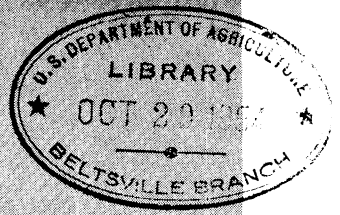


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DAIRY CATTLE BREEDS



Farmers' Bulletin No. 1443
U. S. DEPARTMENT OF AGRICULTURE

SEVERAL BREEDS of cattle in the United States are recognized as specialized dairy breeds. Although much alike in what is known as general dairy conformation, these breeds differ to some extent in certain characteristics. What these characteristics are, the factors to consider in selecting a breed, and the history of the origin and development of the breeds are questions of interest to both the beginner and the established breeder of dairy cattle. These are the topics discussed in this bulletin.

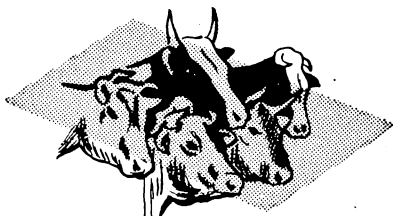
Contents

	Page
Dairy cattle in the United States.....	1
What is a dairy breed?.....	1
Registration.....	2
Which breed to select.....	3
The score card.....	4
Ayrshire.....	6
Brown Swiss.....	12
Guernsey.....	16
Holstein-Friesian.....	20
Jersey.....	24
The American Dairy Cattle Club.....	27
The Purebred Dairy Cattle Association.....	28
Breed associations.....	29

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July 1954

DAIRY CATTLE BREEDS



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Dairy cattle in the United States

About 38,500,000 cattle of all ages were being kept for dairy purposes in the United States on January 1, 1954, according to estimates made by the United States Department of Agriculture. This number includes about 24,700,000 cows and heifers 2 years old and older kept for milk, about 12,800,000 younger heifers and heifer calves being kept for milk cows, and about 1 million bulls and bull calves of the major dairy breeds.

No accurate figures on the number of registered and grade dairy animals are available. It is estimated, however, that some 70 percent of all cattle kept for dairy purposes, or about 27 million, are cattle of the 5 major dairy breeds, namely: Ayrshire, Brown Swiss, Guernsey, Holstein-Friesian, and Jersey. This number includes both registered animals and grade animals in which the characteristics of one breed predominate. Of the other 30 percent, almost 7 million, or 18 percent, are cattle of dual purpose or beef breeding kept mainly for milking; and about 4,500,000, or 12 percent, are mostly cattle of mixed breeding in which the characteristics of no one breed predominate, although a few are cattle of minor dairy breeds, such as Red Dane, Dutch Belted, American Kerry and Dexter, and Charolaise.

It is estimated that between 9 and 10 percent of the 27 million dairy cattle, or 2,570,000, are registered. Much of the improvement in our dairy cattle will continue to come from increasing the number of good registered animals and through the use of registered bulls with good transmitting ability in grade dairy herds. The development of good grade dairy herds from cows of no particular breed can be accomplished in a few generations by the use of good registered dairy bulls, either individually owned or in service in cooperative artificial-breeding associations. For these reasons, registered dairy cattle have played in the past and will play in the future a very important role in the dairy industry of the Nation.

What is a dairy breed?

Cattle in the United States may be divided into four groups, namely, dairy, beef, dual purpose, and mixed or native. Strictly speaking, all cattle are dual purpose, for they all secrete milk to nourish their calves and all may be slaughtered and their flesh used for food. To a limited extent in this country, cattle are used also as beasts of burden.

"Breeds" of cattle result from efforts of herd owners to change their animals in succeeding generations, through selection and mating, to

¹ This is a revision of a former edition that was prepared by A. B. Nystrom (retired).

suit particular needs or fancies. The term "dairy breed" refers to the cattle that are especially well suited to the prolonged production of a quantity of milk well in excess of that required for nourishing their own calves. Such breeds represent the efforts of cattle breeders for many generations toward fixing in the inheritance of their cattle definite characteristics such as size, color, and type of the animals, as well as the quantity and quality of milk produced and persistency of production.

As a result, the inherent ability of dairy cattle to produce milk is greater than that of any of the other classes or groups of cattle named above. This inheritance usually is transmitted to the offspring. Thus, the mating of a "dairy" animal with an animal from one of the other cattle groups usually produces an offspring that is superior to the nondairy parent in milk-producing ability and also in other dairy characteristics.

A "registered" dairy animal is one that has met the requirements for registration set by the organization which sponsors a particular dairy breed and is recorded in the register of such organization. A "grade" is the offspring resulting from the mating of a registered bull with a native cow or one of mixed inheritance, or from mating animals not registered but having near ancestors that are registered. The offspring of a registered animal and a grade is also a grade, and through progressive use of registered bulls such animals become high grade. The names of the breeds (Ayrshire, Brown Swiss, etc.) may refer to either registered or grade animals; and to prevent misunderstanding it is desirable to precede the breed name with the word "registered" or "grade." There are, of course, many unregistered purebreds. These animals meet all the requirements for registration in one of the breed associations but registration has never been requested for them.

In addition to the breeds of dairy cattle mentioned, cows of other breeds, including both the beef and dual purpose, are kept for dairy purposes. These are discussed in Farmers' Bulletin 1779, Beef-Cattle Breeds for Beef and for Beef and Milk.

Registration

To be eligible for registration a dairy animal must be by a sire and from a dam which are recorded by name and number in a register of the breed, commonly called the herdbook. The animal must also meet certain color qualifications and other requirements for registration which are laid down by the particular breed association. Copies of these rules may be obtained by writing to the association concerned, as listed on page 29.

At one time each of the major dairy breed associations published an annual herdbook listing all animals accepted for registration during the year; however, the only association that still issues a printed herdbook is the Holstein-Friesian Association.

The number of dairy cattle registered in the United States each year, 1942-52, by breeds, is shown in table 1.

