

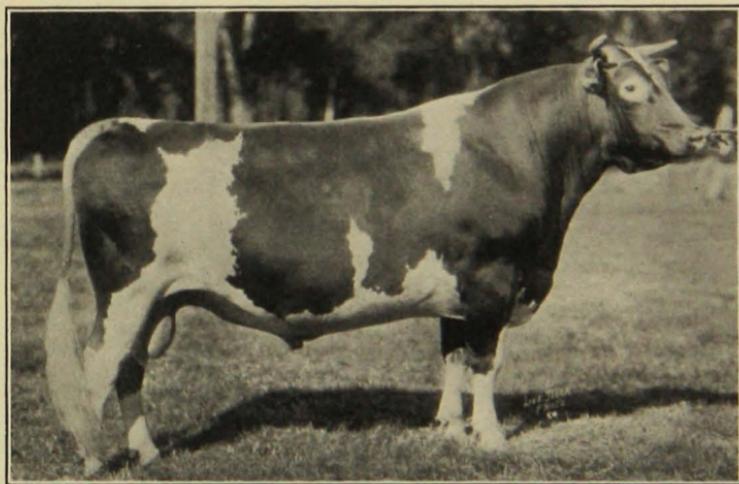
Judging Dairy Cattle

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LANGWATER WALDORF, Undefeated at the Shows of 1931-32

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IT is an admitted fact that many of the cows kept for dairy purposes are unprofitable because even with the best feed and care they are not capable of producing much milk. These unprofitable cows are often kept year after year at an actual loss to their owner because he does not know that they are losing him money.

There are two ways of selecting the cows that should be retained in the dairy herd: (1) By records of milk and fat production, and (2) by appearance and type. The first is the more accurate, but if the owner is a good judge of dairy cattle, most of the unprofitable animals may be eliminated by appearance alone. Both are needed to build a good herd.

Type not only indicates producing ability, but indicates the strength of body and udder necessary for continued heavy production.

ACQUIRING ABILITY TO JUDGE DAIRY CATTLE

If one wants to become a good judge of dairy cows, the first step is to make a careful study of the correct form or type and by so doing to fix in one's mind a picture of the ideal animal. The next step is to train the eye properly to weigh the animals to be judged and to ascertain the deficiencies as compared with the mental picture of the ideal animal.

To accomplish this requires a great deal of practice and hard work. Judging dairy cattle in its widest application consists in a comparison of a certain animal with the mental picture of the ideal animal for the purpose of estimating its probable dairy qualities. Show-ring judging consists almost entirely of comparative judging, where animals of a group are compared with one another and ranked according to their relative dairy values. In such work the animals must be compared part by part and then each comparison weighed. It is essential in all types of judging that the student first familiarize himself with the different parts of the dairy animal and their correct form.

THE SCORE CARD

Judging of dairy cattle is based upon the fact that there is a correlation between the form of the animal and her ability to produce milk.

As a result of a study of this correlation, score cards have been formulated for each of the several dairy breeds which describe the correct form and give numerical value to each of the many parts of the animal. The value ascribed to each part is in proportion to the importance of that part, thus the score card reveals the relative importance of the different parts. Each dairy breed has particular characteristics common to the breed alone, as color, size, and special conformation of the body. These special characteristics are known as breed type. How-

ever, the chief characteristics of the dairy cow are common to all breeds and for this reason the beginner may use a general score card covering these points.

Such a score card has been prepared and approved by the American Dairy Science Association. It lists and describes each part in groups under five heads:

1. Style and general appearance
2. Dairy conformation
3. Constitution
4. Capacity for feed
5. Development of milk-secreting organs

These may be termed the five essentials of a dairy cow.

The main purpose of the breed score card is to set a standard for improvement of that breed. The different dairy breeds have weaknesses that are more or less common to that breed. In an endeavor to overcome these weaknesses, greater emphasis has been placed in the score card upon the parts more commonly deficient in a particular breed. We therefore find that the individual breed score cards differ somewhat in the values ascribed to the same parts.

METHOD OF PROCEDURE IN JUDGING

In order to judge dairy cattle intelligently it is necessary to understand the relative importance of each part of the animal. The general score card serves as a means of acquiring this knowledge. The score card should be mastered from the standpoint of its five large divisions and their relative importance. Then each part that goes to make up each of the five large divisions should be studied as to correct form and relative importance.

The best way to become familiar with the score card is to make use of it in scoring a few animals. To get the most out of scoring, the ideal form of a dairy animal and all its parts should be available in the form of pictures or models, so that the correct form of each part can also be impressed on the mind at the same time.

Care must be taken not to use the score card to such an extent that one becomes dependent upon it for judging. It should be used only in the beginning as an aid in formulating a mental picture of the ideal animal. After the score card has been used a few times, comparative judging should be started by placing a group of cows according to their merits as dairy animals.

The animals should first be compared as a whole rather than as a mass of individual parts. The judge should therefore view them at

a distance of no less than twenty feet. They should be viewed from the side, rear, and front, and compared and ranked separately for:

- | | |
|-----------------------|------------------------|
| 1. Dairy conformation | 4. Mammary development |
| 2. Capacity for feed | 5. General appearance |
| 3. Constitution | |

Too often the beginner in judging makes first a detailed examination of the animal from a close-up view and feels of the animal, and then from a mass of details thus secured tries to make a decision. It is much easier to place the animals from their general appearance at a distance of at least twenty feet and then to feel them over and closely examine the details in order to confirm the first decision.

The close-up examination should consist of feeling the hide to ascertain quality; feeling over the ribs to ascertain whether or not the eye was misled by a covering of flesh; examining the udder for quality; ascertaining the number and size of the milk wells and the tortuousness of the milk veins.

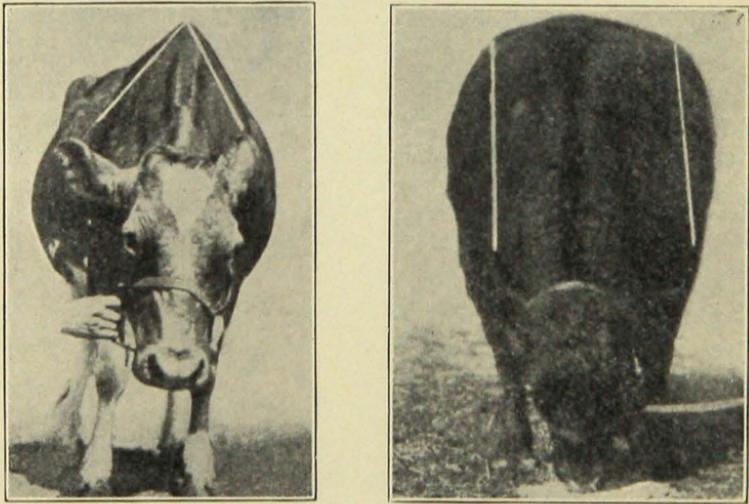


Fig. 1. Front Views Showing Difference Between Dairy and Beef Types

The dairy animal is sharp over the withers while the beef animal is broad over the withers. The lines over the shoulders of the dairy animal form a wedge with the apex at the withers, while the same lines on the beef animal are parallel.

