THE FECUNDITY AND PREPOTENCY

of

SHOW YARD CATTLE.

For

GRADUATING THESIS

of

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THE FECUNDITY and PREPOTENCY of SHOW YARD CATTLE.

The interest taken in exhibiting live stock can be observed by comparing the entries at the principal shows of the past season. The number of animals entered for the shows this past season was far in advance of the previous season. Thus we see competition is constantly growing stronger as the number of entries for each class increases, which has a tendency to raise the standard of the breed.

In order to win, an animal must possess quality, character, breed type, and be in good show condition, which, at the present time, happens to be, "Carry a great deal of flesh." The judges will invariably place the blue ribbon on ananimal which has been highly finished but lacking somewhat in quality, character and breed type, and turn another animal of superior quality, character and breed type down, because it is not carrying quite enough flesh. We are not condemning the great amount of fat in all cases, but where an animal possesses quality, character and breed type, we see no reason why this animal should not be given the preference, although it does not possess so great an abundance of fat. The old maxim,"Fat covereth a multitude of sins," comes into play just at this time. In a breeding animal which has a great covering of fat, the judge is not able to detect defects. This animal, after the show season, will go back to the breeding pen and transmit these defects to its offspring, leaving the advancement of the breed, so far as this animal is concerned, at a standstill,or, possibly on a decline.

The fecundity and prepotency of the show herd has been an obstacle in the way of success to many cattle breeders ever since cattle were first shown. Several instances are on record of animals of superior show-yard merit, which never left any legacy, aside from their show-yard triumphs, to the breed which they represent. Why there should have been so many cattle reported as non-breeders or shy-breeders, is the object of this discussion.

There have been and always will be animals of outstanding merit in the show-ring. If these animals are reported as non-breeders, is it possible that nature has not endowed them with the power of reproduction, or is it due to the way in which these animals have been fitted for exhibition? In most instances the latter seems to be the case. Animals of superior breeding merit cannot always be expected to win the highest honors in the show-ring, nor can animals of superior show-yard merit always be expected to be the best breeders, but in the latter case there is no reason why animals of show-yard fame should not be producers, at least.

Numerous newspaper articles can be found on the curse of too much tallow, results from too high feeding, and sterility in the show herd. Instances may be on record where fat has been the cause of sterility, but is it possible that in almost every instance it has been due to carelessness or a lack of judgment in preparing the animal for exhibition? This may not always be the case, as a certain animal that is a non or shy-breeder may be a descendent from a family which has been in-and-in bred for a number of generations. Probably the most common cause of sterility in animals is a fatty degeneration of the reproductive organs and excretory ducts. Animals of the beef breeds tend to become fat and the owner encourages

the tendency by feeding corn liberally and failing to give sufficient exercise. Successful breeding powers depend upon ideal health of the entire body, and especially the immediate parts used in procreation. When an animal becomes fat, flabby, sluggish and indifferent, fatty degeneration may be suspected and unless proper treatment is instantly given, the animal will certainly become impotent.

In case such a condition is found in the bull, some method should be employed to exercise him freely every day. Fatty degeneration or sluggishness is not so often found in heifers because they are usually allowed more freedom or range than the bull. Heifers have to be bred very early where they have been fed largely on corn from weaning time, and become so fat, or tend to fatty degeneration of the ovaries and their excretory ducts. Developed naturally by ample outdoor exercise on good pasture and along with generous supplies of nitrogenous feeds or balanced rations, calculated to build up a strong frame and cover it with naturally developed muscle, there need not be the slightest fear that the heifer will not breed if let go beyond the eighteen months age. And if she is brought up as suggested and is bred later than usual to a bull similarly raised, she will bring forth a better calf and tend to raise the standard of the breed year by year.

In-and in breeding, overfeeding and lack of exercise are not the only causes of sterility. Overservice where the bull runs with the herd is a common cause of trouble with young bulls. Many fine bulls have been injured by turning them in with cows before they are fully matured. Where the bull is not allowed any service during the show season, he may be injured by overservice immediately after the show season is over if not properly fed and handled. Experience of many breeders has proved that one service at the proper time is

is usually better than allowing several services.

Occasionally animals are fitted for exhibition with the sole purpose of winning, regardless of their future usefulness. All means are employed to put the animal in the highest possible condition. In many cases drugs are used, in fact, anything is used that will have a tendency to lay on fat. In such a heated condition of the body, a fatty degeneration of the reproductive organs can only be expected and the animal is rendered unfit for breeding. This is not judicious feeding and should always be discouraged.

A question naturally arises from the previous discussion, "would the length of the fattening period have any effect on the fecundity and prepotency of a show animal?" It is quite possible that it would, because an animal may not be properly fed and handled for one season and its reproductive powers not injured, but if this animal is carried on for another season or two and not properly fed and handled, a fatty degeneration of the reproductive powers might be expected. In most cases an animal may be improperly fed and cared for for several seasons and still be a good breeder, owing to a strong condition or individuality. To receive the best results from breeding animals that are to be carried over for the next season's circuit, proper feeding and handling must be exercised. The animals should be fed a well balanced ration and receive a sufficient amount of exercise every day. The influence of exercise is most important, so much so that where good breeding powers do exist, they will soon become impaired by lack of it. The influence of nutrition upon breeding is very marked, indeed. Where the supplies of food are very scant and irregular, the breeding tendencies will be effected adversely. This is easily seen by the slower increase of wild animals as compared with tame animals of the same species. This shows that

the breeding tendencies will be more normal when the supplies of food are regular and abundant in the right proportions.

We have records of animals that have been on the show circuit for several successive seasons and were as regular breeders as could be expected of any animal. Probably this was not due to a strong constitution or any individuality as much as to the way in which these animals were fed and managed. Many breeders and exhibitors claim their breeding animals which go to make up the show herd, prove to be the best breeders. They are well sheltered and are fed good, nutritious food, which in no way should affect their reproductive powers. For comparison, take any breed of cattle and keep them poor for several generations. They will not respond as readily to intelligent care and good feed as if they had been treated in a more intelligent and liberal way. If this is the case, the man who starves his cattle from year to year and from generation to generation, deteriorates not only the amount of beef that they will produce, but he also deteriorates the possibility of their producing cattle which will respond readily to good care and liberal feed. If "like produces like", or the likeness of some ancestor, then we see no reason why the offspring from the show-herd should not be the most economical in the feed lot.