In addition to the herd register, each breed association also maintains a supplemental register of performance called the "Official Test." The Official Test provides two systems of production testing for breeders of registered dairy cattle. They are: (1) Advanced Registry testing (called Register of Production by the Brown Swiss association

TABLE 1.—*Number of dairy cattle registered each year, by breeds, in the United States, 1942-52*

Year	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	Total
1942-----	17, 713	14, 019	63, 674	106, 624	71, 821	273, 851
1943-----	20, 027	16, 257	75, 521	111, 197	54, 160	277, 162
1944-----	20, 755	17, 494	74, 231	122, 910	56, 471	291, 861
1945-----	21, 517	18, 804	76, 897	113, 446	51, 150	281, 814
1946-----	22, 169	20, 958	80, 612	169, 338	49, 271	342, 348
1947-----	30, 046	23, 137	91, 279	152, 739	86, 376	383, 577
1948-----	26, 113	22, 586	96, 895	168, 338	69, 119	383, 051
1949-----	26, 317	20, 988	89, 906	177, 925	65, 966	381, 102
1950-----	24, 236	22, 342	94, 901	184, 246	68, 973	394, 698
1951-----	25, 463	23, 706	93, 629	191, 638	68, 645	403, 081
1952-----	23, 208	23, 099	113, 909	189, 690	71, 513	421, 419

and Register of Merit by the Jersey association), and (2) Herd Improvement Registry testing. Herd Improvement Registry testing is the only system of testing used by the Ayrshire association.

In the Advanced Registry, a breeder may enter one or more selected cows at any time for lactation records of either 305 or 365 days or both.

The Herd Improvement Registry provides breeders with a method of testing the entire herd. This test is for 1 year and may be started on the first of any month. The Guernsey Herd Test is continuous, and cows are entered as they freshen.

Requirements for admission to the foregoing registers are given in the Uniform Rules for Official Testing published by the Purebred Dairy Cattle Association, whose address is given on page 29.

Which breed to select

Sometimes too much emphasis is given to the question of which breed to choose and too little to the matter of getting good individuals—that is, those that are well bred and are high producers. There are three points, however, that should be considered in deciding which breed to select. These are (1) the breed that predominates in the locality where the new herd is to be located, (2) personal preference, and (3) market requirements for the product.

The breed that predominates

A dairyman just starting with registered animals should as a rule select the same breed as the majority of his neighbors. It is difficult for an isolated small breeder to dispose of his surplus stock to advantage, while if there are many breeders with the same breed, buyers are attracted to the locality because of the better chance of getting the desired animals from one or more of the several breeders.

There are other advantages to a dairyman in having the same breed as his neighbor, such as the possibility of exchanging bulls and of owning good registered bulls cooperatively. These advantages are obtained by those having grade herds as well as by those with registered cows. Then there is also the opportunity for taking advantage of special breed sales of surplus stock, and, lastly, the advantage of bringing the community together in other endeavors which usually result where there is but one breed.

Regional differences in breed preferences

Farmers in the various parts of the country differ considerably with respect to the breed of dairy cattle they prefer. In general, the percentage of Jerseys averages highest in the South and in areas where most of the farmers sell cream. Holsteins are most numerous in sections where the milk is sold largely for making cheese or evaporated milk, but there are also large numbers in the large herds kept in the principal market-milk areas. Guernseys are most numerous in the main dairy States, the numbers kept in market-milk areas depending in part on the differential paid for milk of high color and high test. Ayrshires and Brown Swiss are distributed somewhat as are Guernseys, but there are relatively few in the South and West. Milking Shorthorns are most numerous where beef production is important, chiefly in the central and western portions of the Corn Belt and in the Great Plains area.

Personal preference

In a district where no breed is established, or in sections where several breeds are about equally represented, the prospective breeder must be guided largely by his personal preference. A farmer usually takes a liking to one breed, for reasons not easily explainable. Naturally, he would take more interest in caring for animals of that breed than for those of a breed that he does not like so well.

Personal preference, however, must not overshadow the matter of quality of individual animals. If high-producing individuals of the breed not so well liked are available at reasonable cost, and individuals of the same quality of the breed well liked are not available except at a much higher cost, it may be wiser to select the former, for usually a dairyman soon begins to like a breed with which he is doing well.

Market requirements for product

Market requirements for the product should not be overemphasized in selecting the breed. For a time a dairyman may sell his product in a market where low-testing milk has the advantage, while later conditions may change, and a high-testing milk will sell to better advantage. Obviously, a breeder cannot shift from one breed to another to meet the fluctuations in market demands.

When one is selling to a city milk plant, however, the price paid for the extra butterfat over the basic test, or deducted from the standard price when the milk is below basic test, may well be considered in selecting the breed. The point here is that sometimes in some milk markets the differential may favor high-testing milk, and at other times or in other markets it may favor low-testing milk.

In summing up the matter of which breed to select, this point should be kept in mind—there are good cows and poor cows in all breeds and, other things being equal, the breeder or dairyman who gets good individuals to begin with and who takes proper care of the animals and the milk will have a good chance for success no matter what breed he selects.

The score card

A score card for dairy cows and one for dairy bulls were adopted by the Purebred Dairy Cattle Association and approved by the American Dairy Science Association in 1943. The purpose of the score card

is to teach beginners the art of judging and also to describe for breeders and others the type of animals considered ideal for each of the breeds. These score cards, which are shown in part on pages 7 and 8, show arbitrary values or scores for the various points of conformation and thus emphasize the ones requiring special attention by breeders. The breed characteristics for each of the five major breeds are discussed on subsequent pages in this bulletin.

On the back of the score card is a diagram which gives the names and the location of the various parts or points of conformation of the animal. Figure 1 is a copy of the diagram on the back of the dairy cow score card. A similar diagram appears on the back of the dairy bull score card. These cards also show on the reverse side the ideal types in natural colors of all five breeds, illustrating both bulls and cows. Copies of these cards may be obtained by writing to the Purebred Dairy Cattle Association, whose address is given on page 29.

