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Breeds and Judging Dairy Cows

by
W. A. BARR.



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BREEDS AND JUDGING DAIRY COWS.

By W. A. BARR.

(a) BREEDS.

The cow that is entitled to be called a dairy cow will produce in one year, or lactation period, when she is a mature animal, at least 275 to 300 pounds of butter fat. In the state of Oregon there are approximately 173,000 cows used strictly for dairying, but their average production is below 200 pounds of butter fat. This low average production does not result from a shortage of feed, poor water, or severe weather conditions; for Oregon has unparalleled natural dairy facilities. It results from the milking of many cows that are worthless as dairy cows, because they carry in their veins the blood of ancestors bred for other than dairy purposes. We find a great many men who are trying to build up a dairy herd from beef animals, and yet those same men would not think of trying to develop a string of race horses from Clydesdale stock. Yet one procedure is as senseless as the other.

More profitable dairying must come through keeping better cows, and better cows can be had only by breeding from a stock that has inherent dairy ability. To secure such stock does not necessarily demand a lavish outlay of money for the purchase of pure bred animals, but rather, a mating of the highest producing cows in the herd with a pure bred sire which has creditable producing ancestors. A paying herd can thus be developed in a comparatively few years, yet many men who have pretended to do a dairy business for 20 years or longer have no better cows today than when they began.

The question is often asked, "Which is the best breed of dairy cows for me to get?" To answer this question, consider the predominating breed in your community; the adaptation of the different breeds to your conditions; and the market for your product, whether in the form of cream, or whole milk for retail or manufacture. In this state there are suitable conditions for all of the dairy breeds, but no one locality is exactly suited for all breeds. For instance, the Ayrshire cow as a rule will prove more profitable than any of the other breeds on rough, hilly land; the Jersey on rich meadows; and the Holstein on good pasture or where a large amount of roughage can be economically secured.

JERSEY.

The Jersey breed, which is the best known in this state, has for its native home Jersey Island, the largest of the group

known as the Channel Islands, lying between England and France. Jersey Island is 11 miles long and 9 miles wide and is very thickly populated. The climate being mild, the grass remains green the whole year. The island was at one time in a low state of fertility; but by the keeping of many dairy cows and the application of the manure to the land, its productiveness has been greatly increased. There are about 10,000 cows on the island, and the cattle have been gradually improved for about 100 years.

Jersey cattle have been brought to this country for more than 60 years, and they are now found in all parts of America.

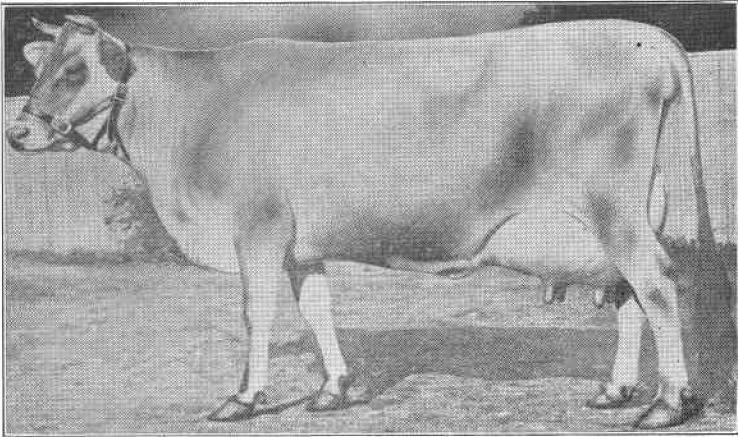


Fig. 1. Jersey Cow—Sophie 19th, of Hood Farm. Champion cow of the Jersey Breed produced in the year ending Jan. 20, 1914, 17,557 lbs. and 12 oz. milk, containing 999 lbs. 2.2 oz. butter fat. Average record for past three years 932.5 lbs. butter fat.

The color of the Jersey cow varies greatly. It may be any shade of yellow, except orange, from very light color to very dark squirrel gray, with or without white markings. The tongue and the switch of the tail are generally black, and the muzzle intensely black. The bulls are usually darker than the cows. The average weight of the cows is from 800 to 1000 pounds. The Jersey cow's milk is rich in butter fat, the average test for the breed being 5.2%. It has a rich color and is easy to churn. Cows of this breed are very sensitive. If handled kindly, they become very gentle, but on the other hand, when abused, they become wild and sometimes mean.

To qualify for a place in the Register of Merit 250.0 pounds of butter fat must be produced within one year, if the cow is

not over two years of age when the calf is born. For each day the cow is over two years of age, add .1 lb. until she reaches five years of age, when 360 lbs. are required. Cows are also admitted on seven-, fourteen-, and thirty-day tests, a minimum of 1.7 lbs. of fat daily being required.

SCORE OF JERSEY COW.

By Scale of Points Adopted by the American Jersey Cattle Club, May 7, 1913.

DAIRY TEMPERAMENT AND CONSTITUTION.