It is claimed there are two extremes to the feeding question, that of being overfed and that of being poorly fed. Where cattle are fitted judiciously for the show circuit, there would be only the one extreme, that of being too poorly fed. In every case where cattle are judiciously fed, the poorly fed animals would be the greater extreme. And it is safe to say that for every animal that has been injured by overfeeding, there has been a dozen ruined by starvation.

Before going any farther we will define the two terms "fecundity" and "prepotency." Fecundity means the quality of bringing forth offspring; freely, regularly and, in many instances, abundantly. It means about the same as prolificacy when the latter is applied to animal breeding, but prolificacy is the broader term and therefore has a wider range of application. Fecundity has reference to frequency in reproduction, as well as the number produced.

Prepotency is the superior power which one parent has over the other in determining the character of the offspring. But the term is more commonly used to indicate that power which an animal has to transmit its own qualities.

The chief influences that produce prepotency of type or breed are, the duration of the period during which the animals have been bred pure and the inherent vigor of the type, race or breed. The chief influences that produce prepotency in the individual are; purity of blood, in-and-in breeding, and strong constitutional development.

Prepotency may be seen to differ widely in animals similarly bred and possessing the same blood elements; hence, there is no absolute guaranty of prepotency in near relationship.

A short history of each of the three most popular beef breeds will be inserted before giving a description of a few noted individuals of each breed.

Short-Horn History.

The home of the Short-Horn is in the northeastern part of England in the counties of Durham, York and Northumberland, along the Tees River. The Short-Horn is of composite origin, representing the result of generations of skilful blending of aboriginal types. The

exact origin of the Short-Horn is shrouded with more or less uncertainty. The Tees Valley is noted for its great stretches of grass land and in this country the Short-Horn received its first development and improvement. At a later date, in the southeastern part of the County of York, another type of Short-Horn was developed, "The Holderness." This was near the beginning of the Eighteenth Century. Some writers are of the opinion that the foundation of the Short-Horn was built by cattle which were brought over during the invasion of England by the Normans, Romans, and other nations, and which crossed with the native English stock. Presumptions have been made that cattle of the Short-Horn type were bred by English nobility prior to 1600.

Improvement of the Short-Horn has been attempted by crossing with the black cattle, but the cross has always been a failure and a detriment to the breed. The Holderness type seemed to command more attention than the Teeswater, principally on their milking qualities which were much better than the Teeswater's. About the middle of the Eighteenth Century, bulls were imported from Holland which were used in some of the earlier herds. The earliest breeders of Short-Horn cattle were early English nobility along in the Sixteenth Century, but the most noted breeders and improvers were Charles and Robert Collings, Thomas Bates, Thomas Booth and Amos Cruickshank.

The Colling brothers sought for better feeders, early maturity, less offal and a strong constitution. Thomas Bates sought cattle having superior dairy, as well as beef, qualities. Booth and Cruickshank sought the Colling brothers type, but Cruickshank de-

veloped a more typical beef animal. The first Short-Horn imported to America was in 1783 by Gough and Miller of Virginia.

HEREFORD.

The native home of the Hereford breed of cattle is the County of Hereford located in the southern part of England, joining Wales. The country is rather rolling with a few hills in certain sections and affords superior grazing lands. Herefords are bred in this country almost to the exclusion of all other breeds of cattle.

Like that of other English breeds, the Hereford is buried in obscurity. Some writers believe this breed has descended from the aboriginal cattle, while others regard it as the first breed on the Island. Several ideas have been advanced as to the color and type of the Hereford ; one theory is advanced that about the middle of the Seventeenth Century some white faced cattle were imported from Holland or Flanders. Another theory and the one which is favored most is the influence of the white cattle of Wales which would naturally mix with the darker colored cattle in the adjoining region. The color of the Hereford has varied during the history of the breed. In the latter part of the Eighteenth Century it was reported that the prevailing color was red with a bald face; but near the middle of the Nineteenth Century a wider range of color existed. The first herd book written by Eyton, groups the Herefords into four classes; viz. mottled-faced, light gray, dark gray and red with white face. By the latter part of this century all of the colors except the last were practically extinct.

The first breeders and improvers of Hereford cattle date back to about the middle of the Eighteenth Century and among the earliest of prominence were Richard Tomkins and his sons, Benjamin the elder,

and his son Benjamin the younger, John Galliers, John and William Hewer and William Galliers.

The Tomkins family receive the most credit for the early improvement of the Hereford breed. The Tomkins family used in-and-in breeding as a means of improving the breed, and through their efforts the Hereford matured earlier, produced less offal, and a more refined, blocky type of animal. The breed under the guidance of the Tomkins developed breed character of today. Herefords were first imported in America in 1817 by Henry Clay of Lexington, Kentucky.

Aberdeen Angus.

In northern Scotland in the counties of Aberdeen, Forfar and Banff, is the home of the Aberdeen Angus breed of cattle. This country is nearly in the same latitude as Labrador. The climate is rather damp and cold much of the time and the country is rough and mountainous, and is better suited to grazing than to anything else.

There have been several theories advanced as to the origin of the Aberdeen Angus breed, but the prevailing one is that they are a direct branch of the aboriginal horned cattle of Scotland thrown off by sudden "spontaneous" or accidental "organic changes." In this cold country the Aberdeen Angus breed has been brought out as one of the most handsome and most valuable breeds of cattle in the world. It would seem that in the aboriginal horned, domestic cattle of Scotland there had been a tendency to those "spontaneous variations" that resulted in the loss of horns. We, ourselves, have seen instances where hornless varieties have appeared from time to time, most of them in such localities and under such circumstances as preclude the idea of their all having sprung from one offshoot and from the conslusion that each represented a fresh departure or dis-

tinct, "sudden, organic change." As to the precise date or period at which these sudden changes that have given us the Aberdeen Angus may have occurred, we have no knowledge, but it is considered to date back over a century. At the present time scurs occasionally appear on some of the best individuals of the breed, which, by the law of atavism, is proof enough that at some early date horns appeared on the cattle from which the Aberdeen Angus descended.