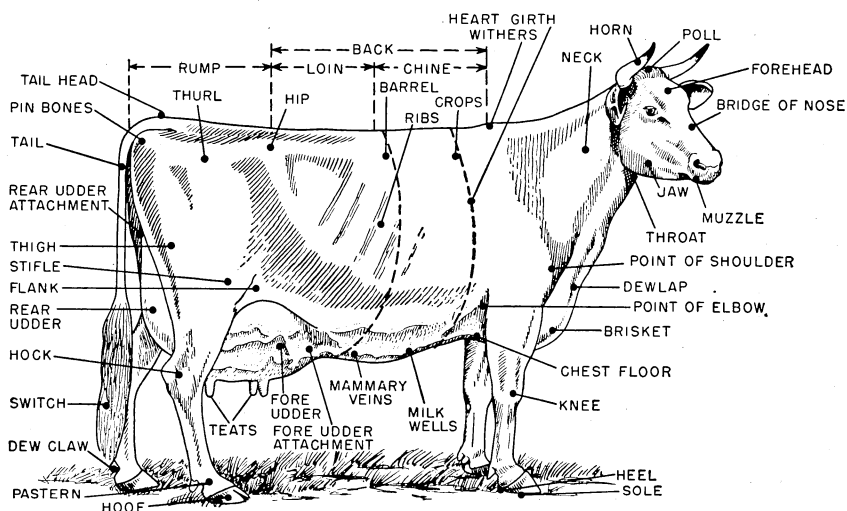


FIGURE 1.—Diagram of cow, showing names and location of parts.

Evaluation of Defects

The score card for cows also gives the following instructions on how to evaluate the defects found on the animal being judged:

In a show ring, disqualification means that the animal is not eligible to win a prize. Any disqualified animal is not eligible to be shown in the group classes. In slight to serious discrimination, the degree of seriousness shall be determined by the judge.

Eyes

1. Total blindness: *Disqualification.*
2. Blindness in one eye: *Slight discrimination.*

Wry face

Serious discrimination.

Parrot jaw

Slight to serious discrimination.

Shoulders

Winged: Slight to serious discrimination.

Capped hip

Slight discrimination.

Tail setting

Wry tail or other abnormal tail settings: *Slight to serious discrimination.*

Legs and feet

1. Lameness—apparently permanent and interfering with normal function: *Disqualification.*
—apparently temporary and not affecting normal function: *Slight discrimination.*
2. Bucked knees, blemished hocks, crooked hind legs, weak pasterns: *Serious discrimination.*
3. Evidence of arthritis, crampy hind leg: *Serious discrimination.*
4. Enlarged knees: *Slight discrimination.*

Absence of horns

No discrimination.

Lack of size

Slight to serious discrimination.

Udder

1. One or more blind quarters: *Disqualification.*
2. Abnormal milk (bloody, clotted, watery): *Possibly disqualification. A slight to serious defect.*
3. Udder definitely broken away in attachment: *Serious discrimination.*
4. A weak udder attachment: *Slight to serious discrimination.*
5. One or more light quarters, hard spots in udder, side leak or obstruction in teat (spider): *Slight to serious discrimination.*

Dry cows

In case of cows of apparently equal merit: *Give preference to cows in milk.*

Overconditioned

Serious discrimination.

Temporary or minor injuries

Blemishes or injuries of a temporary character not affecting animal's usefulness: *Slight discrimination.*

Evidence of sharp practice

1. Animals showing signs of having been operated upon or tampered with for the purpose of concealing faults in conformation, or with intent to deceive relative to the animal's soundness: *Disqualification.*
2. Heifer calves showing evidence of having been milked in an attempt to deceive regarding natural form of udder: *Serious discrimination.*

A comparison of the score card for bulls with the score card for cows shows minor differences, such as in the parts relating to masculinity as contrasted with mammary development in cows. Otherwise the two score cards are the same. (See pp. 7 and 8.)

Ayrshire

Origin and history

The Ayrshire breed originated in southwestern Scotland, in the county of Ayr, in the latter part of the eighteenth century. Doubtless cattle from several neighboring countries were used in the formation of the breed, though there is no record of direct foreign importations to the county of Ayr at that time. While this foreign blood probably had a good effect on the ultimate value of the breed, the substantial and efficient development of the breed seems to have come about mostly through subsequent judicious selection and mating.

