information in the database. An interim EPD will be replaced with a national EPD when the next national evaluation is conducted.

Junior – An exhibitor or owner who is under the age of 21 years or as specified by breed rules.

Length – Refers to the overall length of an animal measured from the point of the shoulder to the pin bones, adjacent to the tail head.

Length of quarter – Or the length of hip refers to the length between the hock (hip) bone and the pin bones (see length).

Management group – A grouping of animals of similar age (within 90 days) which have been defined by the breeder as having had an equal opportunity to perform.

Maternal milk EPD – An animal's expected progeny difference for its daughter's maternal ability. It is expressed as pounds of weaning weight of the daughter's calves, which is due to the daughter's maternal ability, particularly milk production.

Osteopetrosis (Marble Bone Disease) – May be caused by genetic defect. The calves are usually born dead, two or four weeks early. Bones are solid and do not

contain marrow, making them very brittle and easily broken. The genetic form is inherited as a simple recessive.

Pedigree – A record of ancestry for a purebred animal.

Pedigree estimate – An EPD that is based on pedigree information alone. (ie. The sire and dam EPDs0. There is no information available on either the individual's performance or progeny performance.

Performance – Actual measurements (usually weights) used to evaluate growth traits.

Performance test – An organized and standardized procedure for measuring traits which can then be used to fairly compare animals for those traits. (e.g. weighing animals to evaluate their growth traits).

Polled – An animal that has no horns.

Premier breeder – An award presented to the exhibitor who has breed the highest placing animals in the show. Points per placing in each show calculate this award.

Premier exhibitor – An award presented to the exhibitor who is most successful in the show. This award is calculated by a series of points per class placing.

Presentation – The dressing and fitting of an animal as to hair coat, eye appeal, and general presence.

Progeny – The offspring of an animal.

Prospect calf – A young steer that will be grown to show in a steer competition.

Proven sire – A sire that has sufficient progeny information in the national database to result in EPDs with accuracy's that meet the minimum level for proven sire status.

Purebred – An animal of which the sire and the dam are both of the same breed or species.

Ringman – An individual who assists the show judge and the show persons in conducting the show.

Scale – The size or dimension of an animal.

Scrotal Circumference – The size of a bull's scrotum, measured in centimeters, which has a direct correlation with fertility.

Showmanship – The manner in which the livestock are presented and exhibited while being shown before the judge.

Sire – The male parent of an animal.

Smoothness – A term used to describe the general appearance of an animal.

Soundness – Refers to the structure and make-up of the individual animal. Feet and legs are usually the factor where this term would be used.

Steer – Castrated males of the cattle species.

Style – Alertness and general sharp appearances are generally a factor in competition.

Thickness or muscle – Judged from behind, an animal with thickness would be wide through the stifle area.

Trait leader – A sire that has been identified as an elite sire for a particular trait, based on his EPD and a minimum accuracy.

Travel – Slang word for how an animal walks.

Two year old – A two-year old female is shown with her first calf at side.

WDA or WPDA (weight per day of age) – A comparative ratio of an animal's weight relative to its age. This is calculated by dividing the weight by the number of days of age.

Weaning gain EPD – An animal's expected progeny difference for weight gain from birth to weaning reported in pounds.

Yearling – An animal over one year of age and having not yet reached the age of two years.

Yearling gain EPD – An animal's expected progeny difference for weight gain from birth to one year of age reported in pounds.