In comparing the deficiencies and the points of superiority of two animals, it should be remembered that while the importance of each part is proportionate to the rank on the score card, if a very marked deficiency should occur, a greater cut should be made than is allowed in the score card. For example, while the score card allows only three points for the head, if in a ring of Jerseys one animal should have a head of Ayrshire type, more than three points should be cut from the total score.

Dairy Conformation

By dairy conformation is meant that appearance which indicates a tendency toward the production of milk rather than of beef, from the feed consumed. The first essential of dairy conformation is absence

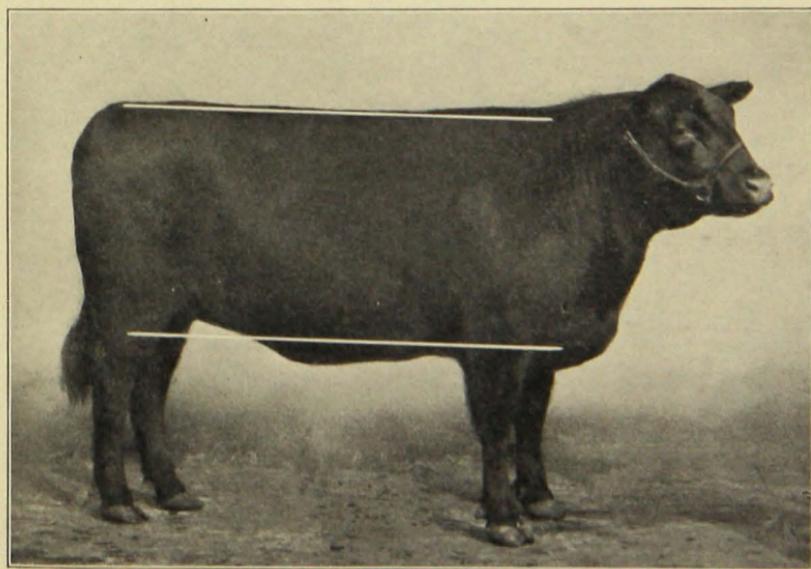
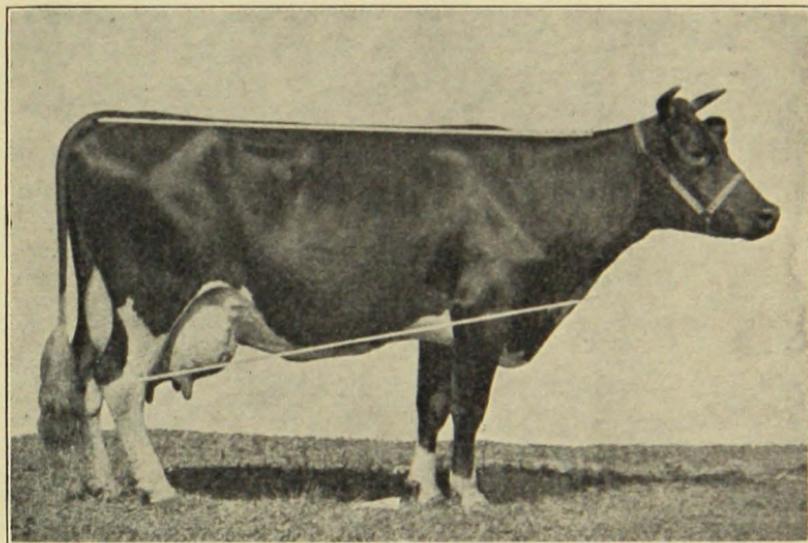


Fig. 2. Side Views Showing Difference Between Dairy and Beef Cattle Conformation

The beef cow has parallel bottom and top lines while the same lines on a dairy cow tend to form a wedge. On the dairy cow these lines, if extended, should meet a short distance in front of the head.

of excess flesh. Altho the bony framework of the dairy and the beef animal is essentially the same, the fact that abundant flesh is desired in the one and is objectionable in the other results in a marked contrast in shape of the bodies of these two classes of cattle.

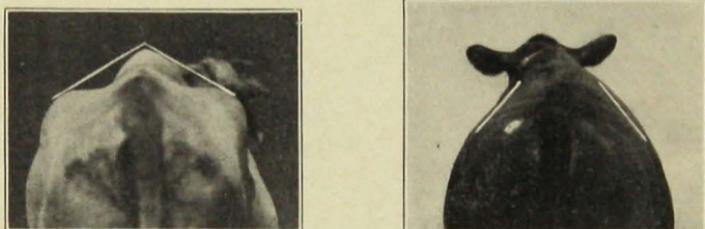


Fig. 3. Top Views Showing Difference Between Dairy and Beef Types

Side lines drawn from the hook bones to the withers form a wedge on the dairy type while on the beef animal they are parallel. The dairy cow also has much more prominent hook bones, pin bones, and backbone.

All parts of the dairy animal should be clean cut, well defined, and free from coarseness, or beefiness. The head and face should be of neat, chiseled-out appearance, free from coarse and too prominent cheek bones. The neck should be long, slender, and neatly joined to the head and shoulders. It should be free from heavy dewlap. The throat should be neat and free from heavy folds of skin. Shoulders should be free from heavy covering of flesh and should blend smoothly with the rest of the

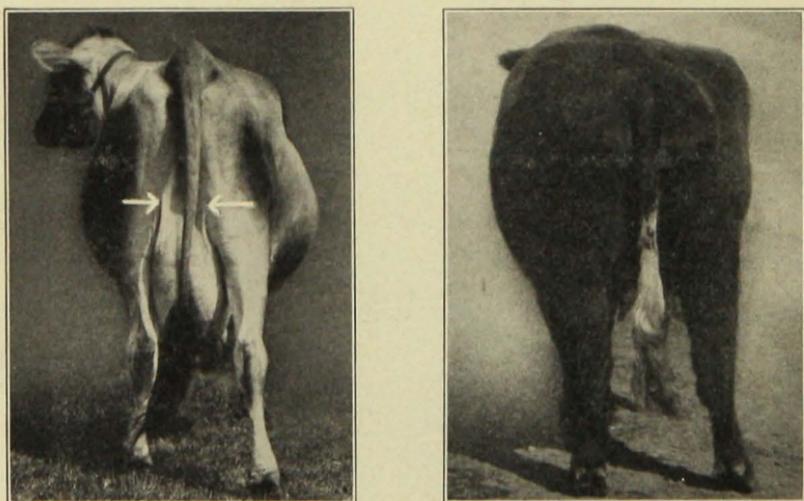


Fig. 4. Rear Views of Dairy and Beef Types

The beef animal presents a rounded and full appearance from the rear while the dairy animal is angular and spare. The dairy animal is cut up in the twist with thin incurving thighs, giving plenty of room for udder development, while the beef animal is low in the twist and has full rounded thighs.