Head, 7—		
A—Medium size, lean; face dished; broad between eyes; horns medium size, incurving	3	.....
B—Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide open nostrils and muscular lips; jaws strong	4	.....
Neck, 4—		
Thin, rather long, with clean throat, neatly joined to head and shoulders	4	.....
Body, 37—		
A—Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of fore legs	5	.....
B—Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong muscular development	10	.....
C—Back straight and strong, with prominent spinal processes; loins broad and strong	5	.....
D—Rump long to tail-setting, and level from hip-bones to rump-bones	6	.....
E—Hip-bones high and wide apart	3	.....
F—Thighs flat and wide apart, giving ample room for udder	3	.....
G—Legs proportionate to size and of fine quality, well apart, with good feet, and not to weave or cross in walking....	2	.....
H—Hide loose and mellow	2	.....
I—Tail thin, long, with good switch, not coarse at setting-on... ..	1	.....
MAMMARY DEVELOPMENT		
Udder, 26—		
A—Large size, flexible and not fleshy	6	.....
B—Broad, level or spherical, not deeply cut between teats.	4	.....
C—Fore udder full and well rounded, running well forward of front teats	10	.....
D—Rear udder well rounded, and well out and up behind	6	.....
Teats, 8—		
Of good and uniform length and size, regularly and squarely placed	8	.....
Milk-Veins, 4—		
Large, long, tortuous and elastic, entering large and numerous orifices	4	.....
Size, 4—		
Mature cows, 800 to 1,000 pounds	4	.....
General Appearance, 10—		
A symmetrical balancing of all the parts, and a proportion of parts to each other, depending on size of animal, with the general appearance of a high-class animal, with capacity for food and productiveness at pail	10	.....
Total	100	.....

GUERNSEY.

The Guernsey breed of dairy cows, like the Jersey, was brought from the Channel Islands. Guernsey Island is the second in size of this group of islands, being nine miles long and nearly four miles wide at the widest place. The island contains approximately 16,000 acres, and accommodates 35,000 people. The policy of not allowing the importation of any live stock from without the limits of the island has led to a distinctive breed—the Guernseys.

Although it is not known positively when Guernseys were first brought to this country, it is known that there were a few as early as the year 1850; and as soon as importation of Guernseys had reached any degree of magnitude, the breed began to preserve its proper distinction. Since about 1870 the breed has been increasing both in numbers and popularity.

The Guernsey breed is often spoken of as the sister breed of the Jersey, though the cattle are larger in size and of less regular conformation. The cows produce milk with large fat globules and of high color, testing about 4.9% butter fat. The cows average about 1050 pounds in weight, and in color are a shade of fawn with white markings. They are best adapted to the production of butter fat, except where there is a market for high quality milk or cream.

The American Guernsey Cattle Club, a national organization of Guernsey breeders, adopted in 1901 an excellent system of advanced registration. This requires that a cow two years of age at the time of freshening shall produce at least 250.5 pounds of butter fat in one year, with an additional production of .1 lb. of butter fat for each day that the cow, at the time of freshening, is past two years of age. If a cow is not placed on test until she is five years of age, or until mature, her requirements would amount to 360 pounds of butter fat. When cows are on test for the advanced registry, the owner weighs the milk at each milking; and in addition, a supervisor of the test visits the farm once each month and weighs and tests samples of the milk for one or two days. Only yearly tests are made, and only pure bred, registered animals can be entered in the advanced register. The champion cow of the Guernsey breed, and of the world, is shown below.

SCALE OF POINTS FOR GUERNSEY CATTLE.

Adopted by the American Guernsey Cattle Club, Dec. 13, 1899.

FOR COWS.

Dairy Temperament, Constitution, 38—		
Clean cut, lean face; strong sinewy jaw; wide muzzle with wide open nostrils; full, bright eye with quiet and gentle expression; forehead long and broad	5	.....
Long, thin neck with strong juncture to head; clean throat. Backbone rising well between shoulder blades; large rugged spinal processes, indicating good development of the spinal cord	5	.....
Pelvis arching and wide; rump long; wide, strong structure of spine at setting-on of tail. Long thin tail with good switch. Thin incurving thighs	5	.....
Ribs amply and fully sprung and wide apart, giving an open, relaxed conformation; thin arching flanks	5	.....
Abdomen large and deep, with strong muscular and navel development, indicative of capacity and vitality	15	.....
Hide firm yet loose, with an oily feeling and texture, but not thick	3	.....
Milking Marks, Denoting Quantity of Flow, 10—		
Escutcheon wide on thighs; high and broad, with high ovals	2	.....
Milk veins long, crooked, branching and prominent, with large or deep wells	8	.....
Udder Formation, 26—		
Udder full in front	8	.....
Udder full and well up behind	8	.....
Udder of large size and capacity	4	.....
Teats well apart, squarely placed, and of good and even size ...	6	.....
Indicating Color of Milk, 15—		
Skin deep yellow in ear, on end of bone of tail, at base of horns, on udder, teats and body generally. Hoof, amber colored	15	.....
Milking Marks, Denoting Quality of Flow, 6—		
Udder showing plenty of substance but not too meaty	6	.....
Symmetry and Size, 5—		
Color of hair a shade of fawn, with white markings. Cream colored nose. Horns amber colored, small, curved and not coarse	3	.....
Size for the breed: Mature cows, four years old or over, about 1050 lbs.	2	.....
	100	.....

