

1931

Judging Dairy Cattle, United States Department of Agriculture, Miscellaneous Circular Number 99

United States Department of Agriculture

Follow this and additional works at: <https://digital.library.ncat.edu/documents>



Part of the [Agricultural Education Commons](#), and the [Vocational Education Commons](#)

Recommended Citation

United States Department of Agriculture, "Judging Dairy Cattle, United States Department of Agriculture, Miscellaneous Circular Number 99" (1931). *Documents*. 174.
<https://digital.library.ncat.edu/documents/174>

This Article is brought to you for free and open access by the New Farmers of America at Aggie Digital Collections and Scholarship. It has been accepted for inclusion in Documents by an authorized administrator of Aggie Digital Collections and Scholarship. For more information, please contact iyanna@ncat.edu, snstewa1@ncat.edu.

A. B. Seecorby

JUDGING DAIRY CATTLE



United States Department of Agriculture
MISCELLANEOUS CIRCULAR NUMBER 99

UNITED STATES DEPARTMENT OF AGRICULTURE
MISCELLANEOUS CIRCULAR No. 99

WASHINGTON, D. C.

Issued April, 1927
Revised November, 1931

JUDGING DAIRY CATTLE

By A. B. NYSTROM, Senior Dairy Husbandman, Bureau of Dairy Industry, and C. H. SCHOPMEYER, Senior Agriculturist, Office of Cooperative Extension Work, Extension Service

CONTENTS

	Page		Page
Introduction.....	1	Comparative judging.....	19
Dairy-herd improvement.....	1	Choosing a class of animals to be judged.....	19
Aim in studying dairy-cattle judging.....	1	Methods of observation.....	19
Reference books, bulletins, and photographs.....	2	Handling the animal.....	20
Major points in judging.....	3	Placing and reasons.....	20
Mammary system.....	5	How to give reasons.....	21
Dairy temperament.....	7	Special placing cards.....	21
Body capacity and size.....	8	Grading.....	22
Health and vigor.....	9	Giving reasons best method.....	23
General appearance and type.....	10	Judging heifers.....	24
Other desirable points in conforma- tion.....	12	Judging bulls.....	24
The score card.....	13	Scale of points for various breeds.....	25
How to use the score card.....	14	General score card for dairy cows.....	30
Scoring.....	17		

INTRODUCTION

Every successful dairyman knows that one of the chief factors influencing the cost of production is the yield obtained from each cow in his herd. Records kept on a large number of cows show in general that the highest average incomes over cost of feed have been obtained from herds composed of the highest-producing cows.

DAIRY-HERD IMPROVEMENT

A herd of dairy cows may be improved by displacing the low producers with high producers. In culling his herd, the dairyman should consider the health of the cows, their production and feed records, their pedigrees, and their physical dairy characteristics. After a careful consideration of these factors the dairyman should dispose of cows which do not give promise of satisfactory returns. In selecting cows for his herd, he should base his choices upon the same factors as in culling his herd.

AIM IN STUDYING DAIRY-CATTLE JUDGING

The purpose of this circular is to guide dairymen, prospective dairymen, and persons preparing to enter dairy-cattle judging contests, in determining the relative producing ability of dairy ani-

mals by their appearance. The method presented is the one which good dairymen and judges commonly use in judging animals either for herd additions or for show-ring awards. It is based on the supposition that a correlation exists between producing ability and body conformation.

This method has its limitations, to be sure. High-producing ability and a good dairy conformation do not always appear in the same animal. Many cows well developed and approaching the ideal in dairy conformation are low producers. On the other hand, many cows poorly developed not only in one but in many points of conformation have high production records. The best argument in favor of the method, however, is the fact that a comparison of a large number of cows, all with high records of production, shows them to be very similar in conformation, and a comparison of a large

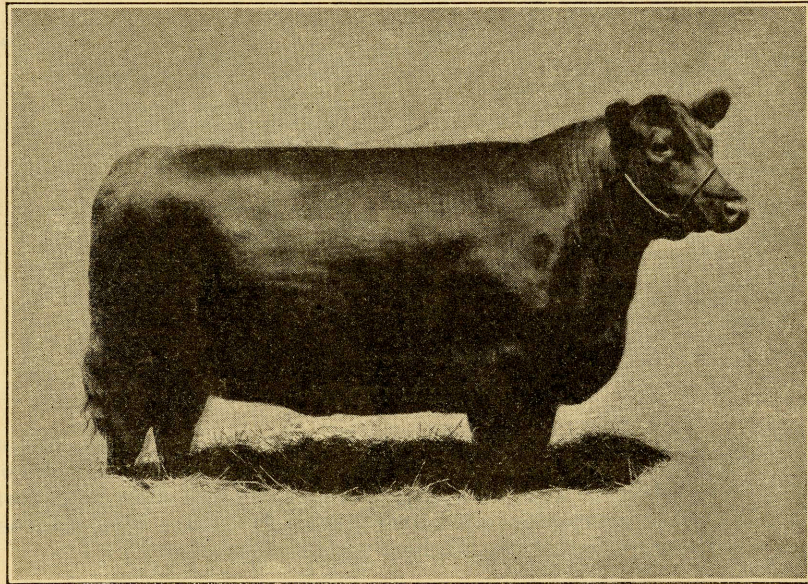


FIG. 1.—Beef-type cow

number of cows having what is considered good conformation shows them, on the whole, to be good producers.

Since the correlation is not perfect, it is evident that greater emphasis should be given to production than to conformation. However, good appearance in dairy cattle is a desirable quality. Greater satisfaction comes from the possession of a herd having good appearance than from possession of one having a poor appearance.

When the difference in production of two cows is slight, it is usually not easy and may be impossible to note this difference by the conformation; but when the difference in production is great, that is, when one is a very low producer and the other a very high producer, with a knowledge of the principles of judging it is easy to determine by conformation alone which is the low and which is the high producer. By referring to Figures 1 and 2 this point is brought out

clearly. So far as milk production is concerned, it is not difficult to determine which of these two cows is the better.

Judging is brought into practical use every time a cow is bought for dairy purposes. No matter whether or not the animal has a record of production, few dairymen would buy without an inspection. Careful buyers have so trained their powers of observation as to be able to tell fairly accurately by personal inspection alone whether or not a cow will be a good producer if given proper care and feed.

REFERENCE BOOKS, BULLETINS, AND PHOTOGRAPHS

The possibilities in the use of printed matter and pictures in familiarizing himself with the characteristics of the ideal types of different breeds should not be overlooked by the beginner or the student of livestock judging. A considerable amount of such material

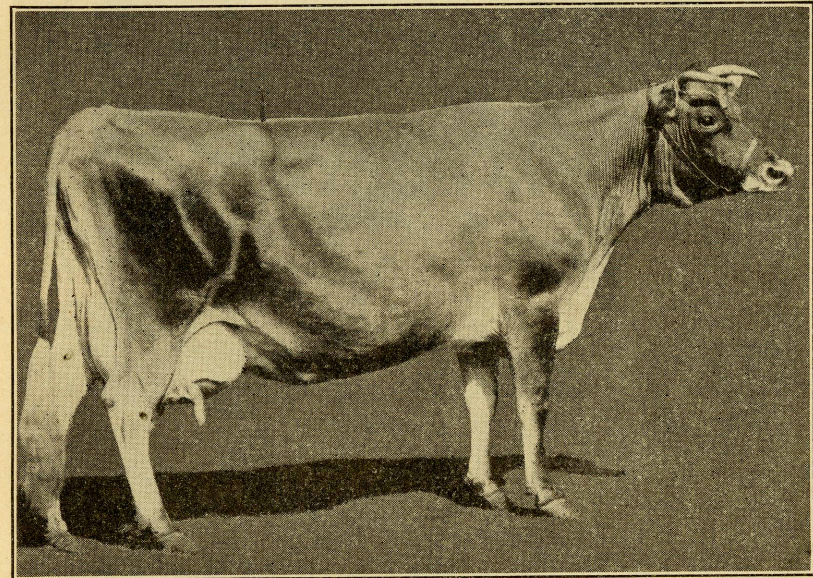


FIG. 2.—Dairy-type cow

is easily available for study as texts or for reference. Many books on livestock judging have been written. The United States Department of Agriculture and the various State colleges of agriculture have issued and distribute many bulletins both on livestock judging generally and on the description of the ideal types of most of the important breeds of cattle. Where it is impossible for the student actually to see and handle the animals of a given breed, pictures of prize winners and outstanding animals in that breed often are obtainable. By studying these pictures the person unfamiliar with the breed can discover the desirable points in ideal conformation and appearance of the animals.

MAJOR POINTS IN JUDGING

The ultimate objective in dairy-cattle judging is to enable one to select more efficiently cows that will be economical producers of milk.