body. Large, open, and prominent shoulders are indications of coarseness. The legs should have bones of good size, yet be free from large joints or coarseness. The muscle and tendons of the legs should be rather easily defined. The backbone, hook bones, and pin bones should be prominent and free from coarseness and fleshiness. The thighs should be thin and curved, to leave room for the udder. The ribs should be wide apart and free from thick covering of flesh. A thin and pliable skin covered with fine silky hair is also a very good indication of good quality and refinement.

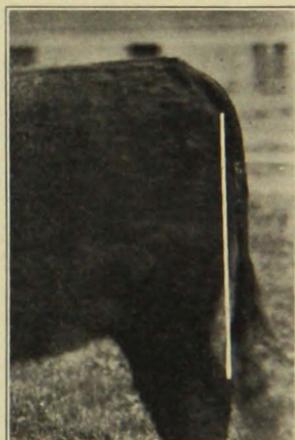
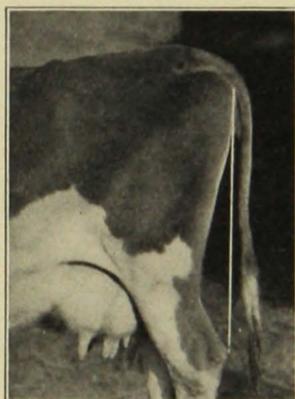
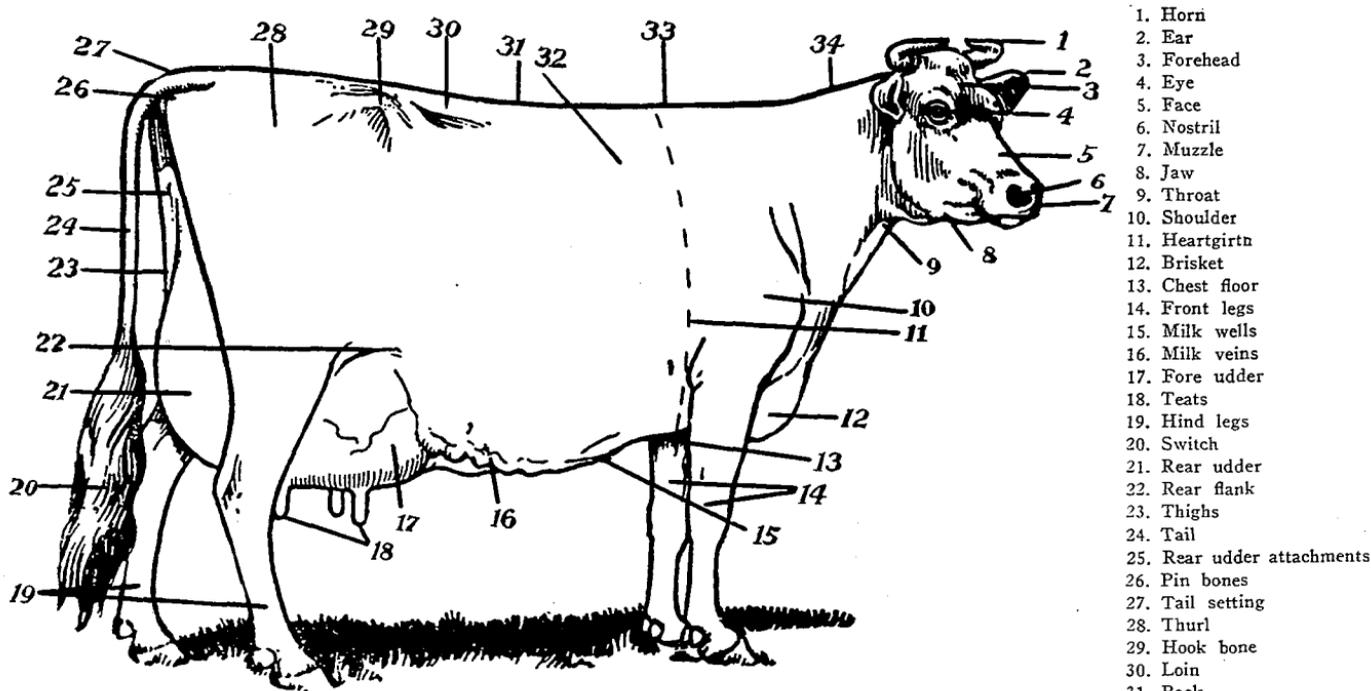


Fig. 5. Side View of Thighs of Dairy and Beef Animals

Owing to freedom from excess flesh the thighs of the dairy animal are thin and incurving, while the desired thick flesh forms full and rounded thighs on the beef animal.

GENERAL SCORE CARD FOR DAIRY COWS

Scale of Points	Perfect score
I. Style and General Appearance—20 points	
1. Head erect, clean cut; neck slender; eyes prominent, alert, and placid.....	3
2. Back straight and strong; hips wide apart and level.....	4
3. Rump long, wide, and level; thurls wide apart and high; tail setting level.....	5
4. Legs straight; bone fine.....	3
5. General build rugged and large for the breed, without coarseness; Jersey 950 lbs.; Guerneys and Ayrshires, 1,100 lbs.; Holstein, 1,350 lbs.; Brown Swiss 1,150 lbs.	5
II. Dairy Conformation—15 points	
6. The cow should be clean cut, with feminine appearance; absence of tendency to lay on fat.....	5
7. Shoulders, withers, vertebrae, hips, and pin bones prominent and free from fleshiness (Period of lactation to be considered.).....	4
8. Loin wide; ribs long and wide apart.....	3
9. Disposition active with good nerve control.....	3
III. Characteristics Indicating Constitution, Vigor, and Condition—15 points	
10. Character broad and deep with well-sprung ribs.....	8
11. Nostrils large and open.....	2
12. Condition thrifty and vigorous, in good flesh but not beefy.....	5
IV. Characteristics Indicating Ability to Consume and Digest Feeds—15 points	
13. Muzzle large; mouth broad.....	1



1. Horn
2. Ear
3. Forehead
4. Eye
5. Face
6. Nostril
7. Muzzle
8. Jaw
9. Throat
10. Shoulder
11. Heartgirt
12. Brisket
13. Chest floor
14. Front legs
15. Milk wells
16. Milk veins
17. Fore udder
18. Teats
19. Hind legs
20. Switch
21. Rear udder
22. Rear flank
23. Thighs
24. Tail
25. Rear udder attachments
26. Pin bones
27. Tail setting
28. Thurl
29. Hook bone
30. Loin
31. Back
32. Crops
33. Withers
34. Neck

Fig. 6. Location of the Parts of a Dairy Cow

Before a student can make much progress in judging, it is necessary that he become familiar with the name, location, and function of all parts of the animal.