EXPLANATORY NOTES BY COMMITTEE.

We recognize the Guernsey should be—

First. A dairy animal with a distinctive dairy temperament and conformation, having a strong, nervy structure with a corresponding flow of nervous energy, and every indication of capacity and vitality.

Second. In color of hair, a shade of fawn, with white on limbs and under part of body are considered the prevailing markings, and some degree of uniformity is desirable.

Third. One of the important distinguishing features of the breed is the presence of a yellow color in the pigment of the skin, which is indicative of rich golden color in the milk. This is very pronounced in the Guernsey and held by her to the greatest extent under all conditions of stabling and feed. The intensity of this trait is more

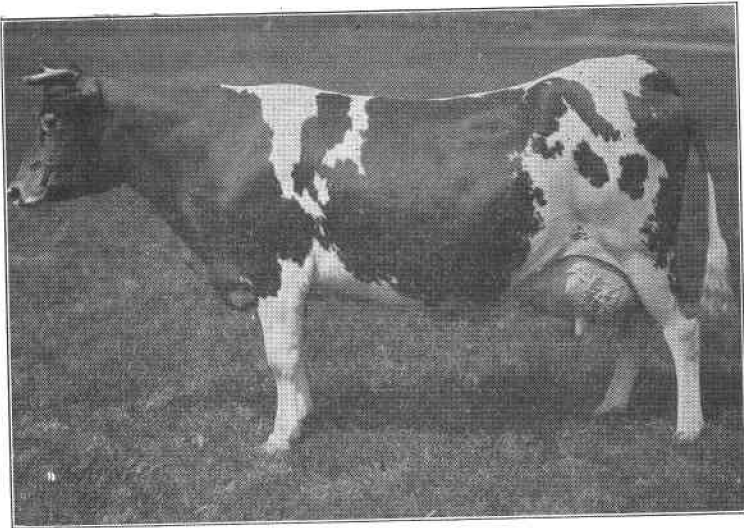


Fig. 2. Guernsey Cow—May Rilma, champion cow of Guernsey breed, also world's champion Milk record, 19,639.5 lbs.; butter fat, 1,059.59 lbs.

marked in some animals and families than in others, but it should be kept at the highest standard. It is fast being recognized that this color is accompanied by a superior flavor in the milk and thus in the butter.

Dairy Temperament. By "Dairy Temperament" is meant a strong overruling pre-disposition or tendency to turn the consumption of food towards the production of milk with a high content of solids, especially butter fat, as against the constitutional tendency so often seen to turn food into flesh. Even in the strongest dairy breeds there are more or less frequent out-crops in male and female of the flesh-making temperament. To bred from such animals, while we are striving to establish a prepotent dairy temperament or tendency, is not wise. All cattle bred specifically for dairy purposes should possess a clear and decided dairy temperament, for it is that quality of character we most desire to establish, enlarge and perpetrate in the Guernsey cow.

This is especially indicated by the shape of the head, showing brain capacity, wide muzzle, open nostril, full bright eyes, feminine neck, and a construction of the backbone indicating a strong flow of nerve power and support from the brain to all of the maternal organs.

Constitution. In breeding our domestic animals, especially for long service like the dairy cow, it is very important that they should have abundant vital power which we call "constitution." But constitution must be judged and measured by the peculiar function the animal is bred to fulfill.

With the race horse the function is speed; with the steer, the laying on of flesh; with the dairy cow, the production of milk solids. In all these various functions, the animal that is to represent any one of them must show not only large capacity in the line of that function, but also the ability to endure long and well the strain of such function, and keep in good health. Constitution is best indicated by a full development at the navel, and strong abdominal walls, showing that the animal when in a prenatal stage was abundantly nourished by the mother through a well developed umbilical cord.

HOLSTEIN.

The original home of this breed is Holland, a small low-land country, much of which is dyked to prevent overflow of the land by the sea. As found in that country, the breed was large and coarse-boned, but the change of environment, with skill in breeding, has effected a smoother finish or refinement in the animal.