Some of the early improvers of Aberdeen Angus cattle were Hugh Watson, Wm. McCombie, Wm. Fullerton, Sir George MacPherson Grant. Aberdeen Angus cattle were first introduced into America in 1873 by George Grant of Victoria, Kansas.

The time when cattle were first shown dates back over a century. The first mention of breeding stock being shown was in 1794, where Herefords were first shown at the "Bath and West of England Societies." No mention occurs again until 1799, when £5 5s ($26.25) was awarded to Mr. W. Smith for the best Hereford heifer.

Short-Horn history mentions fat stock being exhibited in England in 1801. "The Durham Ox" at this time created much excitement because of his great size. "The White Heifer That Traveled," a cow bred by Robert Colling, was shown in England in the year 1806.

At the time when cattle were first exhibited, the principal reason for showing was the reputation that might be developed for the breed. Robert Colling's "White Heifer That Traveled" won for him a reputation among the early Short-Horn breeders.

The desire for exhibiting live stock found its way to North America in the early part of the Nineteenth Century. The first mention of live stock being exhibited in America was at the New York State Fair in 1841. The Illinois State Board of Agriculture

was organized in 1865 and changed in 1871 to the State Fair. A fat stock show was organized at Guelph, Ontario, about 1870.

Breeding cattle were shown at the first American Fat Stock Show in 1877, at Chicago. This show was changed to the International, or rather, the International was organized in 1889. A fat stock show was organized at Kansas City about 1899.

The show-yard type of beef cattle at the present time is the beast which conforms as near as possible, to the beef standard, and it is this type of an animal which breeders are striving to reach, maintain and improve. An animal whose ancestors have for several generations won distinction in the show-ring, should by the law, "Like produces like," be an animal that would conform very near to the beef standard. If a bull whose ancestors had won honor in the show ring, should be placed at the head of a breeding herd, his get should conform more to the beef standard, rather than revert to some of the earlier types of cattle; and if some of the cows in this herd should happen to be prize winners, the offspring in every case should be a very good representation of a typical beef animal.

The show-yard type also strengthens breed characteristics. The individual selected to represent the breeding herd is the one most nearly conforming to breed type along with beef type. After several generations of careful selection and breeding, the breed characteristics should be intensified far beyond what it is at the present time, and the number of cattle lacking in breed characteristics would be relatively fewer. The breed characteristics that would most probably be affected would be variation in color and markings, character, beef type, and conformation. The beef breeds

are all striving for the same goal: "A maximum quantity and a maximum quality of beef in a minimum amount of time on a minimum amount of feed." The time when this goal will be reached and what it will be if ever reached, is far beyond our power to express.

The beef type of cattle at the present time compares very well with a bovine standing written 100 B. C. by Mago, the Carthagrinian, who may be correctly termed the "father of Bucolic literature." In his writings he states that "The oxen we should procure should be young; squarely formed, with large limbs; high, strong, black horns; forehead broad and curly; ears rough; eyes and lips black; nostrils turned up and wide; neck, long and muscular; shoulders large; belly roomy, and, as it were, filling out (barrel shaped); flanks extended; loins broad; back, straight and even or slightly depressed; haunches (buttocks) round; legs compact and straight, but rather short than long; knees moderate; hoofs large; tail very long and hairy; the color red ar dark brown, and the whole body very soft to the touch or handle." It is a description that for 2500 years has been copied with many grotesque burlesques on the typical bovine form.

POINTS for the BEEF STEER.

General Appearance.

Form.--Straight topline and underline; deep, broad, lowset, stylish.

Quality.--Firm handling; hair fine; pliable skin; dense bone; even flesh.

Condition.--Deep even covering of firm flesh, especially in regions of valuable cuts.

Head and Neck.

Nuzzle.--Broad; mouth large; jaw wide; nostrils large.

Eyes.--Large, clear, placid.

Face.-- Short; quiet expression.

Forehead.--Broad, full.

Ears.--Medium size; fine texture.

Horns.--Fine texture; oval; medium size.

Neck.--Thick; short; throat clean.

Forequarters.

Shoulder Vein, full.

Shoulder.--Covered with flesh; compact on top; smooth.

Brisket.--Advanced; breast wide.

Dewlap.-- Skin not too loose and drooping.

Legs.-- Straight, short; arm full; shank fine, smooth.

Body.

Chest.-- Full, deep, wide; girth large; crops full.

Ribs.--Long, arched, thickly fleshed.

Back.--Broad, straight, smooth, even.

Loin.--Thick, broad.

Flank.-- Full, even with underline.

Hindquarters.

Hips.--Smoothly curved; distance apart in proportion with the other parts.

Rump.--Long, wide, even; tail head smooth, not patchy.

Pin Bones.-- Not prominent; far apart.

Thighs.--Full, deep, wide.

Twist.-- Deep, plump.

Purse.-- Full, indicating fleshiness.

Legs.--Straight, short; shank fine, smooth.

On making a thorough comparison of the two standards written 2500 years apart we cannot find very much difference between the oxen used by the ancients and a typical beef steer at the present time.

To aid in the proof of the question of the fecundity and prepotency of show-year cattle, a number of the most noted show-bulls and cows from each of the three most popular beef breeds have been selected and a short description of each animal will be considered.

SHORT-HORN BULLS.

I. Young Abbotsburn 110679.

Young Abbotsburn was calved March 2, 1885, and was bred by A. Cruickshank of Scotland. He was sired by Abbotsburn 106090 by Roan Gauntlet 45276. His dam was Village Blossom, a thickset, broadbacked, low down type of cow that won much favor in prominent Canadian show-rings. Young Abbotsburn was purchased by Col. T. S. Moberly of Richmond, Ky., in 1890. Mr. Moberly at the time of the purchase was asked what he intended to do with him, to which he replied, "Use him a little and show him right smart." From the day of Young Abbotsburn's first appearance at Detroit in September, 1890, until crowned the Champion of the World's Columbia Exposition in 1893, there were none in the American show-rings to challenge his complete supremacy. Open to criticism because of his lack of character, Young Abbotsburn was such a feed lot model that he fairly carried the corn belt by storm. He was recognized by practical men as the sort of a beast that would convert grain and grass into beef on short notice.