Therefore, the points that must be fixed clearly in mind are those that are thought to be most closely associated with milk production. From our present knowledge of the relation of function to form, these major points are: (1) Mammary system, (2) dairy temperament, (3) body capacity and size, and (4) health and vigor. In addition to those points, there are what may be called the fancy points,

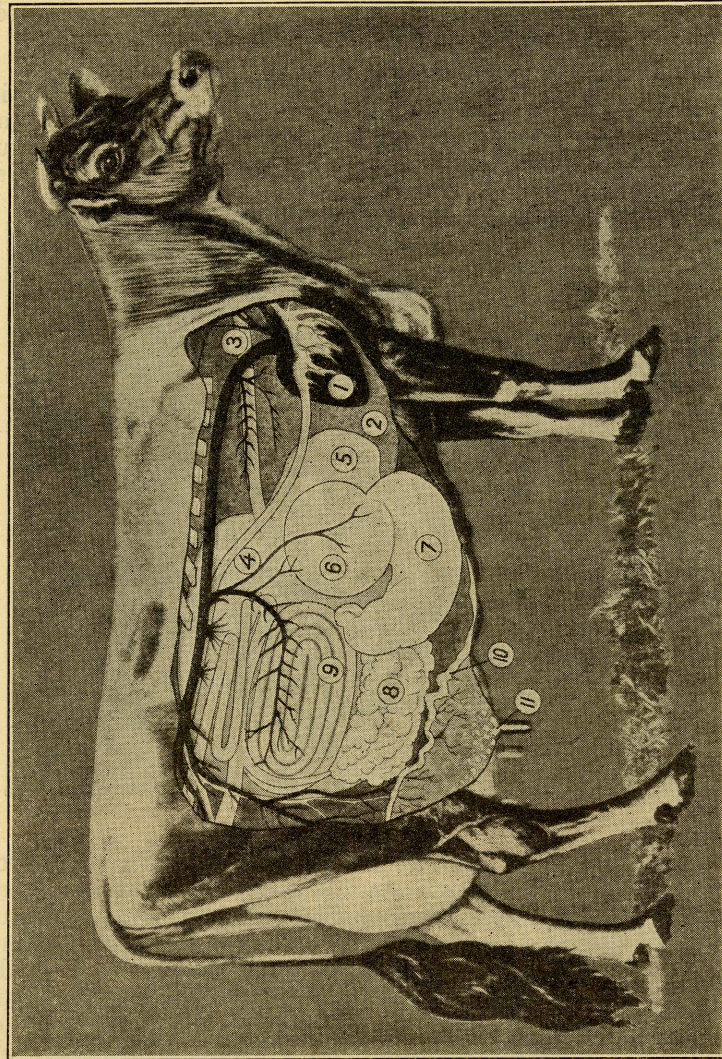


Fig. 3.—Diagram of cow, showing organs. 1, Heart; 2, lungs; 3, gullet; 4, paunch (rumen, or first stomach); 5, reticulum (second stomach); 6, omasum (third stomach); 7, abomasum (fourth stomach); 8, small intestines; 9, large intestines; 10, milk veins; 11, milk cistern.

such as pretty head, level rump, small horns, straight back, and wide muzzle. These fancy points are considered more or less carefully in present-day show-ring judging; but they are probably only slightly, if at all, correlated with producing ability. They do, however, add somewhat to the popular conception of beauty of the animal and thus may enhance its selling value.

MAMMARY SYSTEM

Included in the mammary system are the udder, the milk veins, and the milk wells. The importance of the mammary system may be judged from the number of points allowed for it on the score card.

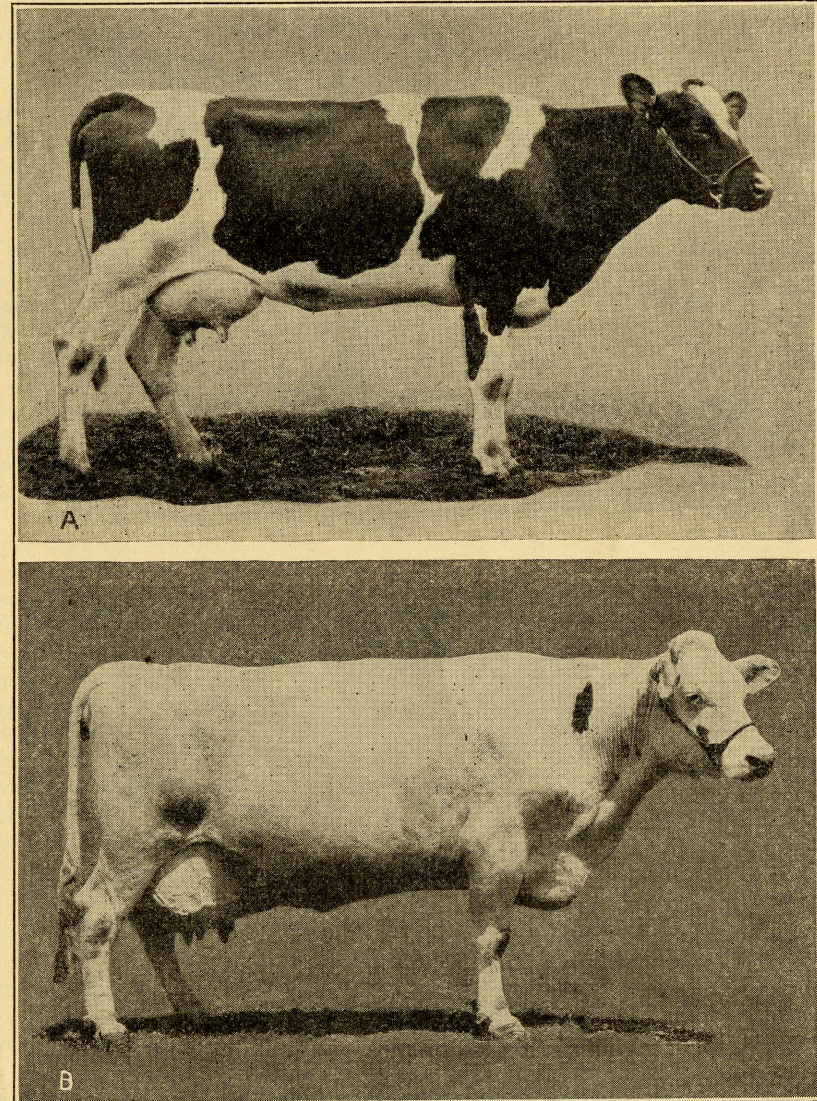


Fig. 4.—A, Shallow-bodied and, B, deep-bodied Holstein cows

A good cow must have a well-developed udder, or she will not be classed as a dairy cow. A cow with good health and vigor, and having, as well, a true dairy conformation, ideal dairy temperament, and a body of proper size and capacity—in short, one having all the other

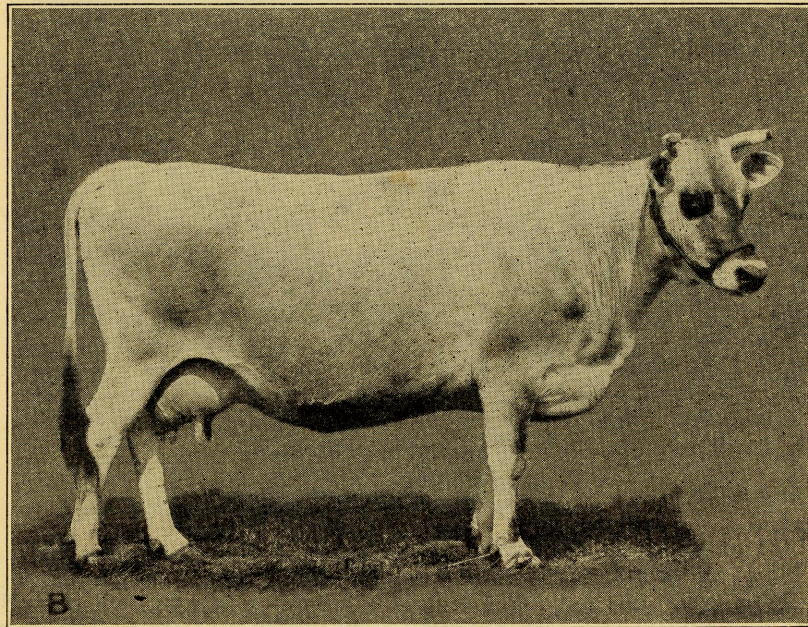
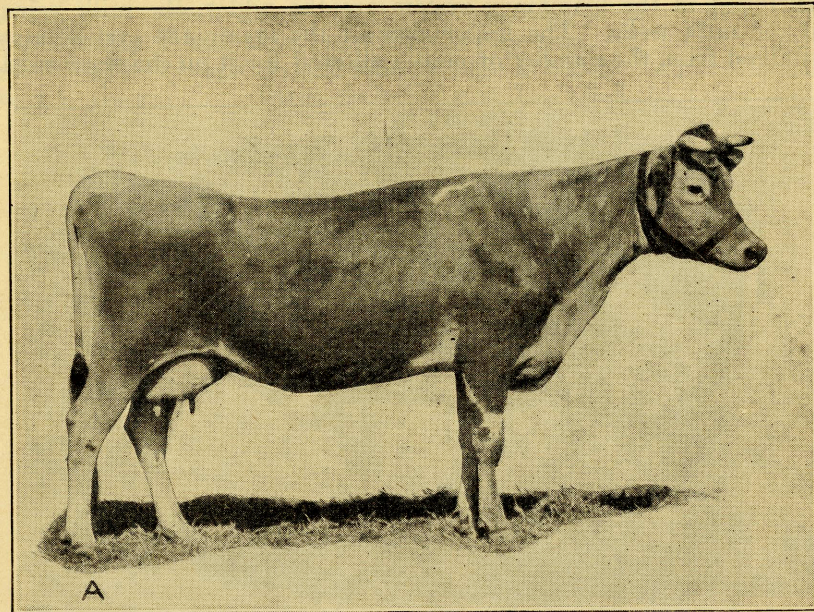


FIG. 5.—A, Shallow-bodied, and B, deep-bodied Jersey cows

important dairy qualities—but poor in udder development, should never win in a show ring.

But what constitutes a good udder? When in full flow of milk a good udder is large, extends well forward and far up behind, and is firmly attached to the body. The bottom is nearly level, and all the quarters are even in size with very little, if any, separation between them. The texture of a good udder is pliable and free from lumps. A hard, meaty udder is not desirable. When milked out, a good udder reduces materially in size and hangs in more or less distinct folds. This is true also in the case of dry cows except those nearing the time of calving. The skin of a good udder is thin, and the hair fine and soft. Views of different types of udders are shown in Figures 6 to 9, inclusive.

Teats should be evenly placed, of moderate size, and easy to milk. Judges sometimes compare the milking qualities of udders by drawing a little milk from each quarter. In the larger cattle shows judges many times require the cows to be milked dry in the show ring. Defects in the udder and obstructions in the teat can thus often be detected.

The size and shape of the teats and the shape of the udder, while not indicative of the producing capacity, are nevertheless important points to consider from the standpoint of disease, injury, and convenience in milking. A pendulous udder is more susceptible to injury than one closely attached to the body.

The large blood vessels usually visible on the under side of the abdomen are called milk veins. They carry a part of the venous blood from the udder back to the heart. There are at least three of these veins, two of which are invisible. They may vary in size; and since the blood does not all return to the heart through the veins, commonly called mammary veins, which are visible on the under side of the body in front of the udder, too much emphasis should not be given to them in judging.