As a breed, the Holsteins are champions in milk production, a number having produced between twenty-five and thirty thousand pounds in one year, the heaviest daily production to date amounting to one hundred thirty-five pounds. While Holsteins are heavy producers, their test is low, averaging about

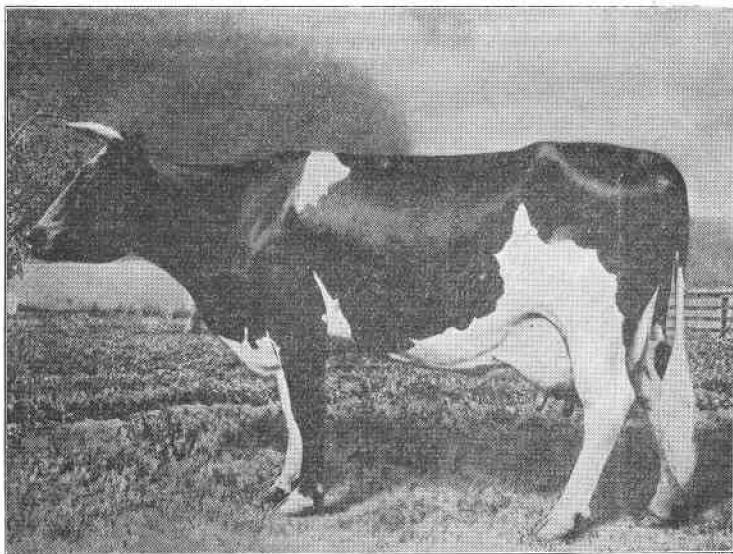


Fig. 3. Holstein cow Banostine Belle De Kol, champion of Holstein breed. Produced in one year 27,404 lbs. of milk containing 1,058.84 lbs. butter fat.

3.3% to 3.5% of butter fat. The greatest numbers of this breed are found near cities where milk is retailed, as they are adapted for market milk supply. They are also quite numerous as a rule in cheese manufacturing or condensary districts.

The features that easily distinguish this breed are: their large size; their color of black and white; and their heavy milk production. The cows are quiet and gentle, and easily handled. This breed is gaining in popularity and numbers, and is represented in every state, with New York and Wisconsin as the greatest Holstein centers.

To qualify for a place in the Advanced Register, 250.5 lbs. of butter fat must be produced in one year, if the animal is two years of age or under when the calf is born. For each day the animal is over two years of age, add .1 lb. until she reaches five years of age, when 360 lbs. are required. Cows are also admitted on seven, thirty, and ninety day tests; but in recent years more attention is being paid to yearly records.

SCORE CARD FOR HOLSTEIN-FRIESIAN COW.

Head—Decidedly feminine in appearance; fine in contour	2	.....
Forehead—Broad between the eyes; dishing	2	.....
Face—Of medium length; clean and trim, especially under the eyes showing facial veins; the bridge of the nose straight	2	.....
Muzzle—Broad, with strong lips	1	.....
Ears—of medium size; of fine texture; the hair plentiful and soft; the secretions oily and abundant	1	.....
Eyes—Large; full; mild; bright	2	.....
Horns—Small, tapering finely towards the tops; set moderately narrow at base; oval; inclining forward; well bent inward; of fine texture; in appearance waxy	1	.....
Neck—Long; fine and clean at juncture with the head; free from dewlap; evenly and smoothly joined to shoulders	4	.....
Shoulders—Slightly lower than the hips; fine and even over tops; moderately broad and full at sides	3	.....
Chest—Of moderate depth and lowness; smooth and moderately full in the brisket; full in the foreflanks (or through at the heart)	6	.....
Crops—Moderately full	2	.....
Chine—Straight; strong; broadly developed, with open vertebrae ..	6	.....
Barrel—Long; of wedge shape; well rounded; with a large abdomen, trimly held up. (In judging the last item age must be considered) ..	7	.....
Loin and Hips—Broad; level or nearly level between the hook-bones; level and strong laterally; spreading from chine broadly and nearly level, hook-bones fairly prominent	6	.....
Rump—Long; high; broad with roomy pelvis; nearly level laterally; comparatively full above the thurl; carried out straight to dropping of tail	6	.....
Thurl—High; broad	3	.....
Quarters—Deep; straight behind; twist filled with development of udder; wide and moderately full at the sides	4	.....
Flanks—Deep; comparatively full	2	.....
Legs—Comparatively short; clean and nearly straight; wide apart; firmly and squarely set under the body; feet of medium size, round, solid and deep	4	.....
Tail—Large at base, the setting well back; tapering finely to switch; the end of the bone reaching to hocks or below;	2	.....
Hair and Handling—Hair healthful in appearance; fine, soft and furry; the skin of medium thickness and loose; mellow under the hand; the secretions oily; abundant and of a rich brown or yellow color ..	8	.....
Mammary Veins—Very large; very crooked (age must be taken into consideration in judging of size and crookedness); entering very large or numerous orifices;	10	.....
Udder—Very capacious; very flexible; quarters even; nearly filling the space in the rear below the twist; extending well forward in the front; broad and well held up	12	.....
Teats—Well formed; wide apart; plumb and of convenient size	2	.....
Escutcheon—Largest; finest	2	.....
		100

AYRSHIRE.

The native home of this dairy breed is Scotland. The first ones in this country were imported about 75 years ago, and then no more were brought until recently. There are a good many specimens of the breed in the northeastern states and in Canada, but they are not so numerous either in these states or in the other states of the Union as are individuals of the other dairy breeds. This breed ranks in size between the Guernseys and the Holsteins. Bulls weigh from 1,500 to 2,000 pounds. Their color is red, dark red with white, light red with white, or mostly white with red spots.