14. Skin mellow, loose, of medium thickness, showing good circulation and secretion; hair soft	4
15. Barrel deep, wide, and long; well supported; ribs far apart	10
V. Characteristics Indicating Well-Developed Milk-Secreting Organs—35 points	
16. Udder:	
(a) Capacity—large in size	7
(b) Quality—pliable, free from lumps	7
(c) Shape—extending well forward and well up behind, level on floor, not pendulous, quarters full and symmetrical	6
17. Milk veins large, long, crooked, and branching; milk wells large and numerous	7
18. Veins on udder large, crooked, and numerous	3
19. Teats of convenient size, uniform, and well placed	5
	100

Note: In case of any marked deficiency or any serious abnormality, as many as 50 points may be deducted from the total score of the animal. Beware of giving a thin beef animal a good score as a dairy cow. If this score card is reproduced for class work it is suggested that three additional columns be made to the right, headed: "Per Cent Cut," "Student's Score," and "Corrected."



Fig. 7. Lacking Capacity for Feed

A shallow body is a sure indication of lack of feed capacity. Narrowness of head, body, and muzzle usually accompanies a shallow body.

In judging for dairy conformation care must be taken not to mistake a thin beef cow for a dairy animal, or to misjudge a dry dairy animal in good condition of flesh on the assumption that she has a tendency to put on flesh. A beef cow that has been underfed will have lost flesh. She will have the angular and triple-wedge shape of the dairy animal but will lack development of the milk-secreting organs. Dry cows and dairy heifers nearing freshening time will put on flesh and assume somewhat the form of a beef animal. They then become rather broad over the withers—a condition frequently mistaken for beefiness or coarseness.

However, after freshening they will lose this flesh rapidly. The student should learn to differentiate between coarseness and the accumulation of fat prior to freshening.

Capacity for Feed

As the milk is manufactured from the feed that a cow consumes, in order to have large and economical production it is necessary that the animal be able to consume and digest large quantities of feed. Capacity for feed is indicated largely by the size of the barrel. It is therefore essential that the dairy cow have a long, wide, and deep barrel. The rear ribs should be well sprung or rounded, in that way giving more room. It is also desirable that the ribs be flat and wide apart. A wide muzzle and a strong jaw also indicate good feeding capacity.

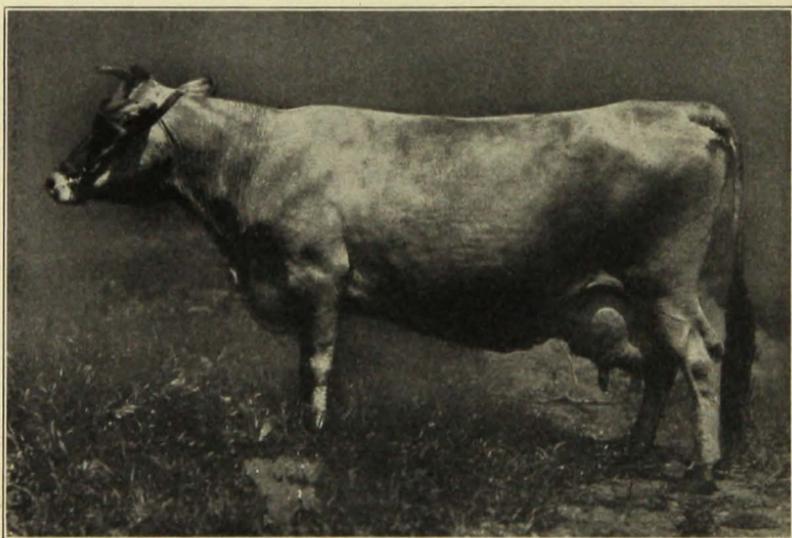


Fig. 8. Good Feed Capacity is Essential
A long deep barrel as viewed from the side indicates large feed capacity.

It is well known that an animal with digestive disturbances develops a thick, tight, and hard hide with rather coarse and brittle hair. High producers, as a rule, have good quality as indicated by a thin pliable hide covered with fine silky hair; medium-sized, clean bones, and firm, clean-cut muscles that are rather easily defined on the legs.

Shortness of the body, lack of depth of body, lack of spring of rib, and narrowness of muzzle indicate a lack of capacity for feed. A thick, hard hide covered with coarse, heavy hair indicates either a digestive disturbance or lack of quality throughout that usually would be accompanied by coarse, spongy bone, coarse head, shoulders, neck, and horns.

Constitution

A cow may have excellent dairy conformation, great capacity for feed, and an excellent development of milk-secreting organs and yet not be a great producer for very long because of lack of the necessary vigor to continue to perform the hard work that she must do, and to overcome adverse conditions.

A large amount of work is required to produce a large quantity of milk. The heavily milking cow is not only working hard in masticating and digesting feed, but also requires a large amount of energy for the vital processes.

There must be plenty of room in the chest cavity, which is secured by a wide chest floor, great depth of chest, and ample spring or rounding of the fore ribs. The more circular the chest, the more room there is for the heart and lungs. Large, open nostrils are a good indication that the air passages to the lungs are ample.

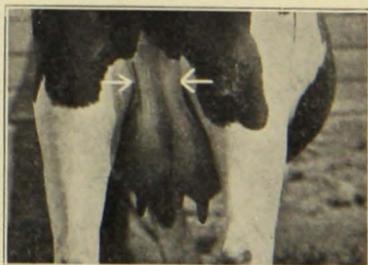
Shallowness in the fore flank, lack of spring of rib, falling-in back of the shoulders, narrowness of nostrils, listless appearance, and dull eyes are characteristics indicating lack of constitution.