DAIRY COW SCORE CARD

Based on Order of Observation	Perfect Score
1. GENERAL APPEARANCE	30
<i>Attractive individuality, revealing vigor, femininity with a harmonious blending and correlation of parts. Impressive style and attractive carriage with a graceful walk.</i>	12
BREED CHARACTERISTICS (see below)	—
HEAD —medium in length, clean-cut; broad muzzle with large open nostrils; lean, strong jaw; full, bright eyes; forehead broad between the eyes and moderately dishd; bridge of nose straight; ears medium size and alertly carried.	—
SHOULDER BLADES set smoothly against chest wall and withers, forming neat junction with the body.	—
BACK strong and appearing straight with vertebrae well defined.	—
LOIN broad, strong and nearly level.	—
RUMP long, wide; top-line level from loin to and including tail head.	10
HIPS wide, approximately level laterally with back, free from excess tissue.	—
THURLS wide apart.	—
PIN BONES wide apart and slightly lower than hips, well defined.	—
TAIL HEAD slightly above and neatly set between pin bones.	—
TAIL long and tapering with nicely balanced switch.	—
LEGS wide apart, squarely set, clean-cut and strong with fore legs straight.	8
HIND LEGS nearly perpendicular from hock to pastern. When viewed from behind, legs wide apart and nearly straight. Bone, flat and flinty, tendons well defined.	—
Pasterns, of medium length, strong and springy. Hocks cleanly moulded.	—
FEET short and well rounded, with deep heel and level sole.	—
2. DAIRY CHARACTER	20
<i>Animation, angularity, general openness, and freedom from excess tissue, giving due regard to period of lactation.</i>	—
NECK long and lean, blending smoothly into shoulders and brisket; clean-cut throat and dewlap.	20
WITHERS well defined and wedge-shaped with the dorsal processes of the vertebrae rising slightly above the shoulder blades.	—
RIBS wide apart. Rib bone wide, flat and long.	—
FLANK deep, arched and refined.	—
THIGHS incurving to flat from the side; wide apart when viewed from the rear, providing sufficient room for the udder and its attachment.	—
SKIN of medium thickness, loose, and pliable. Hair fine.	—
3. BODY CAPACITY	20
<i>Relatively large in proportion to size of animal, providing ample digestive capacity, strength and vigor.</i>	12
BARREL deep, strongly supported, ribs wide apart and well sprung; depth and width tending to increase toward rear of barrel.	—
HEART GIRTH large, resulting from long, well sprung foreribs, wide chest floor between front legs, and fullness at the point of elbow.	8
4. MAMMARY SYSTEM	30
<i>A capacious, strongly attached, well carried udder of good quality, indicating heavy production and a long period of usefulness.</i>	—
UDDER — CAPACITY and SHAPE , long, wide and of moderate depth. Extending well forward, strongly attached, reasonably level floor. Rear attachment, high and wide. Quarters evenly balanced and symmetrical.	25
TEXTURE soft, pliable and elastic. Well collapsed after milking.	—
TEATS uniform, of convenient length and size, cylindrical in shape, free from obstructions, well apart and squarely placed, plumb.	—
MAMMARY VEINS long, tortuous, prominent and branching, with numerous large wells.	5
Veins on udder numerous and clearly defined.	—
TOTAL	100

DAIRY BULL SCORE CARD

Based on Order of Observation	Perfect Score
1. GENERAL APPEARANCE	30
<i>Attractive individuality, revealing vigor, masculinity with a harmonious blending and correlation of parts. Impressive style and attractive carriage with an active, well balanced walk.</i>	20
BREED CHARACTERISTICS (see below)	
HEAD masculine, medium in length, clean-cut; broad muzzle with large open nostrils; lean, strong jaw; full, bright eyes; forehead broad between the eyes and moderately dished; bridge of nose straight; ears medium size and alertly carried.	
SHOULDER BLADES set smoothly against chest wall and withers, forming neat junction with the body.	
BACK strong and appearing straight with vertebrae well defined.	
LOIN broad, strong and nearly level.	
RUMP long, wide; top-line level from loin to and including tail head.	10
HIPS wide, approximately level laterally with back, free from excess tissue.	
THURLS wide apart.	
PIN BONES wide apart and slightly lower than hips, well defined.	
TAIL HEAD slightly above and neatly set between pin bones.	
TAIL long and tapering with nicely balanced switch.	
2. DAIRY CHARACTER	35
<i>Animation, angularity, general openness, and freedom from excess tissue.</i>	
NECK masculine and long, with moderate crest blending smoothly into shoulders. Clean-cut throat, brisket and dewlap.	
WITHERS well defined and wedge-shaped with the dorsal processes of the vertebrae rising slightly above the shoulder blades.	
RIBS well arched, wide apart, rib bone flat, wide and long.	
FLANKS arched and refined.	
THIGHS when viewed from the side, flat; when viewed from the rear, wide apart. Well cut-up between the thighs.	35
SKIN of medium thickness, loose and pliable. Hair fine.	
TESTICLES both normal. Scrotum normal.	
RUDIMENTARY TEATS wide apart, squarely placed and in front of scrotum.	
MAMMARY VEINS large, long and well defined.	
3. BODY CAPACITY	20
<i>Relatively large in proportion to size of animal, and deep at the flank, providing ample digestive capacity, strength and vigor.</i>	
BARREL deep, strongly supported, ribs wide apart, and well sprung.	10
HEART GIRTH large, resulting from long, well sprung foreribs, wide chest floor between front legs, and fullness at the point of elbow.	10
4. LEGS AND FEET	15
FORE LEGS medium in length, straight, wide apart, squarely placed. Feet short, and well rounded, with deep heel and level sole.	5
HIND LEGS when viewed from the side, nearly perpendicular from hock to pastern. When viewed from the rear, legs wide apart and nearly straight. Bone, flat and flinty, tendons well defined. Pasterns, of medium length, strong, and springy. Hocks cleanly moulded. Feet same as above.	10
TOTAL	100

Importation and distribution

The first importation of Ayrshires into the United States occurred in 1822. Since then Ayrshires have been imported almost every year, either from Scotland or from Canada. It is estimated that on January 1, 1952, there were approximately 175,130 living registered Ayrshires in the United States,² but the total number (registered and grade) is not known. Ayrshires are scattered through practically all of the States, though by far the largest numbers are in the North-eastern States.

General characteristics

The score cards for bulls and cows adopted by the Purebred Dairy Cattle Association describe the Ayrshire characteristics as follows:

Color.—Red of any shade, mahogany, brown or these with white, or white, each color clearly defined. Distinctive red and white markings preferable; black or brindle markings strongly objectionable.

Size.—A mature cow in milk should weigh about 1,150 pounds and a mature bull in breeding condition 1,800 pounds.

Horns should incline upward, small at base, refined, medium length and tapering toward tips.

The Ayrshire (figs. 2, 3, and 4) has a well-built, stocky body, not heavily covered with flesh, but giving the appearance of possessing great vigor and vitality. The calves weigh from 60 to 80 pounds at birth. The cows are noted for their symmetrical udders, which usually extend well forward and are attached high behind with no

² This figure has been elaculated from yearly registrations, allowances for deaths being estimated.