Young Abbotsburn was something of a disappointment as a breeder,

yet he sired a number of animals of much merit. Among his sone may be found "The Corker," Gay Lad 132217, and Young Abbotsburn 2d, and among his greatest daughters may be found Golden Abbotsburn, Lady Abbotsburn and Mary Abbotsburn 7th. The latter proving to be one of the greatest show cows in America towards the close of the Nineteenth Century. Young Abbotsburn's legacy to the breed, aside from his great show-yard triumphs, was not large.

II. Gay Monarch 92411.

Gay Monarch was bred by W. S. Marr of Scotland and was calved January 26, 1887. He was sired by Wm. of Orange 95736, and his dam was Alexandria 17th by Atabasca 90276. Wm. of Orange was one of the great bulls of Scotland. Gay Monarch was imported in the fall of 1877 by Wm. Miller for L. Adams of Storm Lake, Iowa, and on May 16, 1888, he was purchased by J. J. Robbins & Sons of Dexter Oark, Chicago.

Gay Monarch was for several seasons one of the star attractions of the Short-Horn exhibits at western shows in 1888-89-90-91-92 and 93. He not only carried many first and championship prizes, but in the Robbins herd sired show cattle of outstanding merit. He is credited with leading the winning herd twenty-four times at various state fairs and stock shows. He had a superb disposition, and he seemed to transmit this to his offspring. He was a smooth, deep fleshed bull, possessing more character than Young Abbotsburn and has been considered by many to have been one of the greatest Scotch-bred bulls ever in service in America. Many noted animals may be found among the get of Gay Monarch and his greatest sons were Gay Monarch 3d and Monitor 109140. His most prominent daughters were Gay Mary, Nancy Hanks and Peerless.

III. Choice Goods 186802.

Choice Goods was calved April 21, 1899, and was bred by James Durno of Scotland. He was sired by Remus 151790 and his dam was Geraldine 5th by First Choice 107872. Choice Goods was imported in 1901 by W. D. Flatt of Ontario. He was shown until he was six years old and was Grandchampion of America in 1900-01-02-03 and 04. He was on the show circuit so long that he did not have a chance to demonstrate his breeding ability until recently. At Tebo Lawn he left a few sons and daughters that have won fame in the show-ring. Last season one of his sons was Grandchampion at Kansas City and 1st in his class at Chicago. Among his other prominent get we find the bulls Scotch Goods, Lavender Clipper, The Conqueror and Good Choice, and the cows Princess, Flora 2d, Violet Rose and Sweet Briar Rose. Choice Goods possesses strong character about the head and neck, has a broad back; wide, thick loin; well padded quarters with short legs set well under his body, and his skin is mellow to the touch, indicating great breeding quality.

IV. St. Valentine 121014.

St. Valentine was calved February 14th, 1894, and was bred by Guardhouse & Son of Highfield, Ontario. He was sired by Guardsman 108200 and his dam was Verbena's Lady by Reporter 113482. St. Valentine was one of those great, rich roan fellows which retired from the show-ring after several seasons of successful campaigning. His true merit has been demonstrated since the record made by one of his daughters, "Ruberta", the champion Short-Horn cow of America. St. Valentine's most prominent sons were Lord Lovel and The Lad For Me 140618. Had St. Valentine never sired another animal aside from "Ruberta", his fame would have been

secure for all time.

V. Whitehall Sultan 163573.

Whitehall Sultan was calved October 11, 1900, and was bred by J. Deane Willis of England. He was sired by Barmpton Sultan 163570 and his dam was Imp. Barmpton Pearl by Count Lavender 132575. Whitehall Sultan was calved the property of E. S. Kelly of Yellow Springs, Ohio. He has a record that is as good as the best and has as many first prizes and grandchampionships attached to his record as any other bull of the beef breeds. He was shown for several seasons, principally in 1904 and 1905. Whitehall Sultan is one of the greatestShort-Horn bulls in America today and his get have been among the first prize winners the last two seasons at the larger fairs and stock shows. He possesses excellent character about the head and neck; has a broad back; well sprung ribs; exceptionally long rump, and great, broad, deep quarters. His very appearance indicates a very impressive sire.

SHORT-HORN COWS.

I. Ruberta.

Ruberta was calved October 14, 1898,and was bred by J. G. Robbins & Sons of Horace, Ind., She was sired by St. Valentine 121014, and her dam was Russella by Czar 107007.

Ruberta is one of the most striking examples of the fecundity of a show cow. She was shown from calfhood to maturity and was never defeated in her Short-Horn class. She retired from the Show-ring the Champion Short-Horn Cow of America, which title she had held for several years. Ruberta was shown during the years of 1900-01-02 and 03. She is a rich roan of remarkable character, quality and smoothness, which is seldom found so combined in one beast. She

is a true representative of the beef type and is now eight years old and the mother of six living calves. Her most prominent son is Ruberta's Goods, Grandchampion Short-Horn bull at the Kansas City Royal this last season and first in her class at Chicago. Her most prominent daughter is "Rubertress," a prize winner in 1902.

II. Lady Sharon 4th.

Lady Sharon 4th was calved October 10, 1896, and was bred by Aaron Barber of Avon, N. Y. Her sire was Young Marshall 110705, and her dam was Lady Sharon, by Rosebud's Acklam Sharon 2d 109972. She was shown for several seasons and won great distinction in the show ring. She was shown at the most prominent state fairs in 1898 and 1899. In 1900 she stood first in the aged matron class at Chicago, defeating Dorethea by Crimson Chief, the noted Short-Horn cow shown by N. P. Clarke of St. Paul, Miiesota. Lady Sharon 4th was a great breeder and her most prominent son is Sharon Campbell. At the time she defeated Dorothea, she was heavy with calf and had lost much of her bloom. She was one of the great Short-Horn cows that helped in the improvement of the modern Short-Horns. She was a massive cow and possessed excellent character and quality, along with a deep, even covering of flesh all over her body.

III. Village Belle.

Village Belle was calved March 25, 1898 and was bred by Wm. Duthie of Scotland. The sire of Village Belle was Pride of Morning 120531, and her dam was Village Maid 17th, by Master of the Ceremonies 136633. Village Belle was imported in 1899 by H. Cargill & Son. She was one of the greatest show cows ever exhibited in America and her dam was also a great show cow. She was a cow of medium scale, very smooth and had an even covering of thick, mellow flesh all over. She was low and blocky and possessed excellent

character. She was as good a breeder as she was a show-yard winner and her produce, of which Imp. Village Belle 2d was the most prominent, has been able to compete for some of the highest honors in the show-ring. She was shown in the old country in 1898 and in America during the season of 1900-01 and 02.