The milk wells are the holes in the body wall through which the visible mammary veins pass to return to the heart. The milk wells vary in size and number; and for the same reason as that given for the milk veins, too much emphasis should not be given to their size and number.

DAIRY TEMPERAMENT

Dairy temperament is a term denoting the tendency of a cow to convert feed into milk rather than into body fat and flesh. The lack of the blocky, beefy appearance, as shown by angularity, the body not heavily covered with flesh, and the bones fairly prominent, are the main indications of dairy temperament. In a mature cow the size of the udder is also taken into account.

A nervous temperament is not to be confused with dairy temperament. The former refers to the tendency to be easily excited. A beef cow may be nervous but show a decided lack of what is called dairy temperament. It is true that good dairy cows have a highly developed nervous system, owing to the fact that the nerves control the many functions of the organs of the body, but this does not necessarily show itself in a nervous disposition. The tendency to become easily excited is not a desirable quality in dairy cows.

In judging dairy temperament due allowance must be made for stages of lactation and pregnancy. Both cows and heifers heavy with calf, especially the latter, will take on flesh to the point where normal angularity may be obscured. Such animals ordinarily lose sufficient flesh and fat during two or three months of heavy milking to permit the observance of their actual dairy temperament. Extreme thinness resulting from insufficient feed should not be confused with indications of dairy temperament.

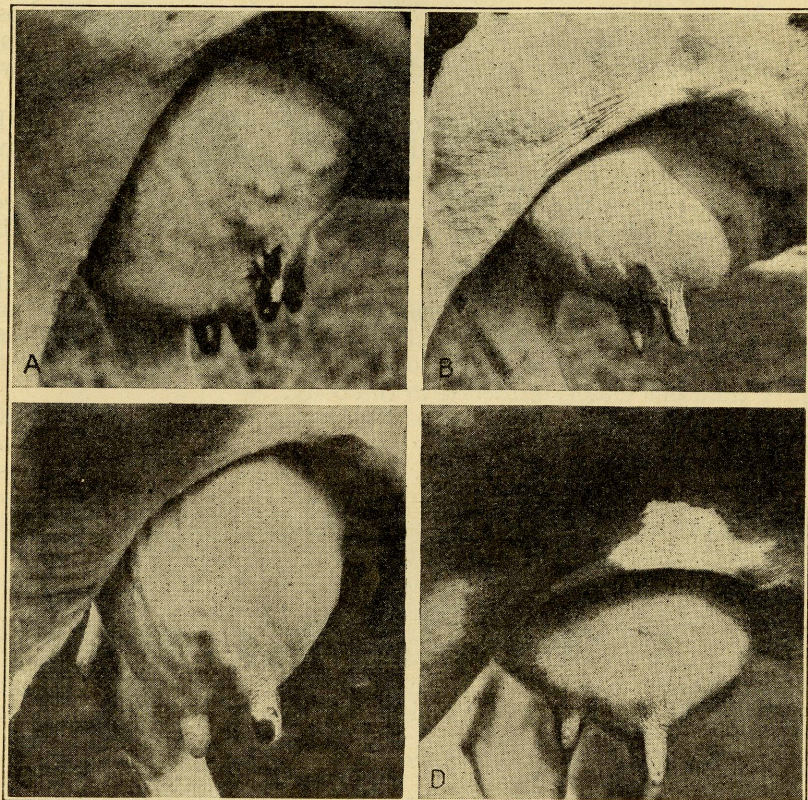


FIG. 6.—Side views of poor udders. A, Deficient fore quarters; B, teats too close together; C, a pendulous udder; D, poorly developed rear udder and teats of uneven size

Ability to draw reasonably accurate conclusions with respect to dairy temperament requires long experience with cattle and numerous observations and comparisons of individuals differing in type.

BODY CAPACITY AND SIZE

Size is an important factor in the dairy cow. Dairy temperament and mammary development being equal, the larger the cow within the breed the better. One should not overlook the fact, however, that large cows may lack the qualities denoting dairy temperament that

are demanded in the dairy type. Large cows may be coarse-boned and not well proportioned. These points must be carefully observed when comparing small cows with those that are larger than the normal cow of the same breed.

There is also a danger of the other extreme. Cows much smaller than the average size for their breed may be too highly refined. Their milk production may be low, not only because of lack of capacity to consume feed, but also because of the disadvantages which small cows have when in a herd of larger cows.

The various breed associations have established standards of weight for their respective breeds. These are given on the score cards. One should familiarize himself with these standards and learn to recognize the appearance of an animal that is about the standard size for the breed.

Figure 3 shows the relative positions of some of the organs of a cow. The nature of the feed which is taken into her body requires a large storage capacity, and it is the dairy cow with the good feed capacity that produces large quantities of milk. The four stomachs of a cow and her intestines must not only be large, but the space which they occupy must be roomy. This necessitates well-sprung rear ribs and a long, wide, and deep body.

High milk production requires a plentiful blood supply not only for the udder but for all the processes of digestion and assimilation as well as for the nervous system, and all this blood must be purified by the lungs. This emphasizes the importance of an ample heart and lung capacity, which in turn necessitates well-sprung fore ribs and a good breadth and depth of chest, where these vital organs are situated. Figures 4 and 5 illustrate differences in body capacity.

HEALTH AND VIGOR

Health and vigor are factors which must be considered in judging any class of breeding animals. Deficiencies in these points are determined largely by appearance and the apparent frailty and delicacy of the animal. Associated with them are the factors of constitution and fertility. Lack of fertility may sometimes be determined by a laxness or sinking of the muscles around the tail head, producing a depression. Such indications, however, are not infallible. Constitution does not refer to the dimensions of the chest, but rather to the ability of the animal to withstand the strain of heavy milk production. Extreme deviations from normal conformation and condition, such as blindness, lameness, knocked-down hips, and blind quarters are referred to as unsoundnesses.

Concerning the importance of the major points, then, it may be said that so far as producing ability is concerned, without regard to minor points, that cow is very likely to be the best which is most nearly perfect in health and vigor; surpasses in dairy temperament; has the largest capacity for consuming feed, as shown by the length, depth, and breadth of the body where the organs of digestion are located; the greatest lung, heart, and circulatory system, as shown by the development of the corresponding part of the body; and the greatest development of the mammary system.

GENERAL APPEARANCE AND TYPE

General appearance, while not listed as a separate point on the general score card, is nevertheless taken into account when all of the major points are under observation. In considering general appearance it is best to view the animal from a distance. This makes it possible to disregard, more or less, the individual parts of the body

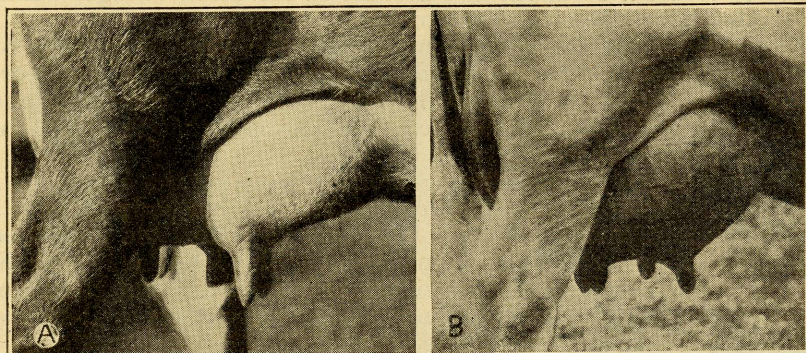


FIG. 7.—A and B, Side views of good udders. Note the perfect balance of udders with well-placed teats of good size

and to see the animal as a whole. Such points as the relation of the size and development of one part of the body to that of another, the general carriage and symmetry of form, the blending of body lines, and the conformity of the animal to a definite type, are considered under general appearance.

Type refers to the standard of conformation established by the breed associations. This standard is usually followed by show-ring judges as indicating the ideal toward which to work. It attempts to

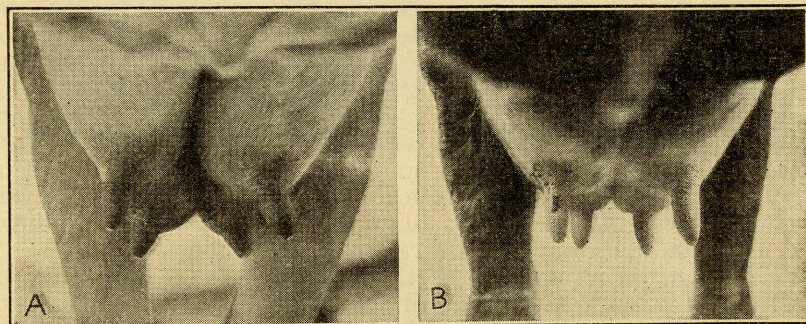


FIG. 8.—Front views of poor and good udders. A. This udder is cut up too much between halves and quarters; B, udder more evenly quartered

combine beauty of form, which is fixed more or less arbitrarily by breed associations, and producing ability.

Ideal types of dairy animals as shown on pages 14 to 19 have been fixed by the respective breed associations for the Ayrshire, Brown Swiss, Guernsey, Holstein, and Jersey breeds. Although no ideals have been agreed upon for Ayrshire, Brown Swiss, and Jersey bulls,

the illustrations given have been submitted by the respective associations as representing bulls typical of the breed. Such standards as these are helpful in fixing in one's mind the ideal form toward which the breed associations are working.