Mammary Development

The mammary system consists of the udder, milk veins, milk wells, teats, and veins on the udder and the inside of the thighs. Of these the udder is the milk-secreting gland and the others are accessories.



a



b

Fig. 9. Rear Attachments of Udders

- a. Good rear udder with high and wide attachment. Also a well-developed rear udder extending far back.
- b. Poor rear udder. This udder lacks in development and has attachments that are too low and too narrow.

The udder consists of glandular tissue, storage reservoirs, and connective tissue. The glandular tissue is the part that is actually concerned in the manufacture of milk. The milk reservoirs are the parts where the milk is stored and include the ducts from the glands. The

other tissues have little or no function in the making of milk. An efficient udder must have a large per cent of glandular tissue, which, together with the ducts and reservoirs, gives it a spongy texture.

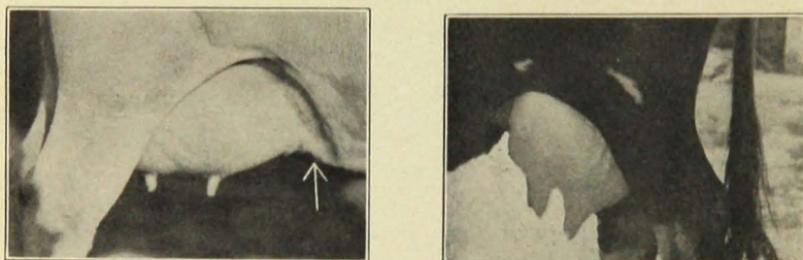


Fig. 10. Fore Attachment of Udder

- a. A well-developed fore udder attached well forward. Note level udder floor and symmetry of udder.
- b. Udder lacking in fore attachment and development. Udders of this type have a tendency to become pendulous as the cows get older.

Before milking, the udder is naturally distended and hard; after milking, a good udder is greatly decreased in size and covered with an abundance of loose skin. A large udder may be made up largely of other tissue than that which produces milk and may therefore mislead the judge unless it is carefully examined as to quality. A poor udder decreases very little in size after milking and the skin is usually thick and tight.

Shape of udder.—In addition to size, the shape of the udder is of great importance. The udder should be long and wide and appear to be of one unit, with teats of convenient size placed wide apart. It should extend far forward and high up between the thighs with the front and rear halves equally developed. Attachments in the rear and front are important, for unless the udder is well supported it will have a tendency to drop with age, forming what is known as a “pendulous udder,” which in addition to being unsightly causes difficulty in milking and more danger of injury to both teats and udder.

The milk veins are usually very prominent on large-producing cows. They should be large, crooked, tortuous, and branched, entering the chest cavity well forward and through several large openings known as milk wells. The milk veins carry a part of the blood away from the udder and are therefore indicative to a certain extent of the blood flow from the udder. The veining on the inside of the thighs and on the udder is another indication of good blood circulation in this region. On high-producing cows the side of the udder is frequently a network of promi-

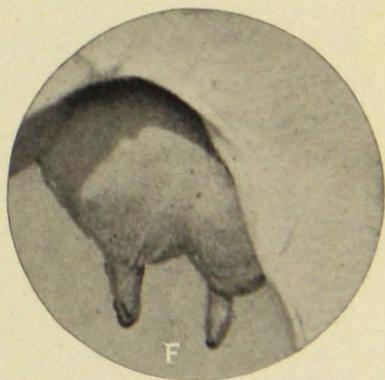
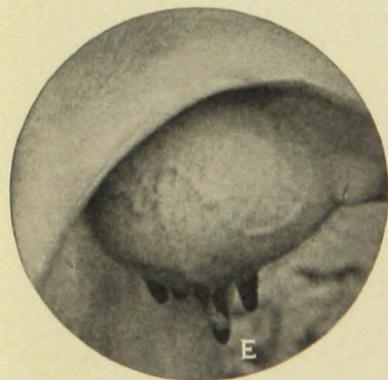
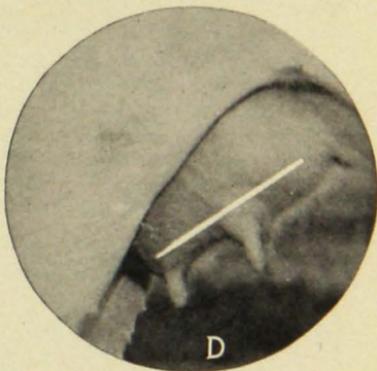
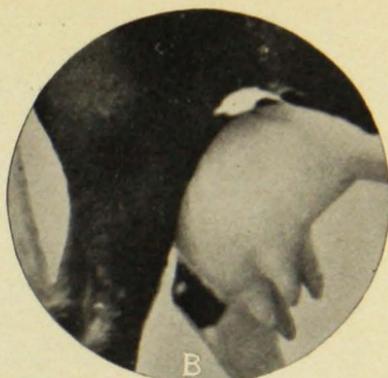


Fig. 11. Some Types of Undesirable Udders

- a. Pendulous udder. This is caused by a breaking away of the attachments, causing the udder to lower.
- b. Funnel-shaped udder. This type gets its name from the fact that it tapers to a point like a funnel. Besides being unsightly, this type of udder nearly always lacks in development.
- c. Udder with good rear and fore development but teats poorly placed and of undesirable shape.
- d. Udder lacking in development of fore quarters. This is perhaps the most common deficiency of udders.
- e. Unbalanced udder with rear quarters lacking in development.
- f. A quartered udder. The udder should appear as if one unit with the teats placed at the corners.

ment veins. These may also be taken as an indication of good quality of udder.

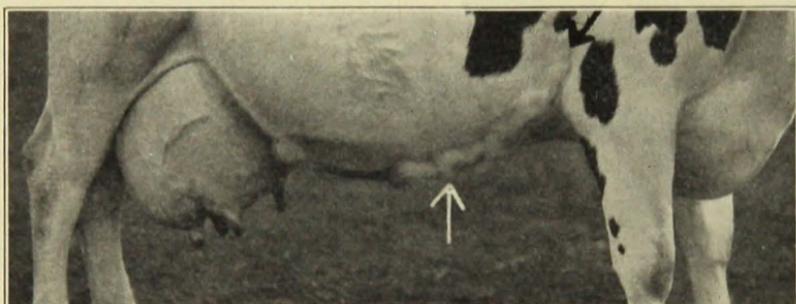


Fig. 12. Veining and Milk Wells

All high-producing cows have well-developed veins and veining on the sides of the udder. The milk veins should be long and tortuous, entering the body through a number of large milk wells. The black arrow indicates a milk well where the vein enters the chest just back of the forearm. The white arrow indicates milk veins.

Poor types of udders.—The udder lacking in size and texture is the one to be most avoided no matter what the other qualities of the animal may be, for it is impossible to get much production from a small udder lacking in quality.