IV. Cicely.

Cicely was calved February 21, 1898, and was bred by Her Majesty, the Queen of England. She was sired by Prince Victor 159879 and her dam was Christobel by Croesus 159789. She was imported in 1900 by W. D. Flatt of Ontario. At the time of the purchase she was being fitted for the Smithfield Fat Stock Show and would have been slaughtered at the end of the show had she been in all her classes. After she was shown and imported she was bred and got with calf the first service. She was shown from calfhood to maturity and was a champion of the breed. She was shown two years before she was imported. She has been a great producer and her produce when shown were strong representatives of the breed. Cicely is a rich roan of the wide, deep set, blocky type and she possesses strong feminine character.

V. Mary Abbotsburn 7th.

Mary Abbotsburn 7th was calved December 31, 1892, and was bred by Col. T. S. Moberly of Kentucky. She was sired by Young Abbotsburn 110679, and her dam was Forest Belle 6th by Minnie's Duke of Sycamore 57120. Mary Abbotsburn 7th when a yearling heifer won championship after championship at different state fairs that season and from 1894 to 1898 she was the unrivaled queen of American Short-Horn cows. She had a great, broad back with well sprung ribs and well filled quarters, with a great covering of flesh all over her body which in every way was characteristic of

sire. She matured into one of the noblest cows of any breed known to the American cattle trade, and had Young Abbotsburn never sired anything else than Mary Abbotsburn 7th, his fame would have been secure for all time to come. As a breeder Mary Abbotsburn 7th can be rated with the best.

HEREFORD BULLS.

I. Lord Wilton 4057.

Lord Wilton was bred by Wm. Ludge of England and was calved August 30, 1873. His sire was Sir Roger 3850 and his dam was Lady Claire by Marmion 4117. On both the sire and dam's side Sir David is no unimportant factor in Lord Wilton's pedigree.

Lord Wilton was shown five years, 1874-75-79-81 and 82, and he made a remarkable record, defeating many noted bulls, such as Archibald 11129. He possessed strong masculine character about the head, horn and neck, and he carried a magnificent form and appearance, being very massive, broad and deep, standing close to the ground and showing no coarseness whatever. His handling qualities were excellent and he possessed a robust constitution. Many of Lord Wilton's get have attained fame in both the show-ring and breeding herd, and especially Sir Bartle Frere 6419, and Romeo 6420, which were his greatest sons, and Venus and Henrietta, which were his greatest daughters. The offspring of Lord Wilton's get have also taken high honors at various shows of England and America. His blood has been estensively distributed over America through imported get and descendants. Many Herefords in America trace back to Lord Wilton, which may be regarded as one of the greatest, if not

the greatest Hereford sire, in history.

II. Dale 66481.

Dale was calved September 15, 1895, and was bred by Mr. Clem Graves of Bunkerhill, Ind. He was sired by Columbus 51875, by Earl of Shadeland 41st, by Garfield 7015. Rose Blossom 39225, the dam of Dale was sired by Peerless Wilton, by Garfield 7015. The ancestry of Dale shows that he was bred in the purple, through and through, and his career in the show-ring has not been surpassed in American Hereford history. In the five years (1896-97-98-99-00) he was shown, he won the highest honors possible in his breed, only lowering his colors once to his son Perfection 92891.

Dale's character was of the highest type and his breadth of back, spring of rib, chest capacity, development of quarters and covering of flesh, and quality were superb. As a feeder and butcher's type he was one of the greatest show bulls represented in the beef breeds in American show-rings. Unfortunately Dale died a comparatively young bull; hence, we cannot measure his deepest influence on the breed. His most prominent get were Perfection, Dale Lad, Amy Dale, and Dale Wilton.

III. Corrector 48976.

Corrector was calved January 9, 1891, and was bred by T. F. B. Soltham of Chillecothie, Mo. He was sired by Harold 21141, an imported bull with a remarkable show record. Coral 13526, the dam of Corrector was a great breeder as well as a show cow.

Corrector had an impressive carriage with proud bearing and graceful crest, and a head possessing strong character. He had a great broad, deep chest; broad and well sustained back, with good fleshing qualities and a superior covering of hair. Corrector

was shown four years, 1891-92-93 and 94 and made an excellent record. As a breeder, Corrector may be classed with the best and he sired many noted animals. Among his most prominent sons may be found the names of Thickset, a bull which sold for $5100; Sir Bredwell which sold for $5000; Cadillac and Goodwin. Among his daughters may be found Grace, Golden Lassie, Puregold, Lady Bredwell, Benita and Benefice. The remarkable prepotency of Corrector has been demonstrated by the records made by his offspring and more especially, his sons.

IV. Princeps 66683.

Princeps was bred by Gudgell and Simpson of Independence, Missouri, and was calved November 11, 1896. He was sired by Beau Brummel 51817, a great show bull. The dam of Princeps was Pretty Lady 5th 41800 by Don Juan 11069. He possessed strong masculine character and he had a type of head that was most desirable in the feed lot. He was low and blocky and was one of those mellow, easy feeding kinds, being deep fleshed over the back, ribs, loins and quarters; which characteristics he bred even better than he was himself. The uniformity of his breeding was clearly demonstrated at the International in Chicago in 1906, when the get of Princeps won first and sweepstakes on aged bull; first and second and third and sweepstakes on aged cow; first on aged herd; first on get of sire, and first on produce of cow--a record equaled by but few sires. Princeps made quite a show-yard record for himself during the seasons of 1897-98 and 99 at some of the leading fairs and stock shows. His most prominent sons were Majestic, Princeps 4th, and Stanley, and his most prominent daughters were Heliotrope, Nutbrown 5th and Estella.