The Ayrshire cows do not show the dairy form characteristic of the other dairy breeds. They have smoother shoulders

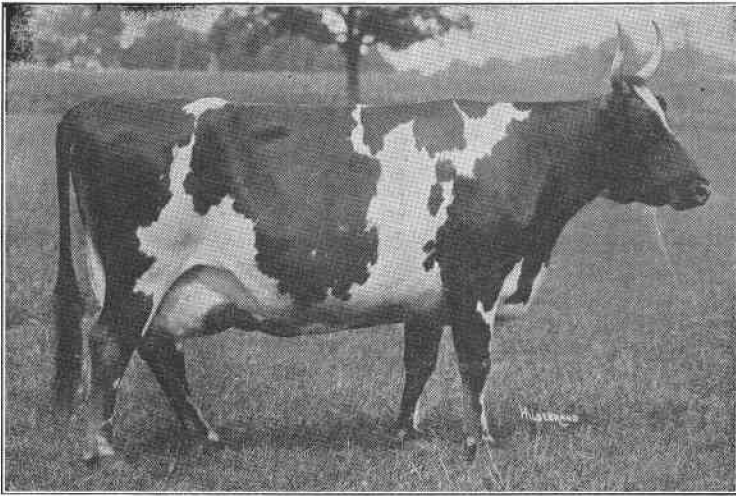


Fig. 4. Ayrshire Cow—Auchenbrain Brown Kate 4th. Champion of Ayrshire breed. In one year produced 23,022 lbs. of milk containing 917.6 lbs. butter fat.

and hips and more beefy rear quarters. At the same time, they have good barrels, and their udders are the most nearly perfect of any of the breeds.

In disposition they are more alert than the Holstein, but less irritable than the Jersey. They are better rustlers for feed than other dairy animals. The horns are quite long and generally curve outward and upward. As a breed, they are uniform producers, but for individual records are excelled by each of the other leading dairy breeds.

The most remarkable thing about this breed is its wonderful development during the past ten years. A few years ago a yield of 10,000 pounds of milk by the best individual was considered remarkable, but during the past year the average production of the whole list of about 100 head, including 2-, 3-, 4-, and 5-year old cows was above the 10,000 pound mark. The first cow to make 15,000 pounds of milk was Rena Ross, but that record has been surpassed by a number of cows, and the highest official record at present is 23,022 pounds of milk containing 916.7 pounds of butter fat.

To qualify for a place in the Advanced Register, a cow must produce 214 lbs. of butter fat in one year if she is not more than two years of age when the calf is born. For each day the cow is over two years of age, add .12 lb. fat up to five years, when 322 lbs. are required.

SCALE OF POINTS FOR AYRSHIRE COW.—Adopted 1906.

Head, 10—		
Forehead—Broad and clearly defined	1	.....
Horns—Wide set on and inclining upward	1	.....
Face—Of medium length, slightly dished; clean cut, showing veins	2	.....
Muzzle—Broad and strong without coarseness; nostrils large ...	1	.....
Jaws—Wide at the base and strong	1	.....
Eyes—Full and bright with placid expression	3	.....
Ears—Of medium size and fine; carried alert	1	.....
Neck—Fine throughout; throat clean; neatly joined to head and shoulders; of good length; moderately thin, nearly free from loose skin; elegant in bearing		3
Flank—Thin and arching	1	.....
Fore Quarters, 10—		
Shoulders—Light; good distance through from point to point but sharp at withers; smoothly blending into body	2	.....
Chest—Low; deep and full between back and fore legs	8	.....
Brisket—Light	1	.....
Legs and Feet—Legs straight and short; well apart; shanks fine and smooth; joints firm; feet medium size, round, solid and deep	1	.....
Body, 13—		
Back—Strong and straight; chine lean, sharp and open-jointed	4	.....
Loin—Broad, strong and level	2	.....
Ribs—Long, broad, wide apart and well sprung	3	.....
Abdomen—Capacious, deep; firmly held up with strong muscular development	3	.....
Flang—Thin and arching	1	.....
Hind Quarters, 11		
Rump—Wide, level, long from hooks to pin bones; a reasonable pelvic arch allowed	3	.....
Hooks—Wide apart and not projecting above back nor unduly overlaid with fat	2	.....
Pin Bones—High; wide apart	1	.....
Thighs—Thin, long and wide apart	2	.....
Tail—Fine; long and set on level with back	1	.....
Legs and Feet—Legs strong, short, straight, when viewed from behind and set well apart; shanks fine and smooth; joints firm; feet medium size, round, solid and deep	2	.....
Udder, 22—		
Long, wide, deep but not pendulous, nor fleshy; firmly attached to the body, extending well up behind and far forward; quarters even; sole nearly level and not indented between teats; udder veins well developed and plainly visible	22	.....
Teats. Evenly placed; distance apart from side to side equal to half the breadth of udder; from back to front equal to one third the length; length $2\frac{1}{2}$ to $3\frac{1}{2}$ inches; thickness in keeping with length; hanging perpendicular and not tapering ...	8	.....
Mammary Veins. Large, long, tortuous, branching and entering large orifices	5	.....
Escutcheon. Distinctly defined; spreading over thighs and extending well upward	2	.....
Color. Red of any shade, brown, or these with white; mahogany and white, or white; each color distinctly defined. (Brindle markings allowed but not desirable)	2	.....
Covering, 6—		
Skin—Medium thickness; mellow and elastic	3	.....
Hair—Soft and fine	2	.....
Secretions—Oily, of rich brown or yellow color	1	.....
Style. Alert, vigorous, showing strong character; temperament inclined to nervousness but still docile	4	.....
Weight. At maturity not less than one thousand pounds	4	.....
		100