Dairy form may be distinguished from beef form by referring to Figures 1 and 2. When the difference is as great as this, it is readily

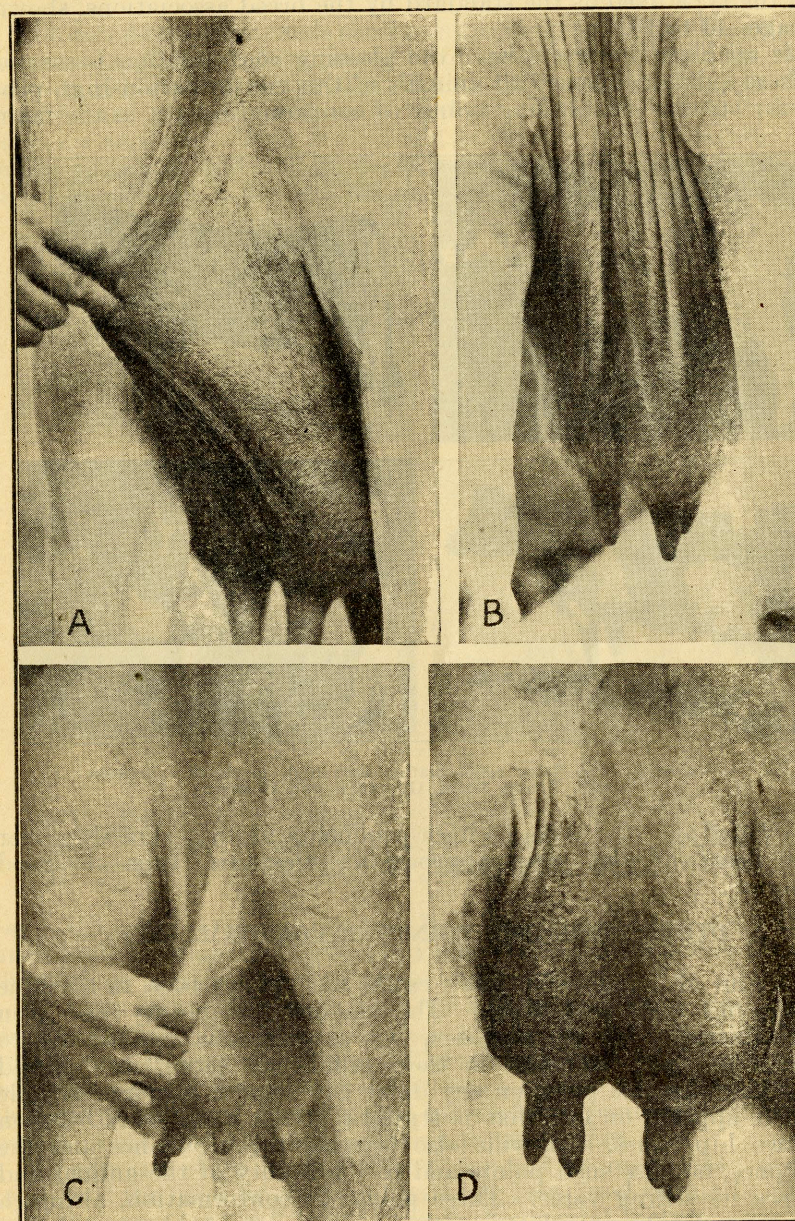


FIG. 9.—Udder attachments. A good udder when milked out dry should hang in loose folds and show high attachment in rear. A and B, good udders; C and D, poor udders

seen. However, one cow may be of only slightly less dairy conformation than another. In such a case the various points must be balanced one against the other, and the exactness of such balancing is what determines whether or not a person can judge accurately.

Dairy cows of good conformation are illustrated in Figures 2 and 10. These are good producers, and they also compare fairly well with the type fixed as the standard by the breed associations, shown on pages 14 to 19.

Not all high producers have the pleasing conformation possessed by these animals, nor are all animals of this conformation high producers; but the outstanding points of conformation are in the main

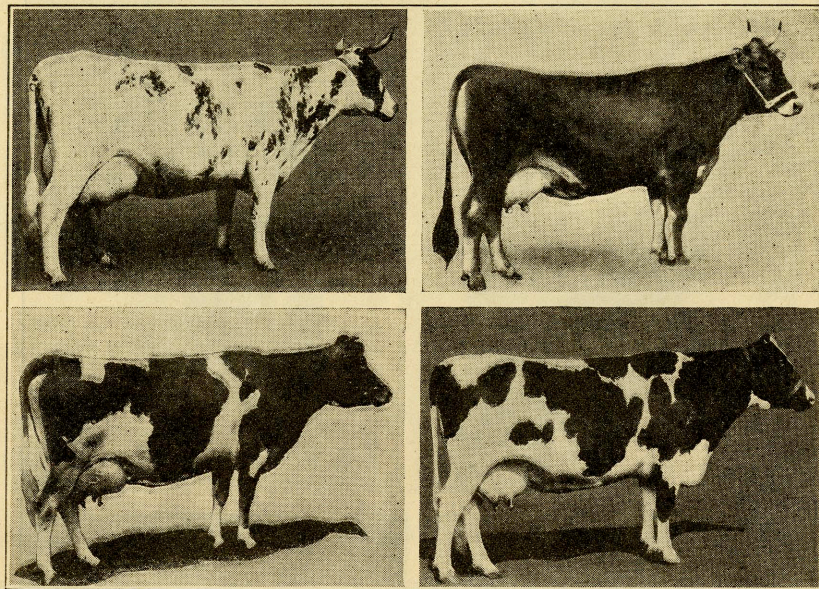


FIG. 10.—Cows with good dairy conformation and high production records. (Ayrshire, Brown Swiss, Guernsey, and Holstein)

to be found on most cows of high-producing ability. On the other hand, most of the cows approaching this ideal type are good producers.

OTHER DESIRABLE POINTS IN CONFORMATION

The aim of breeders of dairy cattle has always been to combine beauty and high production. The standard of beauty has been fixed arbitrarily by the breeders, but at the same time ability to produce has been foremost in their minds. A large, well-shaped udder is a valuable point on any dairy cow; but it is more valuable when it appears on one that is straight in the back, wide between the two hip bones, and wide also between the hip bones and the pin bones, because such points add to the beauty of the animal and enhance its selling value. These points of conformation, although they may not be correlated with production, should nevertheless be kept constantly in mind while judging. A U neck or a narrow

forehead and muzzle may be found on a high-producing cow, but the standard of breed type requires that the neck be straight or gently curved and that the forehead and muzzle be broad; therefore, consideration should be given to such points, and deductions must be made for defects.

THE SCORE CARD

The dairy-cow score cards shown on pages 25 to 30 give the relative importance of the various points to be considered in judging. It is to be noted that when the single items are considered the greatest weights are given to mammary system, dairy temperament, body capacity and size. This fact should always be kept in mind. The minor points should not be disregarded, but they need to be considered carefully only when the animals being compared are practi-

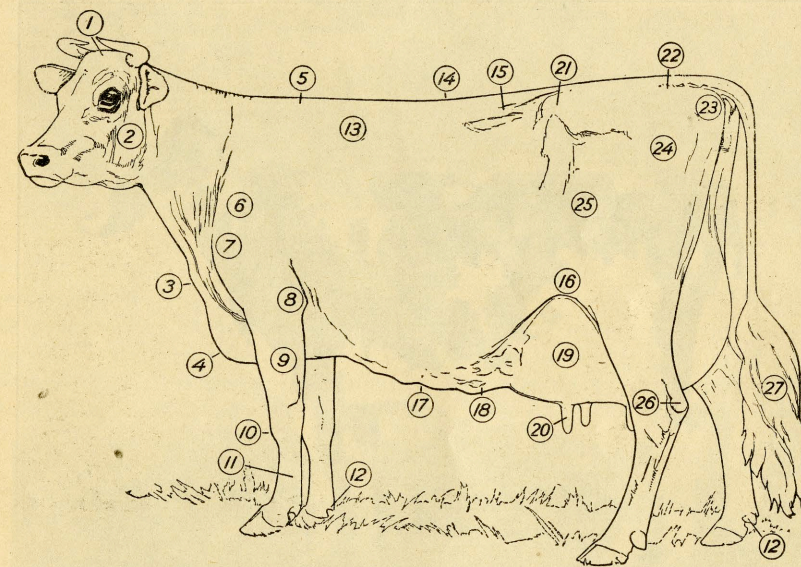


FIG. 11.—Diagram of cow, showing names and location of parts: 1, Poll; 2, jaw; 3, dewlap; 4, brisket; 5, withers; 6, shoulder; 7, point of shoulder; 8, point of elbow; 9, forearm; 10, knee; 11, shank; 12, dewclaw; 13, crop; 14, chine; 15, loin; 16, flank; 17, milk well; 18, milk vein; 19, udder; 20, teat; 21, hip point; 22, rump; 23, pin bone; 24, thurl; 25, stifle; 26, hock; 27, switch

cally alike in the major points. In order to make the score cards more useful, a diagram is given in Figure 11, which names and locates the various parts referred to on the score cards.

As facts accumulate from research and experimental work, additional points of conformation that are correlated with producing ability may become apparent. Although it is difficult to give a correct value as to the relative importance of the various characters that are listed, it is thought that most of the points shown on the general score card have some relation to production.

An accurate score on any animal can not be made until a clear picture of the ideal or perfect animal has been fixed in mind. Work with the score card will help to create this mental picture, especially if the beginner can work with animals that are nearly perfect or approach the ideal type. Where such animals are not available for

study, photographs of the winners at some of the larger cattle shows may be used to fix the ideal type in mind.

Most of the breed associations are developing ideal types of their cattle as objectives toward which to breed. The accompanying illustrations show some of the ideal types of breeds that have already been adopted. Others show types of animals as selected by the breed organizations concerned. (Figs. 12 to 21.)

Score cards for the different breeds of dairy cattle have been published by the various associations. The purpose of these cards is to encourage the development of what is considered by the breeders, through their associations, as the ideal type. Although the score cards for the different breeds are very similar, especially for the more important points, they differ in some of the lesser details. To become

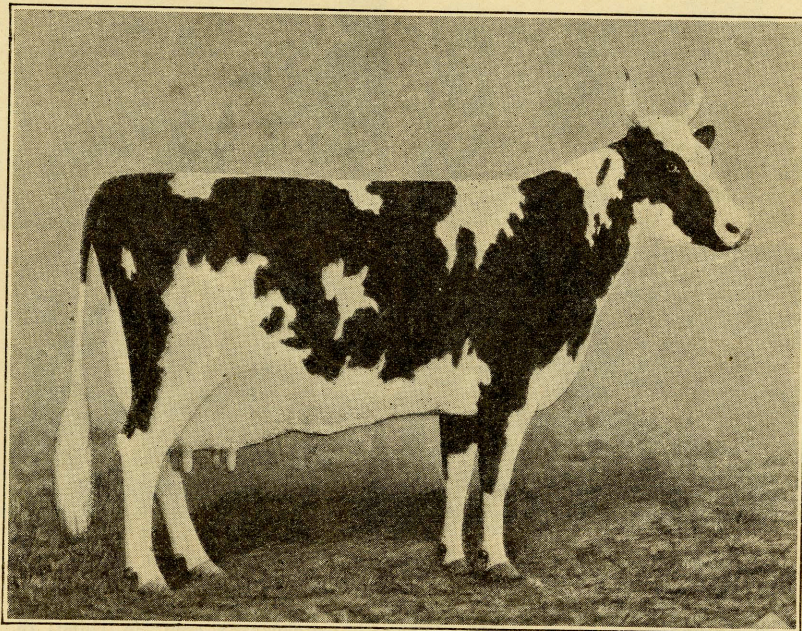


FIG. 12.—Ideal type Ayrshire cow

proficient in judging any one breed, therefore, careful study should be given to the score card for that breed.