V. Prime Lad 108911.

Prime Lad was calved February 13, 1900, and was bred by G. P. Henry of Goodenow, Illinois. He was sired by Kansas Lad Jr. 75104, a great show bull bred by K. B. Armour of Kansas City, and the dam of Prime Lad was Primrose 80150, by Marplot 82782. He was grandchampion bull at the World's Fair at St. Louis; also at most all of the important shows that season. Prime Lad was shown during the seasons of 1901-02-03-and 04. During this time he had made record,winning several championships, and grandchampionships. The sire of Prime Lad was a grandchampion bull and his dam was a grand-champion cow. The outstanding merit of this bull has been demon-strated in more than one show-ring and he is generally regarded by those competent to judge, as one of the greatest products of the breed produced in recent years. When measuring this bull and his get by show-yard standards, it should be remembered that he is yet young and that his male get have passed when young into other hands, the buyers, in some instances, having developed and exhibited them successfully.

HEREFORD COWS.

I. Dolly 5th 71988.

Dolly 5th was calved January 15, 1896, and was bred by Jno. Hooker of New London, Ohio. She was sired by that great breed-ing bull, Java 6445, and her dam was Dolly 34111 by Highland Prince 6481. Looking over the records of 1898, 99, and 00, we find the name of Dolly 5th as the blue ribbon winner and many times champ-ion at the leading state fairs and stock shows. She was made the champion female of the breed at the Kansas City Hereford show in

1899. She was a low, blocky cow with a broad back; wide, deep quarters and a thick covering of flesh all over her body. Her one bad point was that she was just a trifle rough about the tail head. During the season of 1899 Dolly 5th's strongest competitor was Dolly 2d, and there were some criticisms by some of the spectators when the Nave cow, Dolly 5th, was awarded the championship at Kansas City. Dolly 5th was a great breeder and some of her produce have been candidates for some of the high honors.

II. Mischievous 71758.

Mischievous was calved August 12, 1896, and was bred by Messrs. Gudgell and Simpson of Independence, Missouri. She was sired by Lamplighter 51834 and her dam was Miss Charming 4th 33752 by Sylvester 11125. She was shown from the time she was a yearling at Omaha in 1898 until the International in 1902 when she was six years old. Mischievous is a strong boned and massive cow, yet refined and feminine in her make up. She is thick fleshed and mellow to the touch, possessing quality, and at her present age, holds her lines as straight as when she was a heifer. She is a grand type for a breeding cow and she has produced a calf regularly and of her produce, Mischief Maker and Miss Caprice received the most prominence, and both were champion females at several state fairs. Mischievous is a free martin and is as regular a breeder as can be found, which is a striking example of the fecundity of a show cow.

III. Benison 78826.

Benison was calved December 20, 1897 and was bred by T. F. B. Sotham of Chillocothie, Missouri. She was sired by Protection 58568 and her dam was Benita 58542, by Corrector 48976. She was one of the greatest cows that the Hereford breed has produced

in America and she was the champion for three years, k897-98 and99. She was the flower of Weavergrace and the best specimen of a beef animal Sotham ever bred, but she lacked scale, only weighing 1600 lbs. when a matured cow. Benison was a regular producer along with her great show record. She was the dam of fulfiller 107722, a show bull and one of the best Hereford bulls in service at the present time. Her lack of scale did not seem to have any influence on the size of her produce, as her calves were as large as the average. Benison was a great example of the fecundity and prepotency of a show cow.

IV. Queenly 108933.

Queenly was calved October 2, 1899, and was bred by Messrs. Steward and Hutcheon of Greenwood, Missouri. Her sire was Temple 75142, and her dam was Fowler Queen 2d 54080 by Fowler 12899. She possessed one of the best show-yard records ever made by a Hereford cow in America. She was on the show circuit during the seasons of 1901-02 and o3, and made a successful showing every place she was shown. She is a cow with plenty of quality and character, and she has an even covering of flesh all over her body. Queenly is a great producer and her produce is among the great prize winners. Her daughter, "Prairie Queen," was junior champion at the International in 1905.

V. Lorna Doone 94472.

Lorna Doone was bred by W. S. Van Natta and sons of Fowler, Indiana, and she was calved October 12, 1898. She was sired by Christopher 69172, and her dam was Rockland 32920 by Romeo 6420. Lorna Doone was shown through the seasons of 1902, 03 and 04, being grand champion cow at the St. Louis World's Fair in 1904, and at all the leading fairs and important shows that season. She was a grand

type of a Hereford cow and she had a fine, clean cut head and neck; broad back; heavily padded quarters, and she had a deep covering of flesh all over her body. Lorna Doone has produced seven living calves and several of them have been prize winners, one of which, Prime Lad 16th, a year-old bull sold for a long price to head one of the best herds in the United States.

ABERDEEN ANGUS BULLS.

I. Rosegay 30708.

Rosegay was calved October 31, 1898, and was bred by J. Evans Jr. & Son of Emerson, Iowa. He was sired by Gaylad 19538, by Gay Blackbird 14443, by Heather Lad of Emerson 2d 7965. The dam of Rosegay was Rose of Emerson 3d 22463, by Jim Jams 13896. He is descended maternally from an old established and highly respectable family, "The Roses of Westertown." On his sire's side we have a list of sires which have left a history to the breed both as show-yard champions and breeders. Rosegay was certainly bred "along preforming lines", and it is not to be wondered at that he has bequeathed to his offspring the excellencies of himself and his distinguished ancestry. He was a thick meated, symmetrical, highly finished bull with all the character desirable.

During his entire show-yard career, Rosegay was never defeated in his class. He was shown during the seasons of 1899-00-01 and 02, and carried things by storm wherever he made his appearance. He was a great sire and some of his get are strong representatives of the breed. His most prominent sons were Vala's Rosegay, Barbara's Rosegay and Gay Barbara; and his most prominent daughters were Rosegay's Pride and Gay Lad Princess; all of which have been prominent in American show-rings. Unfotrunately Rosegay died while yet

a young bull, which undoubtedly brought to a close one of the greatest careers ever being established by a bovine.

II. Prince Ito 50006.

Prince Ito was calved March 15, 1895, and was bred by G. M. Grant of Scotland. He was sired by Eltham 34796 and his dam was Pride of Invereshie 26587, by Justice 854. He was imported in 1902 by M. A. Judy of Williamsport, Indiana.