If we were to compare the different dairy breeds and classify them, we should have them ranked as follows: largest in size—Holstein, Ayrshire, Guernsey, and Jersey; heaviest milk producers—ranked same as for size; richest milk in butter fat—Jersey, Guernsey, Ayrshire, and Holstein. With reference to the total amount of butter fat produced, there is very little difference between the breeds.

BROWN SWISS.

Within the past two years the dairy characteristics of a breed, formerly considered a dual purpose breed, have shown the results that are possible when attention is centered on one aim. The cow, College Bravura Second, has done credit to herself and the breed to which she belongs, by producing in one year 19,460.6 lbs. of milk which contained 798.164 lbs. of butter fat. A number of other cows of this breed have produced near the 600 lb. mark of butter fat in recent years, making substantial facts of claims that were thought to be impossibilities ten years ago. In general appearance, the animals of the Brown Swiss breed are plain, rather coarse, but well proportioned, with beefy hind quarters. Their udders are large, fairly well balanced, with teats of good size and well placed. The cows average in weight about 1200 lbs. Though called Brown Swiss, the prevalent color is more of a mouse color, ranging from a silver-gray to a dark brown or near black.

The milk of this breed makes excellent market milk, ranging near 4% of butter fat. It is also well adapted to cheese-making or average butter-making.

(b) JUDGING.

In judging dairy cows, the method used is the comparison of one animal with the ideal type of the breed; or, when two or more animals are judged, the comparison with the ideal and with each other. For a fair comparison, the animals should be of the same sex, breed, and age. A study of pictures shown here will give the reader an idea of the general form of a dairy cow. Whether the cow is a Jersey, a Holstein, or of another dairy breed, her make-up must be such as to allow the greatest development of the organs that are so important in the production of milk. If a cow was being purchased for the dairy herd, the most reliable guide to her value would be her record for a year; but, as this is seldom known, it is necessary to depend on what is indicated by her form.