Copies of the score cards of the various breeds are found on pages 25 to 30. A general score card based on the indication of capacity for production is shown on page 30. This may be used for any breed. It will be noted that many of the minor points found on the breed score cards have been omitted from this general card. When the general score card is used, adjustments must be made for certain breed characteristics, such as size and color.

HOW TO USE THE SCORE CARD

The beginner should first become familiar with the location and name of each point or part of the animal. The animal to be scored is led past the scorer at a distance of 20 to 30 feet. This permits a good

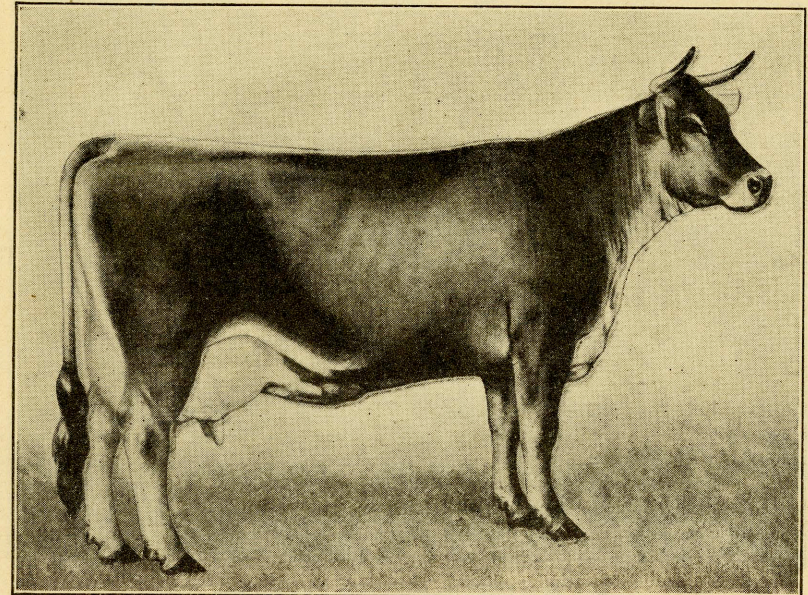


FIG. 13.—Ideal type Brown Swiss cow

general view; furthermore, the movement of the animal will indicate its alertness. At this time the points to be noted are the general appearance as to type, the relative size of the head, neck, and body. Are they properly proportioned? Are they well joined together? A careful observation should also be made of the straightness of back,

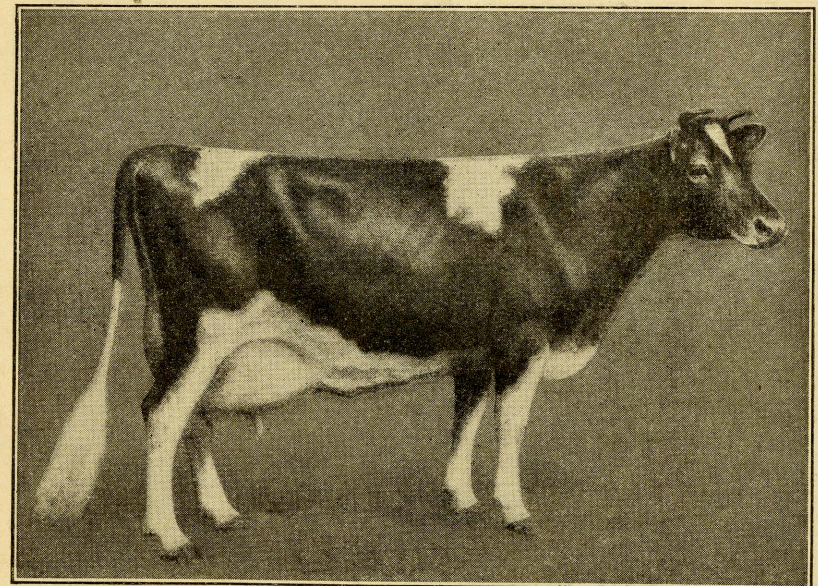


FIG. 14.—Ideal type Guernsey cow

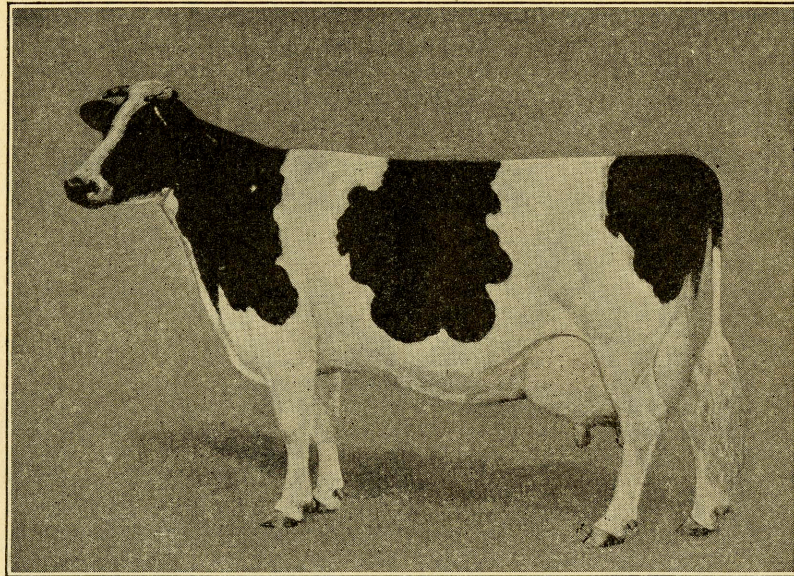


FIG. 15.—Ideal type Holstein-Friesian cow

slope of rump, and length of legs. How do these compare with the ideal which the judge must always have in mind? The view from the rear and the front should likewise be made while the animal is moving and the width of body and chest and the general carriage noted. All these points should also be viewed from a distance while the animal is standing.

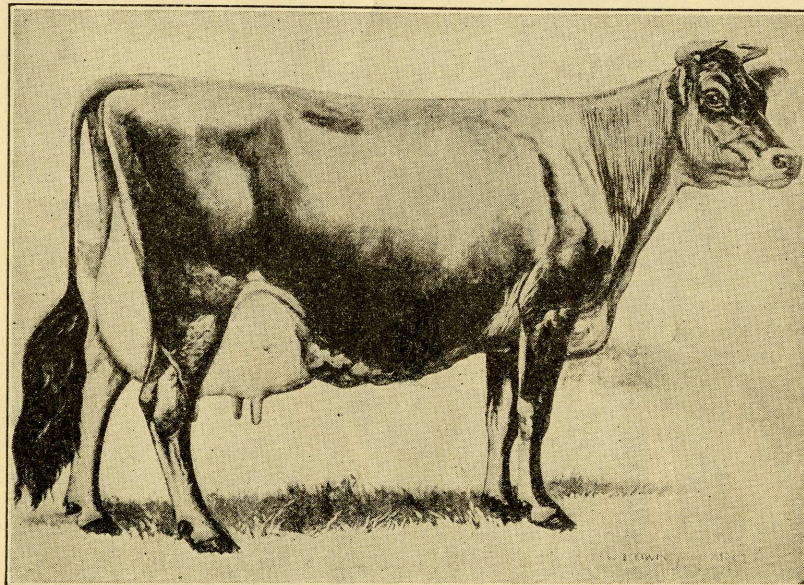


FIG. 16.—Ideal type Jersey cow

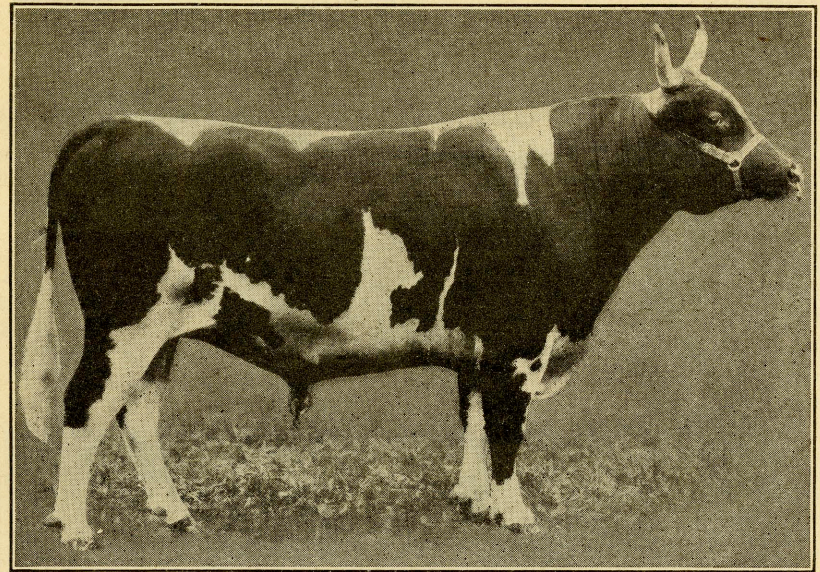


FIG. 17.—Typical Ayrshire bull

SCORING

There are various ways of grading or scoring an animal. Some prefer to make small deductions from the perfect score of each point; for example, if the perfect score of the udder is 20 the animal scored might be cut 1 or 1½ points, making the actual score 19 or 18½. Perhaps a better way is to consider separately each point for which