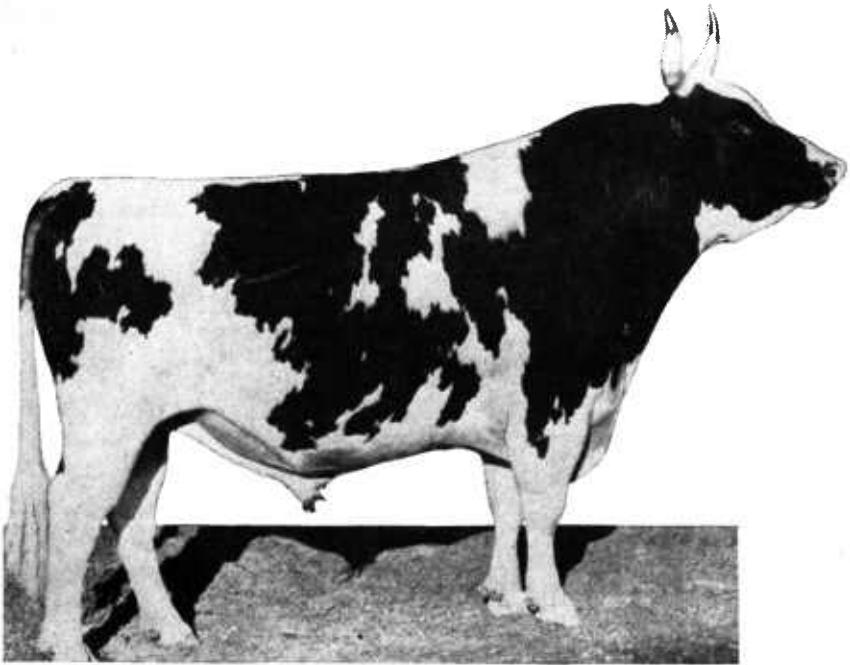


FIGURE 2.—Ayrshire bull, Netherball Swanby Dan 58641. Grand Champion, Dairy Cattle Congress, 1947.

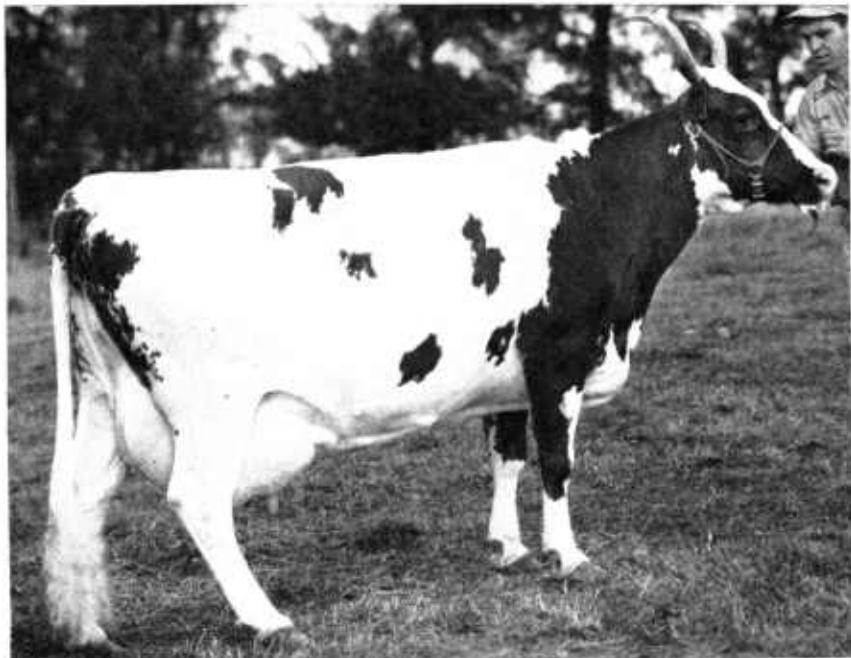


FIGURE 3.—Ayrshire cow, Neshaminy Miss Phett 269618. This cow holds the highest yearly butterfat record (for cows milked twice a day for 305 days) of all the breeds in the United States.

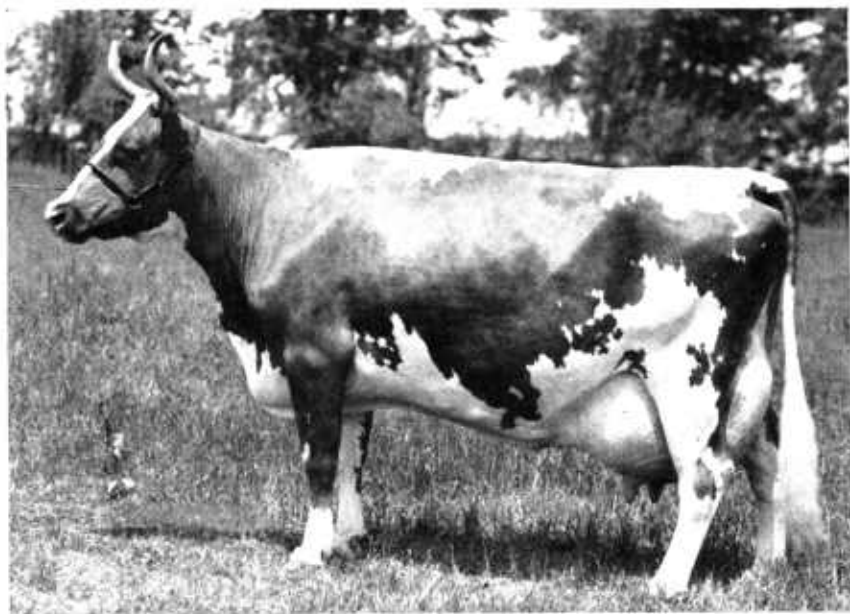


FIGURE 4.—Ayrshire cow, Par's Red Shelia 177636. Highest milk producer of the breed in the United States.

tendency to be pendent. The quarters of the udder are generally even; the teats medium in size and well-placed.