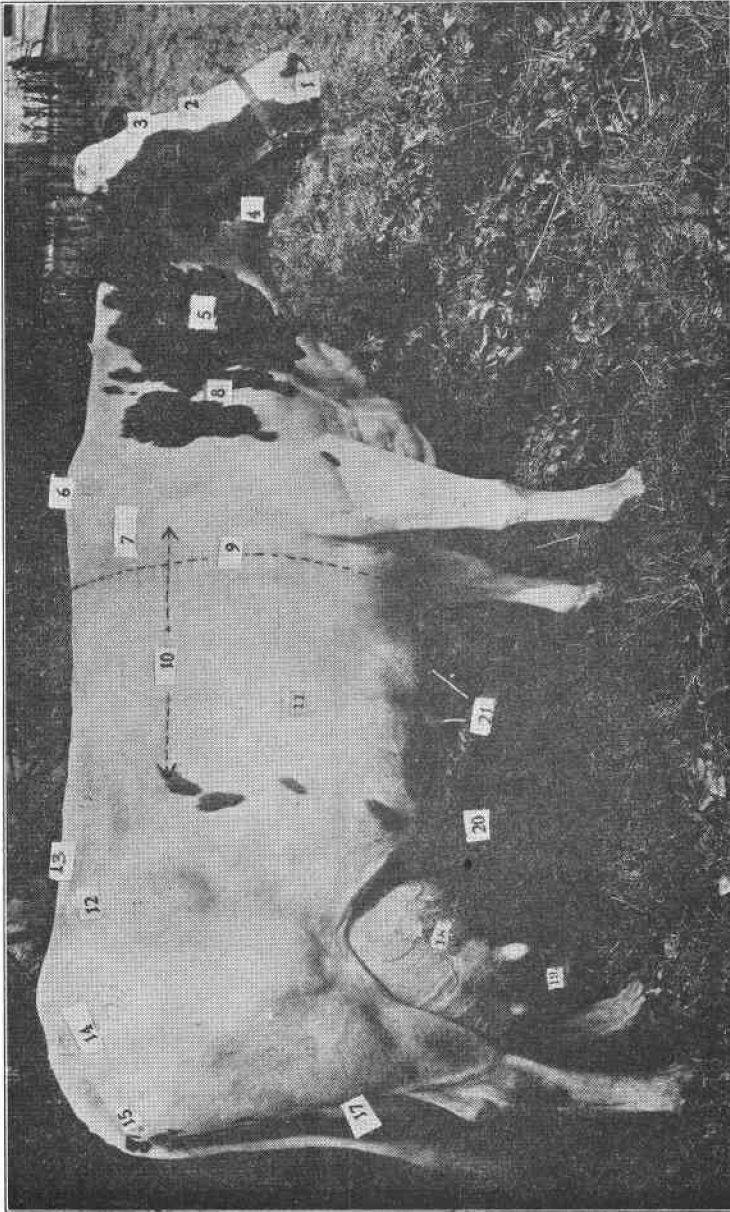


Fig. 5. Missouri Chief Josephine Holstein-Friesian. Year's record: 26,861.5 lbs. milk, 740.46 lbs. butter fat.
 1. Muzzle. 2. Face. 3. Forehead. 4. Jaw. 5. Neck. 6. Withers. 7. Crops. 8. Shoulder. 9. Heart Girth.
 10. Ribs. 11. Barrel. 12. Hip bones. 13. Loin. 14. Rump. 15. Pin bones. 16. Thigh. 17. Rear Udder. 18. Fore
 Udder. 19. Teats. 20. Milk Veins. 21. Milk Wells.

Purpose of the Score Card. The Score Card teaches the relative value of one part of the cow as compared with another part. When one has learned the relation and importance of the different parts of the dairy animal to the question of production, the score card has served its purpose.

The illustration with the numbers will aid the reader to locate the different points on the body of the animal.

General Appearance of the Dairy Cow. The first impression that one gets when looking at a high-producing cow is her angular form which results from the great capacity of the organs of production and reproduction. This angular shape is best described by the use of the term "wedge-shaped." The dairy cow shows 3 wedges, one from the front, another from the top, and the third from the side. The first wedge is formed by the sharp withers at the top and the wide floor of the chest. The second wedge is formed by the sharp withers and the great width across from one hip point to the other. The depth through the rear part of the barrel and udder, tapering to the neck forms the wedge as seen from the side.

For this wedge-shaped form, 4 points are allowed on the score card.

Quality is indicated by fine hair; soft, loose, and mellow skin of medium thickness; and clean bone, lacking coarseness. Temperament is indicated by a lean, neat appearance of the cow when in milk; by a large, full, mild eye; and by the general impression given, that milk, rather than body fat is made from the feed she consumes. While the dairy cow should be spare in flesh while milking, she may be allowed to carry considerable fat when dry.

Capacity. The capacity of the dairy cow, to which 48 points are given on the score card, shows that she must have a large muzzle, a strong jaw, and large barrel, in order that large amounts of feed can be consumed and digested. She must also have a circulatory system of enough capacity to carry the nutrients from the digestive organs to the heart. The blood carrying these nutrients will be pumped out through the artery leading to the udder, which is the factory where these nutrients are made into milk. The size of the milk veins, and also the size of the milk wells, are good indications of the ability of the circulatory organs. These veins, generally two in number, one on each side of the belly, carry the blood back to the heart. They should be long and crooked, and in many cases