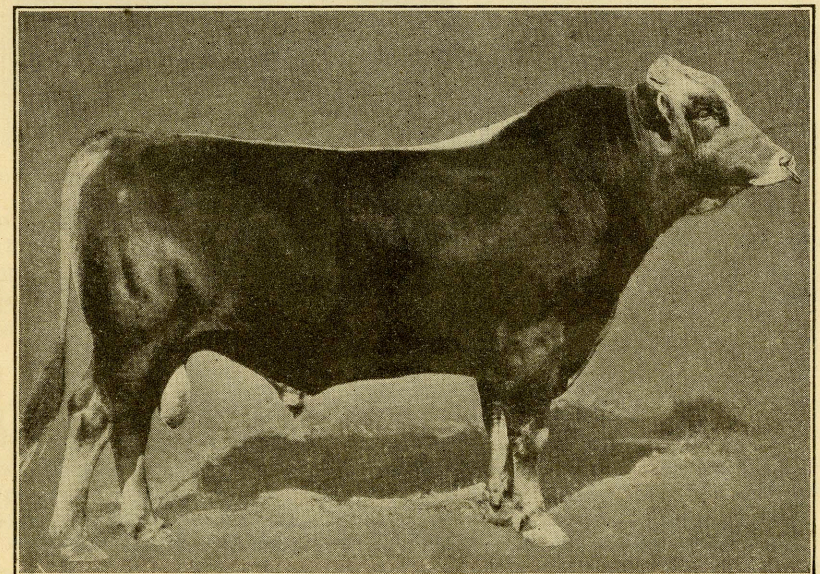


FIG. 18.—Typical Brown Swiss bull

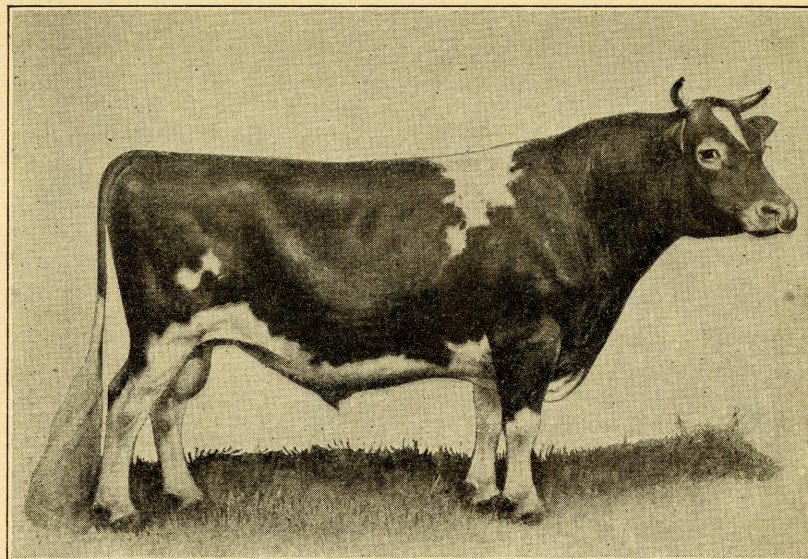


FIG. 19.—Ideal type Guernsey bull

there is a numerical value on the score card and decide whether this point is perfect (1), very slightly defective (0.9), slightly defective (0.8), defective (0.7), markedly defective (0.6), or poor (0.5). Then by multiplying the perfect score for each point by the value given to it, the final score is obtained. The sum of the scores for the various points gives the total score of the animal. An example of the way

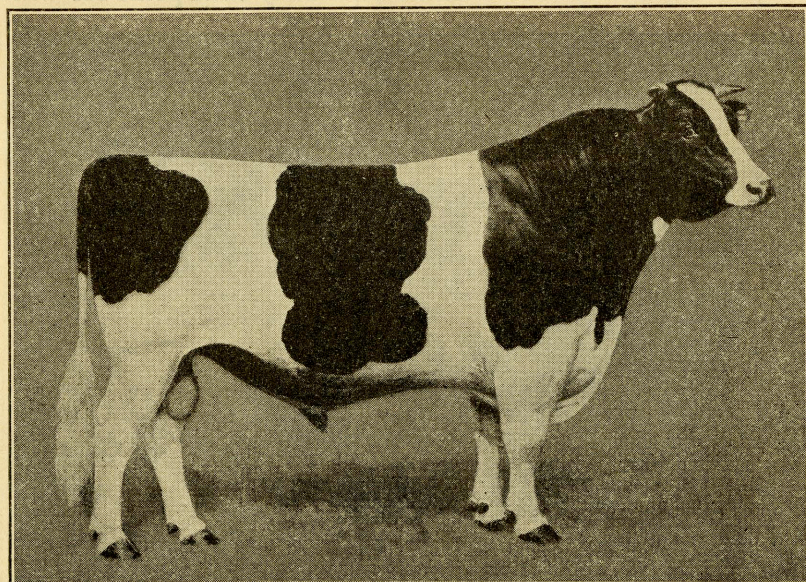


FIG. 20.—Ideal type Holstein-Friesian bull

in which this is done is found in the general dairy-cow score card on page 30.

COMPARATIVE JUDGING

By comparative judging, or comparing one animal with another, one develops his powers of observation and learns more quickly what are the most important considerations in judging.

CHOOSING A CLASS OF ANIMALS TO BE JUDGED

A group of animals to be judged is called a class or a ring, which may consist of two or more animals. For practice judging and for contest work four is the best number. The animals in a class should be of the same sex and of nearly the same age. They should be selected with the aim of assembling animals fairly uniform in conforma-

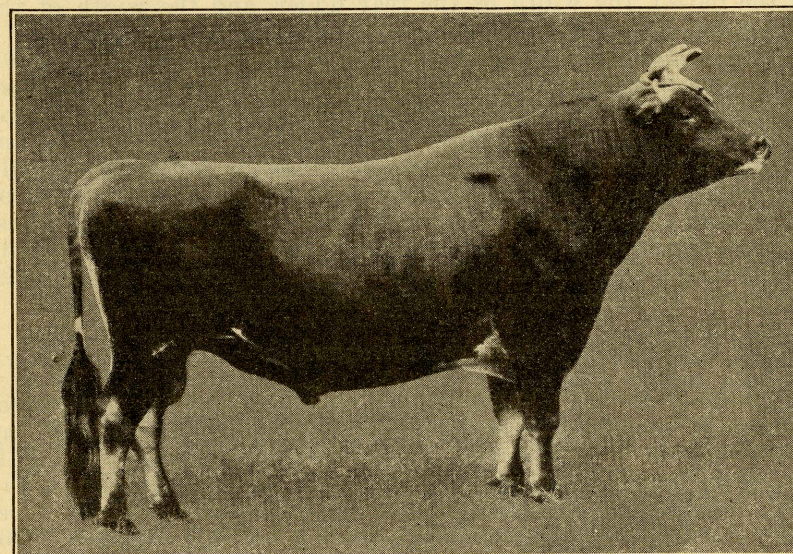


FIG. 21.—Typical Jersey bull

tion but with enough differences so there will be little possibility of different placing by two competent judges. In other words, when a person is learning to use his judgment concerning the importance of the various points of conformation, he should work on classes of animals that have fairly distinct correct placings.

METHODS OF OBSERVATION

The animals should first be lettered at random, A, B, C, D, etc. This may be done by marking the letters on cardboard to hang on the animals or on the attendants. It is best to lead the animals in alphabetical order before the judges and to keep them in that order throughout the observation.

The whole class of animals is led past the judges at a distance of about 30 feet. If facilities permit, the class should be led in a circle

whose radius is about 30 feet, with the judges in the center, for about three minutes. The animals are led in one direction for half the time and in the opposite direction for the other half. This will expose both sides to the view of the judges. During this time, as in the scoring by use of the score card, a careful observation is made of the general appearance and carriage. Individual points, such as size, length and depth of the body, straightness of the back and the rump, fullness of the chest and the barrel, attachment of the udder, and shape of the head are observed; but these must be viewed from the standpoint of the whole animal rather than from that of the individual parts.

The animals are then lined up side by side a few feet apart to give the judges the front and rear views from a distance and from close up. This should occupy about three minutes. At this time comparisons are made of such points as the head, the width of the chest and the barrel, the width of the rear udder, and the width of the pelvic bones.

The animals are again lined up in single file to give the judges a side view at a distance of 20 to 30 feet. This will allow a further comparison of the points observed while the animals were in motion and should take about three minutes. While the animals are standing in this position the final close inspection is made, and should take about six minutes. At this time such points as the quality of the hair and the hide, the texture of the udder, and the smoothness of the covering are considered. This close inspection is made mainly to confirm the decisions that have already been reached and to take what notes are needed for giving reasons for the placings.

HANDLING THE ANIMAL

In judging contests handling the animals is often prohibited. Under such circumstances it is assumed there are no defects in any animal not visible to the eye. When handling is permitted, it is well to approach the animal with care. Rough handling may annoy it and make observation difficult, if not impossible. Movements of persons while judging should be slow and noiseless. Not more than five or six persons should be allowed to handle an animal at one time, and even fewer than these would make observation easier for the judges and cause less annoyance to the animal.

PLACING AND REASONS

After closely inspecting the animal, each judge marks his placings on a card and hands it to the instructor. Giving reasons for the placings is a good practice that should be required for every class. The reasons show where the observations have been incorrect. If written reasons are required it is customary to allow 10 to 20 minutes for writing these. This should be done without looking at the animals. The points of each animal should be fixed so clearly in mind that reasons can be given from memory. If reasons are given orally, two to three minutes are usually allowed in each class or ring judged.

A convenient form of card to use is shown herewith. This should be printed on fairly heavy paper that does not require a stiff back when used in the ring. A card 5 by 8 inches is a convenient size.

CARD GIVING PLACINGS AND REASONS

Student's name or number.....
 Class.....
 Placings: 1st....., 2d....., 3d....., 4th.....
 Reasons for placing:.....

HOW TO GIVE REASONS

The reasons for placing must be short and concise. Oral reasons should be given slowly but without hesitation. Comparisons should be specific rather than general. It is not desirable to say that one udder is better than another, but rather that it is larger or less meaty, or better for other specific reasons. The points should be compared in the order of importance. For example, if A distinctly excels B in both length and depth of body, and also in the conformation of the head and straightness of back, it is well to mention the body capacity first. Similarly, the udder comparison should be made first if the differences are outstanding. The following, though somewhat brief, is suggested as a desirable form of reasons:

I place this class of (name of class) B, D, C, A. I place B over D because she has a larger barrel, being longer and deeper in the body with a wider spring of rib. Her udder is larger and more evenly quartered, with teats more evenly placed.