Production

Ayrshire milk contains about 4 percent of butterfat, which is about average for all the dairy breeds. The Ayrshire association discontinued Advanced Registry testing on January 1, 1941. However, under their policy of nonselection of records, average production for the breed in 1951 was 9,473 pounds of milk and 387 pounds of butterfat, and a test of 4.08 percent (11,913 records calculated to a mature-equivalent, twice-a-day milking basis). Using only 305-day lactation records, the breed average in 1951 was 10,332 pounds of milk and 424 pounds of butterfat (mature-equivalent, twice-a-day milking basis).

The 10 highest milk records and the 10 highest butterfat records made by Ayrshire cows up to July 1, 1952, under herd-test rules, are given in table 2.

TABLE 2.—*The 10 highest milk records and the 10 highest butterfat records made by Ayrshire cows under Herd-Test rules, up to July 1, 1952*

MILK ¹					
Cow	Age when record began		Days milked	Daily milkings	Production
	Year	Month	Number	Number	Pounds
Par's Red Shelia 177636.....	12	0	305	2	24, 557
Neshaminy Miss Phett 269618.....	8	2	305	2	24, 261
Laneway Spottie's Mistress 230908.	9	7	305	2	22, 603
Par's Red Shelia 177636.....	10	11	305	2	21, 652
Neshaminy Katie 249259.....	9	5	305	2	21, 049
Strathglass Brown Peg 200949.....	8	11	305	2	20, 915
Alta Crest Jonquil 191992.....	9	0	305	2	20, 833
Delchester Audacious Netty 2nd 149074.....	12	6	305	2	20, 731
Laneway Spottie's Mistress 230908.	8	6	305	2	20, 626
Laneway Spottie's Mistress 230908.	6	4	305	2	20, 366

BUTTERFAT ²					
Neshaminy Miss Phett 269618.....	8	2	305	2	1, 036
Par's Red Shelia 177636.....	12	0	305	2	937
Laneway Spottie's Mistress 230908.	9	7	305	2	930
Strathglass Brown Peg 200949.....	8	11	305	2	874
Neshaminy Katie 249259.....	9	5	305	2	858
Laneway Spottie's Mistress 230908.	6	4	305	2	848
Par's Red Shelia 177636.....	10	11	305	2	844
Clove Branch Odette P 233146.....	5	5	305	2	838
Laneway Spottie's Mistress 230908.	8	6	305	2	833
Alta Crest Jonquil 191992.....	9	0	305	2	832
Neshaminy Grace 281194.....	3	1	305	2	753

¹ Mature-equivalent, 4-percent fat-correct basis.

² Actual basis.

Bulls

Table 3 lists 9 registered Ayrshire bulls that were proved in dairy-herd-improvement associations and reported in the Bureau of Dairy Industry proved-sire lists, published by the United States Department

of Agriculture up to January 1, 1952. For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had 20 or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 pounds or more.

(3) His daughters must have produced an average of 400 pounds or more of butterfat.

Records of the daughters and of their dams were converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records was taken.

The nine sires that met these conditions are listed according to the butterfat production of the daughters.

TABLE 3.—*Nine registered Ayrshire sires proved in dairy-herd-improvement associations, selected according to requirements described in text*

Name and number of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	Pounds	Pounds
Penshurst Donell 55200.....	27	508	105
Neshaminy Golden Boy 63633.....	21	468	61
Whitpain Martyr 54174.....	24	433	82
Whitpain Man O' War 62636.....	24	427	29
Illini Donella Magnet 59968.....	20	425	71
Glen Foerd Titan (twin) 46893.....	20	407	70
Whitpain Request 58179.....	23	405	51
Penshurst Man O' War 30th 51943.....	29	403	60
Talisman Gay Lad 59047.....	26	402	25

Brown Swiss

Origin and history

The original home of the Brown Swiss breed is in Switzerland, where the breed has been developed during many centuries. It is probably one of the oldest in existence, and it is thought that no outside blood has been introduced since records began.

Importation and distribution

The first importation of Brown Swiss into the United States was made in Massachusetts in 1869, and the next was made in 1882. Several small importations have been made since, but there have been only a few importations since 1906 because of regulations resulting from the prevalence of foot-and-mouth disease in Europe. It is estimated that on January 1, 1952, there were approximately 151,240 living registered Brown Swiss cattle in the United States,³ but the total number (registered and grade) is not known. Brown Swiss are found in nearly all States, the largest numbers being in Illinois,

³ See footnote 2, p. 9.

Iowa, Wisconsin, Ohio, Indiana, Minnesota, Michigan, New York, and Pennsylvania.

General characteristics

The score cards for bulls and cows adopted by the Purebred Dairy Cattle Association describe the Brown Swiss characteristics as follows:

Color.—A shade of brown varying from a silver to a dark brown. Hair inside ears is a lighter color than body. Nose and tongue black, with a light colored band around nose. Color markings which bar registry are: White switch, white on sides, top head or neck and legs above knees or hocks. White on belly or lower legs objectionable.

Size.—Strong and vigorous. Size and ruggedness with quality desired. Extreme refinement undesirable. A mature cow in milk should weigh about 1,400 pounds. A mature bull in breeding condition should weigh about 1,900 pounds.

Horns.—Inclining forward and slightly up. Moderately small at base, medium length, tapering toward black tips.

The large frame of the Brown Swiss cattle (figs. 5, 6, and 7) indicates that they have been developed for service as draft animals as well as for milk. The calves weigh from 65 to 90 pounds at birth. The heifers mature somewhat more slowly than do those of the other dairy breeds.

Production

The Brown Swiss produce milk that is average in butterfat test as compared with the milk produced by the other breeds of dairy cattle. The 5,924 cows and heifers that had completed official yearly and 305-day production records and had been admitted to the Register of Production up to October 1, 1951, had an average production per cow of 12,562 pounds of milk and 511 pounds of butterfat, and an average test of 4.06 percent.

Under herd-test rules, Brown Swiss cows and heifers had completed 28,708 records up to October 1, 1951, with an average production of



FIGURE 5.—Brown Swiss bull, Lee's Hill Keeper's Asset. Grand Champion, leading dairy shows, 1951.