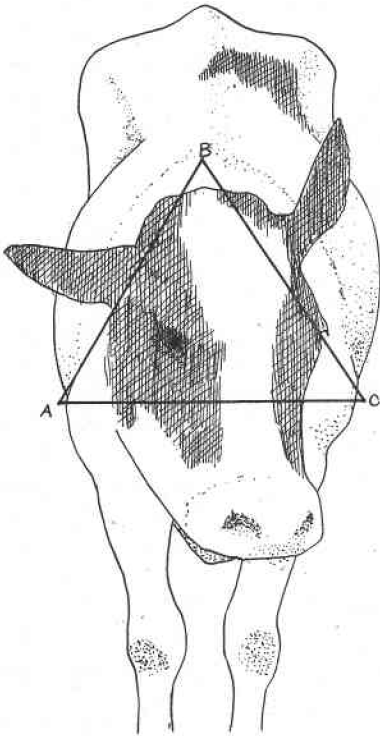


Fig. 6 A

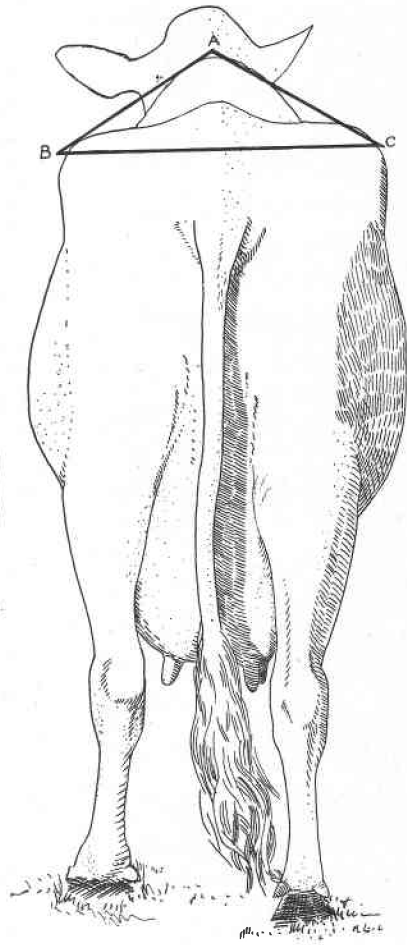


Fig. 6 B

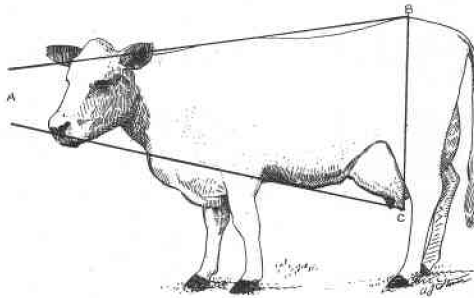


Fig. 6 C

Fig. 6 A. Showing wedge formed by withers and lower part of chest. B. By withers and hip bones. C. By depth of neck and rear part of barrel.

they are branched. The milk wells, which are the holes through the body wall admitting the milk veins, should be large. It is not uncommon to find cows with two or three wells on each side of the body.

In examining the udder, note the width and length. Then make a thorough examination as to the quality, the evenness, and the attachments at the front and rear.

The udder is the most essential organ of the dairy cow. If it has the right quality, it will appear spongy, and, when empty, will be soft and flexible and hang in folds. The quarters of the udder should be even in size and the base or bottom of the udder flat. The teats should be of good size and set squarely on each quarter of the udder. Udders that are coarse, funnel-shaped, or pendulent, are not desirable.

Constitution. Although the dairy cow might have abundant capacity, yet, without a strong constitution, she would be of little value; for her work could not be continued very long. Besides the enormous amount of work she does, she is often stabled in a dark, damp, dirty barn, where disease germs flourish. In any case, to be able to resist the diseases common to the dairy cow, a rugged constitution is required. The indications of a good constitution for a dairy cow are: (1) Large nostrils, so that the volume of air entering the lungs will bring enough oxygen properly to purify the blood; (2) A large chest or thorax, so that the heart and lungs may have plenty of room. This means that there must be good depth from the top of the shoulders to the floor of the chest, with well arched fore ribs. Judge the width on the floor of the chest by passing the hand under the cow's body just behind the fore legs. The cow's back should be straight and strong. A common defect, where there is a weak back, is lowness of the back. The hips should be far apart, prominent, and level with the back. The rump should be long and wide; the pin bones high and wide apart. The thighs should be long, thin, and wide apart, in order to give plenty of room for the udder.

When scoring a cow of one of the leading dairy breeds, it is best to use the score card for the breed to which the animal belongs. We often wish, however, to score a cow that has general dairy conformation, and yet cannot be classified with cows belonging to a particular breed. When such is the case a score card similar to the following will prove satisfactory, for capacity and constitution must be given considerable weight in scoring the common cow.

OREGON AGRICULTURAL COLLEGE—DAIRY DEPARTMENT.

SCORE CARD FOR DAIRY COW.

SCALE OF POINTS	Sta. dard	Points Allowed	
		Stu- dent's Score	Cor- rected Score
I.—General Appearance (15 points):			
a. Form—Wedge shape as viewed from front, side, and top	4	.....	.....
b. Quality—Soft, pliable skin, of medium thickness, free from coarseness throughout	5	.....	.....
c. Temperament—Indicated by lean appearance when in milk; no signs of beefiness	4	.....	.....
d. Disposition—Quiet, gentle	2	.....	.....
II.—Capacity of Animal (48 points):			
a. Digestive Organs—			
Muzzle—Large	1	.....	.....
Jaw—Strong, firmly joined	1	.....	.....
Barrel—Deep in flank, with ribs long, hoop-shaped, wide, and far apart	14	.....	.....
b. Milk Organs—			
Udder—Long, wide, attached high behind, and extending well forward and of fine quality	20	.....	.....
Tents—Good size, squarely placed	4	.....	.....
Milk Veins—Long, large, crooked	4	.....	.....
Milk Well—Large, numerous	4	.....	.....
Veins and wells indicate to some extent the circulatory system			
III.—Constitution of Animal (37 points):			
Nostrils—Very large, for abundant entrance of air	2	.....	.....
Forehead—Very broad	2	.....	.....
Chest—Deep, broad on floor, heart girth large, indicating lung and heart space	14	.....	.....
Back—Straight, with space between vertebra open	3	.....	.....
Rump—Long, wide, level, not sloping	5	.....	.....
Hip Bones—Wide apart and level with spine	2	.....	.....
Pin Bones—Wide apart and level	1	.....	.....
Fore Legs—Straight, feet sound	2	.....	.....
Hind Legs—Straight, with thighs incurving and free from flesh; feet sound	6	.....	.....
Total points	100	.....	.....