I place D over C because she is fuller in the chest and has a straighter back that carries out more nearly level at the rump. Her udder is somewhat larger than that of C.

I place C over A because A has less of the dairy temperament, being inclined to beefiness. A is heavier over the shoulder than C, and her udder is also more meaty than that of C.

SPECIAL PLACING CARDS

Persons who have not had an opportunity to learn how to give reasons often take part in judging contests at fairs and cattle shows and are graded on their ability to judge. For such persons a special placing card is desirable. A card which has been adapted particularly for use in vocational students' contests and class work may be used on such occasions. A card filled out to illustrate its use is presented.

DAIRY-CATTLE PLACING CARD FOR VOCATIONAL STUDENTS' CONTEST

Table with columns: Contestant's name or number, Class, Date, Points for comparison, Placings (First, Second, Third, Fourth), Grade. Includes criteria like '1. Body, capacity, and size: Depth, width, and length of body; full size for breed'.

1 The correct placings are given in small letters and the contestant's placings in capital letters.

The essential feature of this card is that it provides for a grouping of points so the animals may be placed according to their rank in each of the groups. The contestant himself is subsequently graded on his placing within each group of points as well as on his placing for the class of animals as a whole.

GRADING

In a judging contest or when a grade on the judge's placings is necessary for instructional purposes, grading on both placings and reasons requires a comparison of the contestant's placings and reasons with those of the official judge or instructor.

The placings are usually graded by the use of an arbitrary numerical standard, deductions being made according to the extent that the animals are placed out of the correct order. For example, if the official judge or instructor placed a class ABCD, such placing would be rated 100, and if the student or contestant reversed any two adjacent animals such as BACD, ACBD, or ABDC, his grade would be 85. The possible combinations of placings with their respective scores are shown in the following table:

STANDARD FOR GRADING PLACINGS

Large grid table showing all possible permutations of ABCD and their corresponding scores (e.g., ABCD=100, BACD=85, etc.).

STANDARD FOR GRADING PLACINGS—continued

Grid table of permutations and scores (continued), including combinations like BADC, BCAD, BCDA, etc., with scores ranging from 100 down to 40.

Second grid table of permutations and scores (continued), including combinations like CABD, CADB, CBAD, etc., with scores ranging from 100 down to 40.

Third grid table of permutations and scores (continued), including combinations like DABC, DABC, DBAC, etc., with scores ranging from 100 down to 40.

GIVING REASONS BEST METHOD

If a contestant is to be graded accurately on his ability to judge a class of animals, it is necessary for the official judge to know whether

or not the contestant observed all the points wherein the animals differed. The giving of reasons for the placings is by far the best way to get this information. These may be either written or oral. The use of a special placing card such as the one shown on page 22 is perhaps the next best; and merely giving one placing on the whole class is the least accurate method.

JUDGING HEIFERS

In judging dairy heifers one must have in mind what the possible development of the animals will be and what they will produce when mature. Good appearance in a heifer counts for much, but it is the heifer that it is thought will develop into the best cow that should be placed first. Animals change, more or less, in many points of conformation from calthood to maturity. This makes the judging of heifers more difficult than that of cows.

The outstanding points to be considered in judging heifers are length and depth of body, fullness of barrel and chest, and dairy temperament. The development of the udder should be noted, especially the placement of the teats; but since heifers differ a great deal as to the age at which the udder makes the greatest development, this point should not receive so much consideration as with cows in milk. Nor is dairy temperament so pronounced in heifers as in cows. Especially is this true of those that are in calf. These are likely to be heavy in the shoulder and to appear somewhat fatter than the condition that is usually associated with the best dairy temperament. Heifers should be large for their age and should show vigor and a thrifty, growing condition. This is indicated by a sleek coat with a soft, pliable skin.

JUDGING BULLS

From the standpoint of economical dairy production the best bull is the one whose daughters will develop into the best cows. It is obvious that this fact can not be determined in the judging ring. Furthermore, a bull of good conformation and from a high-producing dam may not transmit these characters to his daughters. Therefore, the best way to select a bull is by the performance of his daughters. If a large number of the daughters are of good type and are high producers, it is reasonably certain that the sire will transmit these characteristics to his later daughters regardless of what his own conformation or the record of his dam may be.

When the production records of the daughters of a bull are not available, the records of his dam and her conformation and also the records of his sisters should be used as a guide, as well as the general appearance of the bull himself.

Good size for his age and a long and deep body with full chest are considered desirable points in a bull. He should also be in a thrifty condition, as indicated by a loose, pliable skin, and should show masculinity and vigor. The neck should be medium in length with a prominent crest. Such points as straightness of back, thin hind quarters, level rump, broad head, clean-cut face, and medium-sized ear add to the beauty of the animal and are usually considered in the show ring; but as with cows, there is no evidence that these factors are associated with the ability to transmit production.

SCALE OF POINTS FOR VARIOUS BREEDS

SCALE OF POINTS FOR AYRSHIRE COW²

	Points
Forehead, reasonably broad between the eyes and slightly dished.....	1
Face, of medium length, clean-cut, feminine; the bridge of the nose straight to nostrils.....	1
Muzzle, broad and strong, with large open nostrils.....	2
Jaws, wide at the base, well muscled, and strong.....	1½
Eyes, moderately large, placid, full, and bright.....	1½
Ears, medium size, fine, and carried alertly.....	½
Horns, small at base, not coarse nor too long; inclining upward.....	1½
Neck, medium length, smoothly blending with shoulders and throat, showing feminine refinement.....	2
Shoulders, long, sloping, and tapering from the base to the top of the shoulder blades; neatly and firmly attached to the body wall; tops of the blades not extending to the top of chine.....	5
Chest, full, and wide between and back of forearms; brisket light and refined.....	5
Chine, straight, strong, open jointed, narrow at the top, nicely blending into shoulders, and a well-sprung rib.....	3
Crops, full, level with shoulders.....	4
Barrel, medium length, deep, but strongly held up; rib, well sprung; bones long, flat, and wide apart.....	10
Loin, broad, strong, and level with hips.....	4
Rump, long, wide, top line level to tail head, with pin bones nearly level with hip bones; dishing to thurls.....	7
Hips, wide, level with back line; points well defined and not overlaid with fat.....	2
Pin bones, wide apart, nearly level with hips.....	2
Thurls, widely set, slightly below line from hip bones to pins.....	1
Tail, neatly set, level with back line, long and fine.....	1
Flank, deep, slightly arched, and refined.....	1
Thighs, deep, straight, and trim when viewed from the side; flat and broad on side when viewed from rear; twist well cut out for udder development, with escutcheon well defined.....	2
Mammary development:	
Attachment of udder, attached well forward with a neat and firm junction at body wall; carried high behind, no evidence of breaking of tissues supporting front quarters nor of dropping of floor of udder.....	6
Size and shape of udder, broad, level, capacious, quarters even and of uniform size extending well forward, and high behind; not severely cut between the quarters either through nor across.....	10
Texture of udder, fine, pliable, and of good quality, with light skin.....	4
Size, shape, and placement of teats, convenient size, symmetrical, hanging perpendicular.....	5
Veining and milk wells, mammary veins large, long, tortuous, branching and entering large orifices; small veins clearly defined on udder.....	5
Legs and feet, widely and squarely set under body; clean flat bone; front legs straight; hind legs nearly straight when viewed from rear; hocks neatly and firmly molded; feet round, with plenty of depth at heels.....	8

² Preliminary report, submitted by a joint committee representing the Ayrshire Breeders' Associations of the United States and Canada. Final report not issued at time of going to press. Section 1 covers anatomy only. In addition to the scale of 100 points (sec. 1) based on the anatomy of the Ayrshire cow, supplementary schedules are provided covering breed characteristics (Schedule A) and deficiencies caused by blemishes and unsoundnesses (Schedule B). Before completing the scoring of an animal, it is urged that both supplementary schedules be studied and the proper deductions made from the net anatomical score. Supplemental Schedule A must be computed and any deductions made under this schedule deducted from result of score of section 1 to complete score of an Ayrshire cow. Supplemental Schedule B is to be used as directed in cases of animals showing unnatural defects or blemishes or extreme overfitting.

	Points
Hide and hair, mellow, elastic hide of medium thickness; hair fine and soft-----	4
Perfect score-----	100
Actual score-----	
Points to be deducted for deficiency in breed characteristics-----	
Points to be deducted for blemishes, unsoundnesses, or overfitting-----	
Total deduction-----	
Net score-----	

SCHEDULE A

	Points
Style, alert but docile, having an impressive carriage, graceful walk, and above all, displaying evidence of outstanding dairy character-----	6
Symmetry and balance, a symmetrical balancing of all the parts and the proper proportioning of the various parts to each other-----	7
Weight, mature cows should weigh from 1,100 to 1,400 pounds, depending on period of lactation-----	5
Color, red of any shade, mahogany, brown, or these with white, or white, each color clearly defined; distinctive red and white markings preferable; markings of solid black or brindle strongly objectionable-----	2
Total-----	20

SCHEDULE B

	Deduct up to--
A slight deficiency in 1 quarter of the udder-----	5
A marked undevelopment of 1 or more quarters which are not functioning or 2 slightly deficient quarters-----	15
An udder that has plainly lost evidence of normal attachment and has become entirely pendulous-----	20
Evidence of an obstruction or a side leak in a teat-----	5
An indication of decided lameness which may be permanent-----	10
Lameness plainly indicated to be only temporary-----	3
Minor defects such as blindness in either eye, capped hips, enlarged knees and hocks, slight ruptures, enlarged glands, or other blemishes-----	5
Animals of any age presenting unmistakable evidence of extreme overfitting to the point of impairing future usefulness or preventing reasonable discernment of natural conformation-----	25
Total deductions for blemishes and unsoundnesses-----	