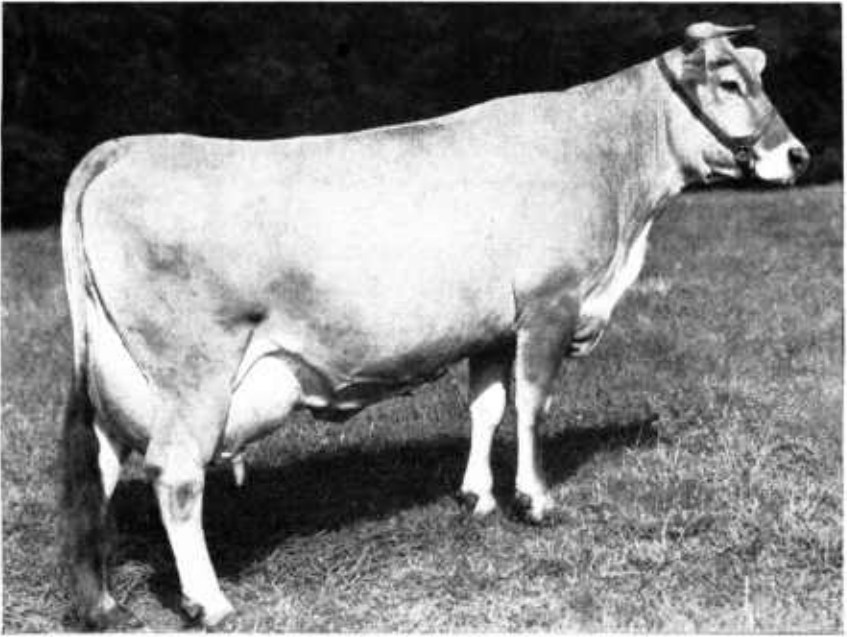


FIGURE 6.—Brown Swiss cow, Royal's Rapture of Lee's Hill 115541. Highest milk and butterfat producer of the breed in the United States.

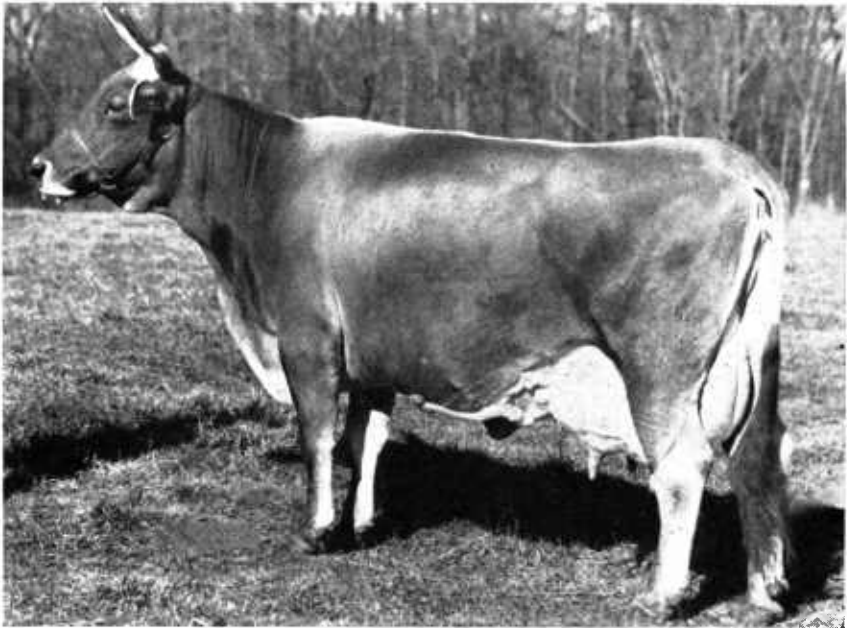


FIGURE 7.—Brown Swiss cow, Marinda Jane of Lee's Hill 90074. Grand Champion, leading dairy shows, 1951.

9,711 pounds of milk and 390 pounds of butterfat, and a test of 4.01 percent.

The 10 highest milk records and the 10 highest butterfat records made by Brown Swiss cows up to January 1, 1952, and the conditions under which the records were made, are given in table 4.

TABLE 4.—*The 10 highest milk records and the 10 highest butterfat records made by Brown Swiss cows, up to Jan. 1, 1952*

MILK

Cow	Age when record began		Days milked	Daily milkings	Production
	Year	Month	Number	Number	Pounds
Royal's Rapture of Lee's Hill 115541	8	0	365	3	31,283.1
Gypsie Jane of Lee's Hill 98789	8	10	365	3	30,673.4
Blue's Beauty R's Babe 141803	7	3	365	3	30,465.5
Illini Nellie 26578	8	4	365	3	29,569.5
Mary's Nell 36395	6	11	365	3	29,487.2
Royal's Aster of Lee's Hill 115540	7	1	365	3	29,431.6
Lady's Gypsy Girl F. 86633	10	3	365	3	29,285.3
Royal's Rapture of Lee's Hill 115541	5	11	365	3	29,095.7
Marina of Lee's Hill 90062	9	9	365	3	29,019.0
Gypsy F.'s Wallace Gertrude 130682	7	5	365	3	28,763.4

BUTTERFAT

Royal's Rapture of Lee's Hill 115541	8	0	365	3	1,378.97
Royal's Gina of Lee's Hill 90066	10	8	365	3	1,359.71
Gypsie Jane of Lee's Hill 98789	8	10	365	3	1,358.18
Royal's Aster of Lee's Hill 115540	7	1	365	3	1,241.18
Royal's Rapture of Lee's Hill 115541	5	11	365	3	1,228.84
Royal's Gina of Lee's Hill 90066	8	10	365	3	1,210.34
Clepe's Best M. B. 95788	7	6	365	3	1,207.52
Lady's Gypsy Girl F. 86633	10	3	365	3	1,201.64
Illini Nellie 26578	8	4	365	3	1,200.41
Lady's Gypsy Girl F. 86633	11	7	365	3	1,192.71

Bulls

Table 5 lists 10 registered Brown Swiss bulls that were proved in dairy-herd-improvement associations and reported in the Bureau of Dairy Industry proved-sire lists, published by the United States Department of Agriculture up to January 1, 1952. For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had 20 or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 pounds or more.