Pendulous udder.—This udder has broken attachments and hangs low, sometimes touching the ground. Udders of this type cause continuous trouble from the cow stepping on the teats, from cuts and bruises, and from the difficulty of milking.

Funnel-shaped udder.—This type gets its name from the fact that it tapers to a point like a funnel. Such udders always lack in development, and are undesirable from a standpoint of appearance.

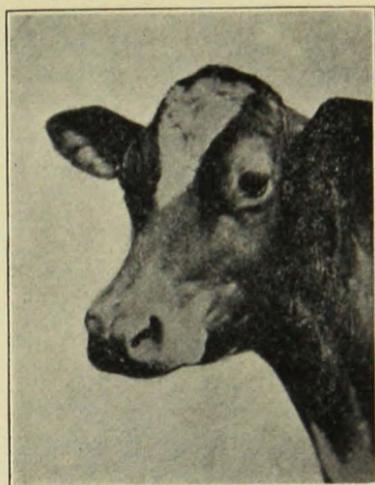
Quartered udders.—A quartered udder is one in which the four quarters seem to be distinct. In extreme cases it is difficult to determine the point of junction between teats and udder, so gradually does each quarter of the udder spread out from the teats.

Unevenly developed udders.—One part of these udders is less developed than the other. It is common to see cows with the rear quarters developed more than the front quarters.

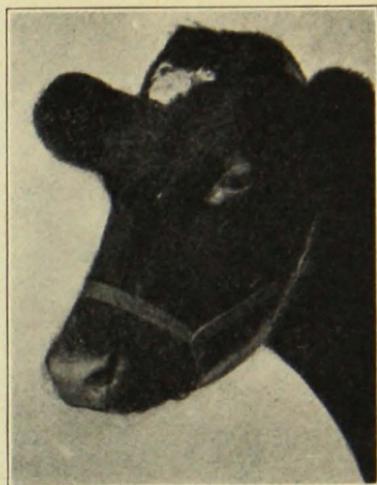
Blind or lost quarters.—Often the secreting gland of a quarter is destroyed through infection or injury and sometimes the gland fails to develop. A cow with a quarter gone is really but three-fourths of a cow.

General Appearance

Style and general appearance relate to symmetry of form, beauty, and breed characteristics. They cannot be classed as essential to production, for many great producers have lacked in this respect; yet they



a



b

Fig. 13. A Wide Clean-Cut Head With Prominent Eyes is Desired

- a. Good dairy head. Note clean-cut features, wide muzzle, large nostrils, and large, prominent eye.
- b. Poor dairy head. Too long and too narrow, with too narrow muzzle.

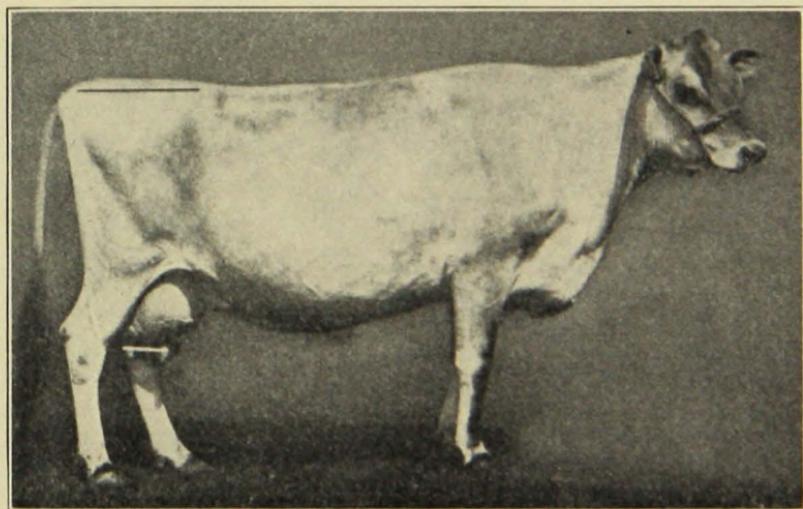


Fig. 14. The Top Line Should be Straight

A straight top line adds to the beauty of the animal as well as being an insurance of strength. Note the long level rump with a tail setting that carries well back.

can be combined with great production, as many of the greatest producing cows have also been show winners. Other things being equal, the cow with the best style and general appearance is the one in greatest



Fig. 15. A Top Line Spoiled by Sloping Rump

The sloping rump not only detracts from the appearance of the animal but also is usually accompanied by an udder that is pitched forward and in which the fore quarters lack development.

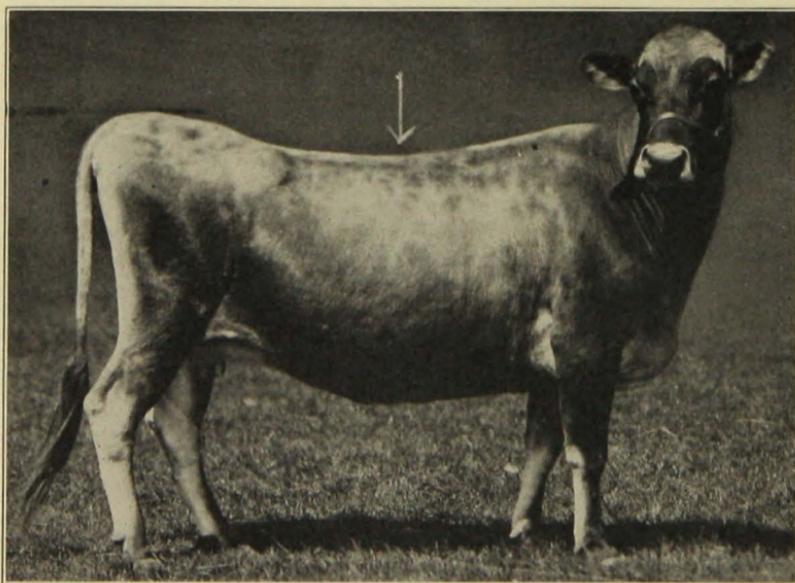


Fig. 16. A Weak Back

A weak back is always undesirable.