Prince Ito was successfully shown several seasons before he was imported to this country, being a champion of the breed in the old country. As a breeder Prince Ito is one of the most prominent bulls of the Angus breed. His produce are all uniform and possess great quality. His most prominent sons were Prince Ito 2d, Blackbird Ito, and Andy Ito, and his most prominent daughters were Princess Ito and Blackwood Ideal. Prince Ito 2d is his greatest son and was one of the greatest show bulls that ever appeared in an American show ring. Prince Ito's value as a sire is demonstrated by the long prices paid for his produce.

III. 10th Laird of Estill 26230.

10th Laird of Estill was calved October 30, 1896, and was bred by Wallace Estill of Estill, Missouri. He was sired by Gay Lad 19538 and his dam was Lucy of Millsland 9993, by Ermine Bearer 1749. He was shown during the greater part of four seasons, 1897, 98,99, and 00, at the leading fairs and stock shows where he was a great favorite, being crowned with several championships. He had an excellent form; broad, straight back with a thick covering of flesh, especially on top of the shoulders, back and loins. He had heavily padded quarters with short legs and possessed strong masculine character and was a mellow hanfler, indicating good breeding

quality.

10th Laird of Estill was an excellent breeder and his get have won distinction wherever they have been exhibited. His most prominent get were Censor, Baden Lad, Erica McHenry 3d and Abbess McHenry.

IV. Gay Lad 19588.

Gay Lad was bred by Wallace Estill of Estill, Missouri, and was calved December 29th, 1893. He was sired by Gay Blackbird 14443 and his dam was Lucy Windsor 7400 by Ermine Bearer 1749.

The most noted bull, Aberdeen Angus, and American bred was Gay Lad. He was shown during the seasons of 1894-95-and 96, by Mr. Estill, and made a record equalled by but few bulls of the beef breeds. He probably has a greater number of championships and grand championships to his credit than any other bull of the breed, or of the beef breeds. Gay Lad is as good a breeder as he was a show bull, and his get in most instances top the scales. His most prominent get are Gay Abbott, Rosegay, Royal Laddie, Queen M 2d and Belle M. 2d. Rosegay 30708 was Gay Lad's most noted son and the record made by him alone was enough to bring distinction to his sire. Gay Lad is a bull that will leave a great history and record to his breed.

V. Heather Lad of Emerson 2d 19049.

Heather Lad of Emerson 2d was calved February 20, 1893, and was bred by J. R. Harvey of Bloomfield, Iowa. The sire of Heather Lad of Emerson 2d was Guinea 13892, and his dam was Rose Bonheur of Turlington 3d 4719, by Guido 4237. He was one of the greatest show-bulls that ever stepped into a show-ring and was a true type of an Angus bull, possessing remarkable character about the head and neck. He had a broad back with well sprung ribs; well

padded quarters, and a deep covering of flesh all over his body. He had a soft, pliable skin that indicated quality and breeding. As a breeder he was one of the best, and several of his get have been prominent in the show-ring. The most prominent get of Heather Lad of Emerson 2d are Mayor of Alta 2d, Fearless Lad, Mina of Alta 3d and Lucy Lass of Alta. He was shown during the seasons of 1894-95-98-99 and 00.

ABERDEEN ANGUS COWS.

I. Blackbird Favorite 31007.

Blackbird Favorite was calved January 25, 1898 and was bred by B. R. Pierce of Chicago, Ill. She was sired by Blackbird Lad 24234, and her dam was Blackbird of Woodlawn 17558, by Wellington 8413. She was a champion of the breed during her show-yard career at the most important state fairs and stock shows during the seasons of 1898,99,00 and 01. She is a model butcher's type: low and blocky; broad, deep quarters and a deep even covering of firm flesh all over her body. She possesses breeding, quality and character along with a great coat of hair.

Blackbird Favorite is a regular breeder and her produce show quality and uniformity in breed type. Her most prominent daughter is Blackbird Favorite 2d, a cow that has made a record in the show-ring. Blackbird Favorite was an exceptionally good milker, a point that is somewhat lacking in a large precent of the Angus cows.

II. Vala 37888.

Vala was calved July 7, 1899, and was bred by Collins Dysart of Nachura, Illinois. She was sired by Emulus of Keillor Park 26280, and her dam was Valentia B. 17417 by Beau Bill 13673. Vala has been spoken of as the best Angus cow the breed has ever

produced. She was Champion of the breed two years and at the Iowa State Fair,her first appearance on the circuit. The next season she defeated everything before her. Unfortunately she took sick and died on the way to the Minnesota State Fair, but she died a champion of the breed. Vala was a true type of an Angus cow, very low; broad; straight back; well arched ribs; great broad, deep quarters; and a deep covering of flesh all over her body, and more especially over her back and loin. She produced three calves and one of her produce, "Vala's Rosegay," was a champion of the breed and is now one of the great breeding bulls. Vala was shown during the seasons of 1900, 01,02, 03 and part of 04.

III. Barbara McHenry 13th 32488.

Barbara McHenry was calved November 30, 1898, and was bred by W. A. McHenry of Denison, Iowa. She was sired by Heather Blackbird 20333, and her dam was Barbara McHenry 3d 20311 by Keillor Knight 3d 10349.

Barbara McHenry 13th was a queen of show heifers and her list of first prizes and sweepstakes at the most important fairs and stock shows has doubtless never been equaled by but few cows of the beef breeds. She was on the show circuit three seasons, 1902, 1903 and in 1904 she was first in her class and champion over all beef breeds at the World's Fair. She was not a large cow, but very smooth and uniform in type. She had a good covering of flesh, which was mellow and her skin was soft and pliable indicating breeding quality. Barbara McHenry 13th is a good breeder and some of her produce are strong representatives of the breed. Among her produce can be found Best Blood, Barbara McHenry 18th, Barbara McHenry 21st and Barbara McHenry 22d.

IV. Blackbird of Denison 31st 38949.

Blackbird of Denison 31st was calved October 5, 1899, and was bred by W. A. McHenry of Denison, Iowa. The sire of Blackbird 31st was Heather Blackbird 20333, and her dam was Blackbird of Turlington 2d 11588 by Economic 7398.