SCALE OF POINTS FOR BROWN SWISS COW OR HEIFER

	Points
Head-----	10
Size and form, medium and rather long-----	2
Face, dished, narrow between horns, and wide between eyes-----	2
Ears, fringed inside with light-colored hair, medium size, and carried alert-----	1
Muzzle, large and square, with mouth surrounded by mealy colored band, nose and tongue black-----	2
Eyes, full and bright-----	2
Horns, short, not too heavy, regularly set with black tips-----	1
Neck, of good length, throat clean, neatly joined to head and shoulders, moderately thin at the withers-----	5
Forequarters-----	9
Shoulders, not too heavy and smoothly blending into body-----	4
Chest, deep and full between and back of forelegs-----	4
Brisket, medium-----	1
Body-----	13
Back, level to setting of tail and broad across the loin-----	6
Ribs, long and broad, wide apart and well sprung-----	3
Barrel, long, deep, and well rounded-----	4
Hind quarters-----	10
Hips, wide, pin bones high and wide apart, rump long and level from hip bones to tail setting-----	6
Thighs, flat and wide apart, giving ample room for udder-----	2
Tail, slender, well set on, with good switch-----	2

	Points
Legs, of medium length and straightness, with good hoofs-----	2
Hide-----	5
Medium thickness, mellow, and elastic-----	3
Color, shades from dark to light brown, at some seasons of the year gray; white splashes on underline of belly are objectionable but do not disqualify; dark smoky skin objectionable; hair between horns usually lighter shade than body-----	2
Udder-----	32
Size, long, wide, deep but not pendulous or fleshy-----	6
Attachment, firmly attached to the body-----	4
Veins, udder veins well developed and plainly visible-----	2
Balance, extending well up behind and far forward, quarters even-----	5
Sole, nearly level and not indented between teats-----	2
Teats, of good uniform length and size, regularly and squarely placed-----	6
Texture, mellow, free from meatiness-----	7
Mammary veins, large, long, tortuous, elastic, and entering good wells-----	6
Disposition, quiet but alert-----	2
General appearance-----	6
Total-----	100

SCALE OF POINTS FOR DUTCH BELTED COW

	Points
1. Body color, black, with a clearly defined continuous white belt. The belt to be of medium width, beginning behind the shoulder and extending nearly to the hips-----	8
2. Head, comparatively long and somewhat dishing; broad between the eyes. Poll, prominent; muzzle, fine; dark tongue-----	6
3. Eyes, black, full and mild. Horns long compared with their diameter-----	4
4. Neck, fine and moderately thin and should harmonize in symmetry with the head and shoulders-----	6
5. Shoulders fine at the top, becoming deep and broad as they extend backward and downward, with a low chest-----	4
6. Barrel large and deep with well-developed abdomen; ribs well rounded and free from fat-----	10
7. Hips broad, and chine level, with full loin-----	10
8. Rump high, long, and broad-----	6
9. Hind quarters long and deep, rear line incurving; tail long, slim, tapering to a full switch-----	8
10. Legs short, clean, standing well apart-----	3
11. Udder large, well-developed front and rear; teats of convenient size and apart; mammary veins large, long, and crooked, entering large orifices-----	20
12. Escutcheon-----	2
13. Hair fine and soft; skin of moderate thickness of a rich, dark, or yellow color-----	3
14. Quiet disposition and free from excessive fat-----	4
15. General condition and apparent constitution-----	6
Perfection-----	100

SCALE OF POINTS FOR GUERNSEY COW

	Points
Style and symmetry, attractive individuality revealing vigor, femininity and breed character; a harmonious blending and correlation of parts; an active well-balanced walk-----	5
Head, moderately long, clean-cut, showing femininity and breed character; a lean face; wide mouth and broad muzzle with open nostrils; strong jaws; full bright eyes with gentle expression; forehead broad between the eyes and moderately dishing; bridge of nose straight-----	5
Horns, yellow, small at base; of medium length; inclining forward; not too spreading-----	1
Neck, long and thin; clean throat, smoothly blending into shoulders-----	2

	Points
Withers, chine rising above shoulder blades, with open vertebrae.....	2
Shoulders, shoulder blades set smoothly against chine and chest wall, forming neat junction with the body.....	2
Chest, wide, and deep at heart with least possible depression back of the shoulders.....	4
Back, appearing straight from withers to hips.....	5
Loin, strong, broad, and nearly level laterally; width carried forward to junction with the ribs.....	3
Hips, wide apart approximately level with the back; free from excess tissue.....	2
Rump, long, continuing with level of the back; approximately level between hip bone and pin bones. Pin bones well apart.....	4
Thurls, wide apart and high.....	2
Barrel; deep and long with well-sprung ribs. Individual ribs: Long, flat wide apart, and free from excess tissue.....	10
Thighs, incurving when viewed from side, thin and wide apart when viewed from rear; well cut up between the thighs.....	2
Legs, flat flinty bone, tendons clearly defined; front legs straight, hind legs nearly upright from hock to pastern, set wide apart and nearly straight when viewed from behind. Pastern, strong and springy.....	2
Hide, loose and pliable, and not thick, with oily feeling; hair, fine and silky.....	3
Tail, long, tapering with neat, strong, level attachment, neatly set between pin bones; fine bone and hair; nicely balanced switch.....	2
Udder, uniformly fine in texture; free from meatiness; covered with pliable velvety skin.....	3
Veins prominent.....	1
Attachment to body, strong, long, and wide.....	4
Extending well forward; extending well up behind.....	4
Sole, level between teats.....	2
Teats, of even convenient size; cylindrical in shape; well apart and squarely placed, plumb.....	3
Mammary veins, long, tortuous, prominent, and branching with large numerous wells.....	3
Secretions indicating color of product, indicated by the pigment secretion of skin which should be a deep yellow inclining toward orange in color; especially discernible in the ear, at the end of bone of tail, around the eyes and nose, on the udder and teats, and at the base of horns; hoofs and horns amber colored.....	20
Color markings, a shade of fawn with white markings.....	2
Size, mature cows, about 1,100 pounds in milking condition.....	2
Total.....	100

SCALE OF POINTS FOR HOLSTEIN-FRIESIAN COW

	Points
Forehead, broad between the eyes; dishing.....	2
Face, of medium length; clean cut; feminine; the bridge of the nose straight.....	1
Muzzle, broad, with strong lips; nostrils, large and open; jaws strong.....	3
Ears, of medium size; of fine texture; well carried.....	1
Eyes, large; full; mild; bright.....	2
Horns, small; tapering finely toward the tips; set moderately narrow at base; inclining forward; well curved inward.....	1
Neck, long; fine and clean at junction with the head; evenly and smoothly joined to shoulder.....	3
Shoulders, slightly lower than the hips; smooth and rounding over tops; moderately broad and full at sides.....	3
Crops, full; level with the shoulders.....	5
Chine, straight; strong; broadly developed, with open vertebrae.....	4
Loin and hips, broad; level or nearly level between the hip bones; level and strong laterally; spreading from chine broadly and nearly level; hip bones fairly prominent.....	6
Rump, long; broad with roomy pelvis; nearly level laterally; full above the thurls; carried out straight to tail head.....	6
Pin bones, wide between; nearly level with hips.....	2

	Points
Thurls, high; broad through.....	2
Tail head and tail, strong at base without coarseness; the setting well back; tail long, tapering finely to a full switch.....	2
Chest, deep; wide; well filled and smooth in the brisket; broad between the forearms; full in the foreflanks.....	6
Barrel, long; deep; well rounded; strongly and trimly held up.....	9
Flanks, deep; full.....	2
Thighs, wide; deep; straight behind; wide and moderately full at the out-sides; twist well cut out and filled with development of udder; escutcheon well defined.....	2
Mammary veins, large, tortuous, entering large orifices or double extension; with additional developments, such as branches and connections entering numerous orifices.....	8
Udder, capacious; flexible; quarters even and of uniform texture, filling the space in the rear below the twist, extending well forward; broad and well attached.....	14
Teats, well formed; plumb; of convenient size; properly placed.....	4
Legs, medium length; clean; nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong, and tapering.....	4
Hair and hide, hair healthy in appearance; fine and soft; hide of medium thickness; mellow and loose.....	8
Total.....	100

SCALE OF POINTS FOR JERSEY COW

DAIRY TEMPERAMENT AND CONSTITUTION

	Points
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 forelegs.....	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 AND GENERAL APPEARANCE

Size, 4:	Points
Mature cows, 800 to 1,000 pounds.....	4
General appearance, 10:	
A symmetrical balancing of all the parts, and a proportion of parts to one another, depending on size of animal, with the general appearance of a high-class animal, with capacity for feed and productiveness at pail.....	10
Total score	100

GENERAL SCORE CARD FOR DAIRY COWS

(Based on indications of capacity for production) ¹

	Perfect score	Value	Student's score	Instructor's score
ALLOWANCES				
Body capacity and size: ²				
Body of such proportions in depth, width, and length as to permit sufficient scale, volume, and full weight for the breed represented.....	Points 30	Percent 0.85	Points 25.5	Points -----
Dairy temperament:				
Showing a tendency to convert feed into milk instead of into body fat and flesh, as indicated by leanness, angularity, and an absence of excess fat, especially over the withers and back, through the thighs, brisket, and neck.....	30	.8	24.0	-----
Mammary system:				
Udder large and capacious, well attached to the body, extending well up behind and far forward, not pendulous, sound, and with uniform quarters, teats of such size and so placed as to be convenient for milking.....	40	.95	38.0	-----
Total score	100		87.5	-----
DEDUCTIONS				
Health, constitution, and fertility: ³				
The above score is allowed regardless of the condition of health, constitution, and fertility of the animal. If defects in these points are apparent, deductions must be made to the extent that the defects warrant.....	0		0.	-----
Final score	100		87.5	-----

¹ If scoring is to be made on basis of breed type, the score cards published by the breed associations should be used.

² Average weight as given by the respective breed associations as indicative of size for Ayrshire, 1,100 pounds; Brown Swiss, 1,250 pounds; Dutch Belted, 1,200 pounds; Guernsey, 1,100 pounds; Holstein-Friesian, 1,250 pounds; Jersey, 900 pounds.

³ If no defect in "health, constitution, and fertility" is observed, the sum of the three items under "Student's score" and "Instructor's score" is brought down as the final score.