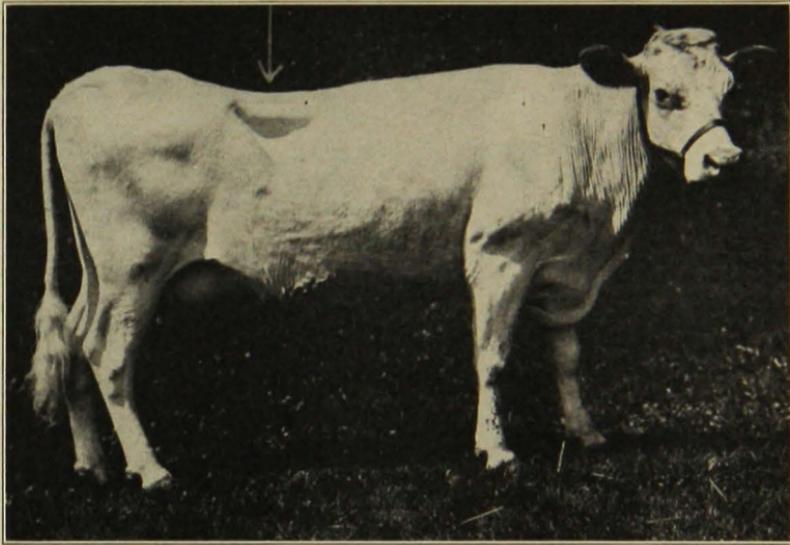


Fig. 17. Weakness Over the Loin

This not only spoils the straightness of the top line but is taken as a weakness of the animal.

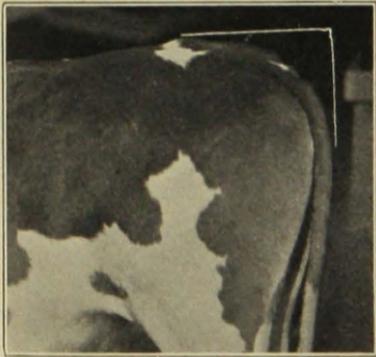


Fig. 18. A Level Rump and Good Tail Setting Are Desired

The hook bones and pin bones should be wide apart and on the same level. A long, wide, and level rump is usually accompanied by a long, wide, and level udder. The tail setting should be smooth and carry out square.

demand and will command the highest price. The following should be observed in judging for style:

Balance of different parts and smooth blending of parts.

Head erect and alert. Good carriage in walking.

Clean-cut throughout and free from coarseness and blemishes.

Straight back and neck; level, long, and wide rump with level tail setting.

Well-balanced udder, hung high and wide behind and attached far forward.

Straight legs with fine bone of good quality.

Good size for the breed.

Some of the common deficiencies:

Rump too narrow and sloping.

Back weak or sagging.

Barrel too short and lacking in depth.

Shoulders open and coarse.

Udder lacking in development or unbalanced and quartered.

Neck not straight, U-shaped (having a curve like a U).

Legs crooked or with large open joints.

Animal set too low or too high off the ground.

Tail set too high or too low or not carried out far enough.

Head not true to breed type, too narrow and long or too short and coarse.

Horns coarse and straight.

JUDGING CONTESTS

Judging contests are to be commended as a means of stimulating interest in judging and for offering opportunity to acquire ability in it. Many judging contests, however, fail to do the most good because the important phase of preparation has been neglected. The conduct of the contest should be carefully planned beforehand and the animals to be used should be carefully selected so that the contest will be fair to the contestants.

Giving Reasons

In a judging contest the giving of either oral or written reasons is very important. It is customary to give equal weight to both reasons and placing. A class, therefore, may be placed correctly, but if no reasons are given the contestants will get a rating of but 50. Giving reasons may be compared to a debate in which the contestant is arguing that his placing is correct. He should therefore show why an animal is superior to the one over which it is put and not mention the points of inferiority.

The reasons should be comparative and not descriptive and should be presented in logical order. For this it is well to summarize under the leading heads of the score card the reasons for placing one animal above another and then give the details in succession under each head.

The reasons should be specific and brief. The term "better" should not be used unless further qualified. Saying "better rump" alone would not suffice. But saying, "better rump, being wider, longer, and more level" would be good form.

The following will serve as a guide to the correct form of giving reasons:

"I placed the aged Guernsey cows, B C A D.

"I placed B first and over C on breed type, dairy conformation, and mammary development. On breed type because B had a more typical Guernsey head, being wider between the eyes, more dished in the forehead, and cleaner cut below the eyes. B also has a straighter back and a longer and wider and more nearly level rump.

"On dairy conformation because B is sharper over the withers, has more prominent chine, hook bones, and pin bones, and is less beefy throughout.

"On mammary development because B has a longer and wider udder of more pliable texture and with a higher and wider rear attachment. The fore attachments are carried further forward and the udder floor is more nearly level and the teats placed wider apart. The milk veins are longer, larger, and more tortuous, with two milk wells on each side, while C has only one well on each side. These are also smaller."

In the same way reasons should be given for placing C over A and A over D. It is not necessary that reasons be given for placing the fourth animal last unless it has some marked deficiency that is not brought out in the comparative reasons.

If in the opinion of the contestants the placing between a pair is very close and hinges upon one point, it is well to recognize in the reasons the superior points of the animal over which it is put. It may be expressed thus: "Altho A has more dairy conformation, greater capacity and mammary development than B, I placed B over A because of more breed type."

Grading the Reasons and Placings

In grading the results of a contest it is customary to allow 100 points each for perfect reasons and placing in each class. The credits allowed a contestant in each class are then totalled, and the contestant getting the highest total is the winner.

The following table gives the proper credits for the various placings when the correct placing is A B C D.

A B C D	100	B A C D	85	C A B D	70	D A B C	55
A B D C	85	B A D C	70	C A D B	55	D A C B	40
A C B D	85	B C A D	70	C B A D	55	D B A C	40
A C D B	70	B C D A	55	C B D A	40	D B C A	25
A D B C	70	B D A C	55	C D A B	40	D C A B	25
A C D B	70	B D C A	40	C D B A	25	D C B A	10

If the judge should decide that the placing of two animals is very close, a cut of only 5 should be made for switching such a pair; if the placing is only fairly close, a cut of 10 may be made, otherwise the switching of any pair draws a cut of 15.