Blackbird of Denison 31st was a first prize winner and champion at the most important state fairs and stock shows during the seasons of 1900-01-02-03 and in 1904 she was second prize aged cow at the World's Fair at St. Louis. She is a large cow of grand proportions and does not show any unevenness along with her great broad, deep quarters, wide back, well sprung ribs, and deep covering of flesh. She is a regular breeder and has produced several prize winners. Her most prominent produce is Blackbird Loa, a cow of much merit.

V. Lady of Meadow Brook 23574.

Lady of Meadow Brook was calved May 15, 1895, and was bred by D. Bradfute & Son of Xenia, Ohio. She was sired by Zaire 5th 13067 and her dam was Lena of Meadow Brook 15702, by Don Cameron 6295. Lady of Meadow Brook is one of the best cows the breed has produced. She was shown during the seasons of 1895, 97, 98, 99 and 00, and at the time she was crowned champion over all the breeds at one of the largest stock shows, one of the judges, a Short-Horn man, when asked to sign the secratary's book, took the book and placed it on the back of the cow and said, "I want to sign my name with the book lying on the back of the best cow I ever saw." Such evenness, character, type and quality as Lady of Meadow Brook possessed is seldom found, so combined in one at least.

Lady of Meadow Brook was a regular breeder and some of her produce have been prominent in the show-ring. Her most prominent

produce was Lady 2d of Meadow Brook, 1st prize two-year-old at the Buffalo Exposition.

The thirty head of animals just described are those which have been the most prominent in American or England show-rings in recent years. Every animal was on the show circuit several successive seasons and made a credible show-yard career. Where animals have been fed from year to year and kept on the circuit as long as the majority of those just described, the one thing accountable for their being as strong breeders as they are is judicious feeding. It is quite probable that the majority of these animals would have been non-breeders or shy-breeders had they not received proper management and feed. Where animals are kept in the highest condition possible throughout the year, largely on fat producing feed, fatty degeneration of the reporductive organs is bound to take place, and the animal is rendered sterile.

Occasionally cows have been considered sterile whem mated with a certain bull, but when mated with another bull they were regular breeders. A case of this kind is usually probable where one bull has been in hard service for some time; his reproductive powers have been impaired. It may also be the case that an aged bull is unable to mate with a certain cow, but when a vigorous, young bull is brought into service, the cow will produce regularly. This is probably due to the fact that the reproductive powers of the young bull are strong and active and are able to overcome any tendency to sterility in the cow. Many heifers have been injured the first service by an aged bull and rendered sterile because of injuries received during copulation the first time. Animals developed naturally by ample outdoor exercise on good pasture along with

generous supplies of nitrogeneous foods, or balanced rations calculated to build up a strong frame and to cover it with normally developed muscle, there need not be the slightest fear that the animal will not reproduce.

What some of the most successful breeders and exhibitors have to say on the subject of high feeding destroying the fecundity and prepotency of show cattle is as follows: "There is no question about the fecundity of show-yard cattle if they have been properly fed and cared for, and their ability fo reporduce as vigorous and as good, or better, calves (if there is anything in the theory of like producing like) as animals not fitted for showing. This fact is susceptible of proof beyond any doubt." --W. S. Van Natta. (Hereford breeder of Indiana.)

"I think high feeding does not have any bad effect on show cattle if properly fed. In all the show cattle I have fitted, I have my first animal to fail to reproduce."--R. J. Johnson. (Breeder of Angus cattle.)

"I have purchased a great many show cattle and have fed a good many, but I cannot point to one instance of trouble when good feed had been used and sufficient exercise given."--W. D. Flatt. (Short-Horn breeder of Canada.)

Mr. B. O. Cowen's (a prominent Short-Horn breeder) views on feeding can be found in one of his lectures published in the 13th Biennial Report of the Kansas State Board of Agriculture. He says, "feed well but judiciously."

"I think that the feed has much to do with the fecundity of cattle and our colleges have been the means of teaching breeders how to use a balanced ration. I remember when we knew nothing

but corn to feed. That day has passed and now to win, it takes an expert to select and feed." -- W. A. McHenry (Angus breeder of Iowa.)

"In my opinion if an animal is properly cared for and fed the proper ration, that being kept in show condition does not injure their breeding ability." -- O. Harris. (Hereford breeder of Mo.)

The age has arrived when in order to win in the show-ring the breeder must exercise careful judgment in the mating of his animals as well as develop his prize winners by careful and observant feeding. The breeder must watch the mating of animals in the past to produce the animal which he expects to exhibit in the future. After he has produced this animal, much depends upon its care, feed, and management whether it will capture any show-ring prizes.

A uniform, well fed and managed show-herd is as good and advertisement of a breeder's ability to handle live stock as we would ask for; and a man of experience can walk past a row of cattle at the larger shows and point out the animals which have received care and judgment in feeding and handling.

Years ago the balanced ration was unheard of, but today many of the live stock exhibitors use the balanced ration in feeding their stock. The old method of feeding stock by one exclusive feed is out of date and the exhibitor who still clings to the old method of feeding, is fighting a losing fight. In many instances corn constitutes the sole grain ration by the old method. Corn alone is a great fat producing food; consequently in breeding stock, a heated condition of the body was produced and if fed too long on the one ration, fatty degeneration of the reproductive organs was quite likely to take place. The balanced ration, if calculated properly, builds up a strong frame and covers it with an even covering of

normally developed flesh. The old maxim, "The eye of the master fatteneth his flock," is conducive to the idea that care and judgment must be exercised in the breeding, feeding and management of show animals. Every exhibitor and lover of live stock is looking forward to the day (which is not far off), when cattle exhibitors can lead their aged bulls and cows into the show ring and not have a single spectator question their reproductive powers. This latter statement will come true when every exhibitor exercises the use of the balanced ration and also when all the stock raisers in the country have a clear understanding of the term.

The ability to win in the show-ring by careful selection, along with scientific feeding, is not only honorable but it is also educational and it is a great relief to exhibitors of live stock when they can win and feel no fear of the fecundity of their own animals on exhibit. When the time comes that every exhibitor can feel at ease about the breeding ability of his stock, the problem is solved.

From the opinions expressed by a few of our veteran live stock exhibitors, we can more clearly see the necessity to exercise judgment in every phase of work connected with live stock. The statement made by George Bothwell expresses the idea quite to the point, champions do not come by chance, but by careful and observant breeding and are not developed by careless and indifferent attention, but by careful, regular and scientific feeding.