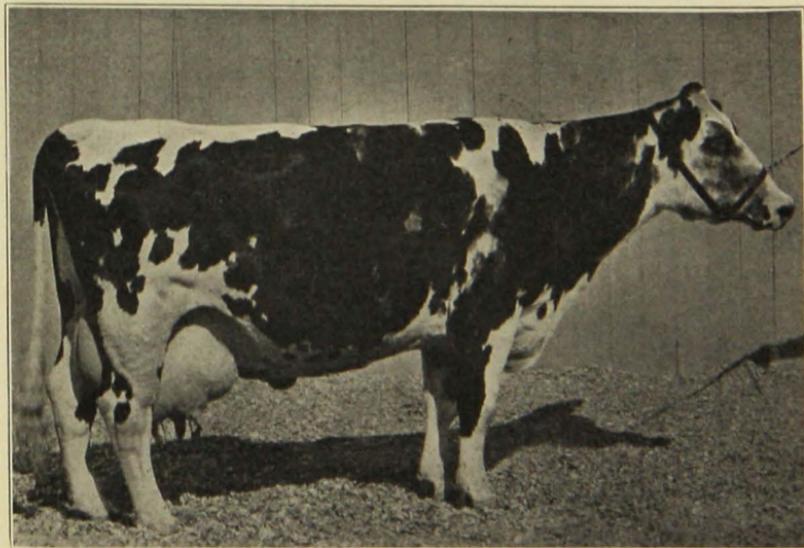


Fig. 19. Guernsey Breed Type

Langwater Levity, grand champion Guernsey cow at the National Dairy Show in 1923, is one of the outstanding Guernseys from the standpoint of type as well as having a production record of 12,785.9 pounds of milk and 662.15 pounds of butterfat as a Junior three-year-old, Class EE.

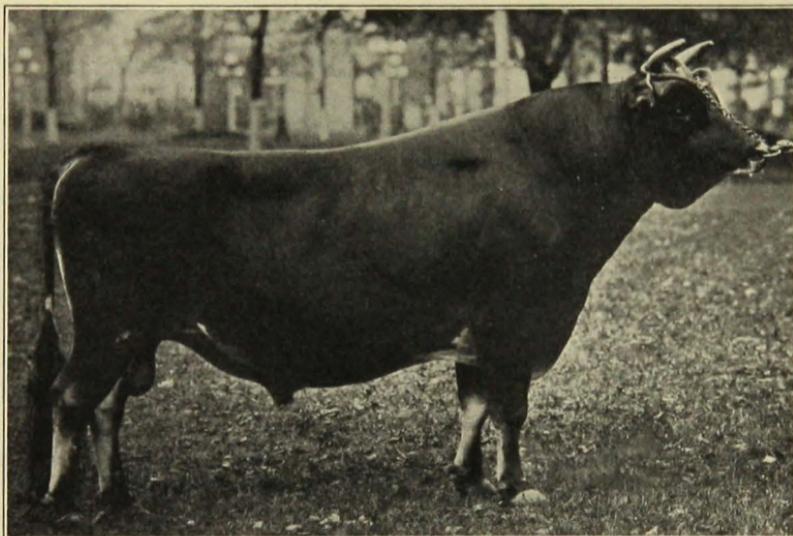


Oak DeKol Ollie Homestead, outstanding from the standpoint of breed type, was grand champion at the National Dairy Show in 1916 and 1917. He is also the sire of First Prize "Get of Sire" in 1917.



Minerva Beets was grand champion five times at the National Dairy Show, from 1914 to 1919, inclusive. This is a record unequalled by any animal of any breed.

Fig. 20. Holstein Breed Type

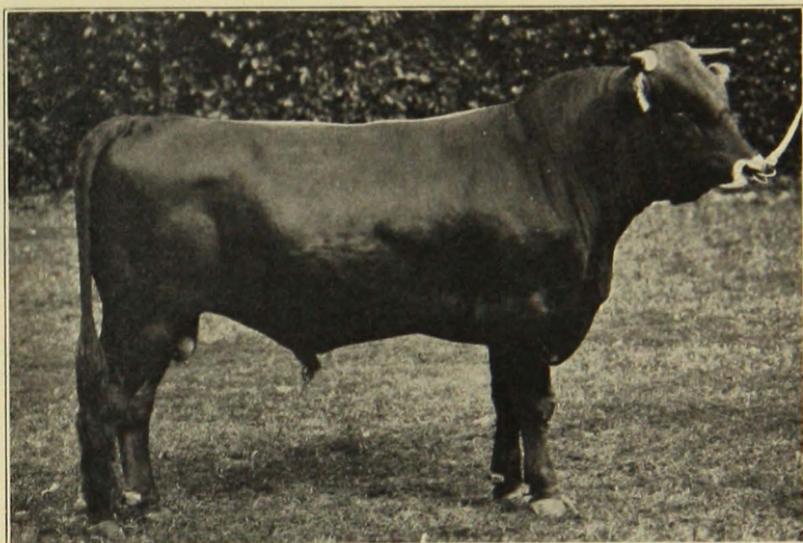


Fern's Wexford Noble, one of the outstanding Jersey show bulls, was grand champion at the National Dairy Show for three years. His sire, Golden Fern's Noble, was a grand champion at the National Dairy Show in 1916, and his son, Fern's Rochette Noble, was grand champion in 1925.

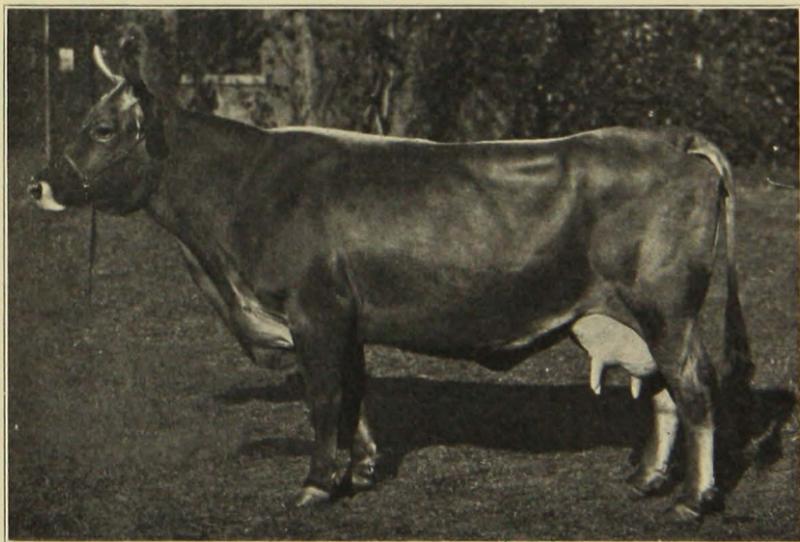


Sociable Sybil, grand champion at the National Dairy Show in 1923, is regarded as one of the most outstanding Jersey females from a standpoint of Jersey type. She produced 15,334 pounds milk and 855.16 pounds fat in 365 days.

Fig. 21. Jersey Breed Type



Jubilee Medar, grand champion Brown Swiss bull at the National Dairy Show in 1923, is regarded as one of the outstanding bulls from the standpoint of Brown Swiss breed type.



Swiss Valley Girl 7th, grand champion Brown Swiss cow at the National Dairy Show in 1922, is one of the best examples of Brown Swiss breed type.

Fig. 22. Brown Swiss Breed Type