(3) His daughters must have produced an average of 400 pounds or more of butterfat.

Records of the daughters and of their dams were converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records was taken.

From the 18 sires that met these conditions the 10 whose daughters average the highest in butterfat production were selected.

TABLE 5.—*Ten registered Brown Swiss sires proved in dairy-herd-improvement associations, selected according to requirements described in text*

Name and number of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	<i>Number</i>	<i>Pounds</i>	<i>Pounds</i>
Privet's Royal Junior of Lee's Hill 37565	25	526	75
Colonel Harry of J. B. 48672	65	514	36
Judd's Bridge Henry 58254	21	510	48
Double Jane Deisgn 53913	34	498	51
Royal Jane's Max of Vernon 43976	23	495	60
Melanie's Royal of Lee's Hill 48098	26	488	50
Foxwood's Dusty 43418	20	488	72
Gail's Royal of Lee's Hill 42947	34	487	39
Sergeant Major of Lee's Hill 45417	50	475	45
Nevard of Bowerhome 23652	31	475	89

Guernsey

Origin and history

The Guernsey breed originated in the Channel Islands, near the north coast of France. It is thought that this breed was developed from a cross between the large red and brindle cattle of Normandy and the small red cattle of Brittany, in France. The exact date of origin is unknown, but it was probably in the latter part of the seventeenth century or before.

All the cattle in the Channel Islands were at one time known as Alderneys. After laws had been enacted forbidding the importation of cattle from the Continent or between the islands of Guernsey and Jersey, two distinct breeds came to be recognized. The one on the islands of Alderney, Sark, and Guernsey became known as the Guernsey breed and the one on Jersey Island as the Jersey breed. The first score card for Guernseys was adopted on the Isle of Guernsey in 1817.

Importation and distribution

The first Guernseys whose ancestors could be recorded in the American Guernsey Cattle Club Register were brought to the United States in 1830. A few more were imported in the next two decades, but not until 1870 were extensive importations made. The American Guernsey Cattle Club was formed in 1877. Since that time importations have been made nearly every year except when there were no shipments because of the war.

It is estimated that there were approximately 623,670 living registered Guernseys in the United States on January 1, 1952,⁴ but the

⁴ See footnote 2, p. 9.

total number (registered and grade) is not known. Guernseys are found in all of the States but are most numerous in Pennsylvania, Wisconsin, Ohio, New York, Indiana, Virginia, and Michigan.

General characteristics

The score card for bulls and cows adopted by the Purebred Dairy Cattle Association describe the characteristics of Guernseys (figs. 8, 9, and 10) as follows:

Color.—A shade of fawn with white markings clearly defined, black or brindle markings objectionable. Skin should show golden yellow pigmentation. When other points are equal, a clear or buff muzzle will be favored over a smoky or black muzzle.

Size.—A mature cow in milk should weigh about 1,100 pounds. A mature bull in breeding condition should weigh about 1,700 pounds. The calves at birth weigh from 55 to 85 pounds.

Horns.—Inclining forward, small and yellow at base, refined, medium in length and tapering toward tips.

Production

Guernsey milk usually carries a high percentage of butterfat and a yellow color.

The 171,282 Guernsey cows and heifers of all ages that had completed official yearly and 305-day production records in the Advanced Registry up to June 15, 1952, had an average production per cow of 9,816 pounds of milk and 484 pounds of butterfat, and an average test of 4.9 percent.

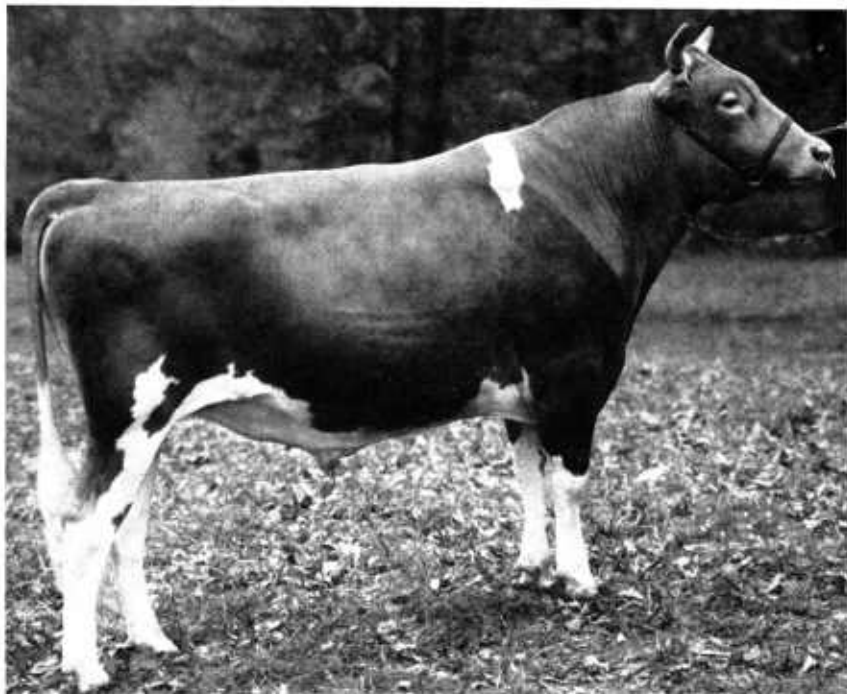


FIGURE 8.—Guernsey bull, McDonald Farms Steadfast Odin 452454. National Grand Champion, National Guernsey Show, 1951.

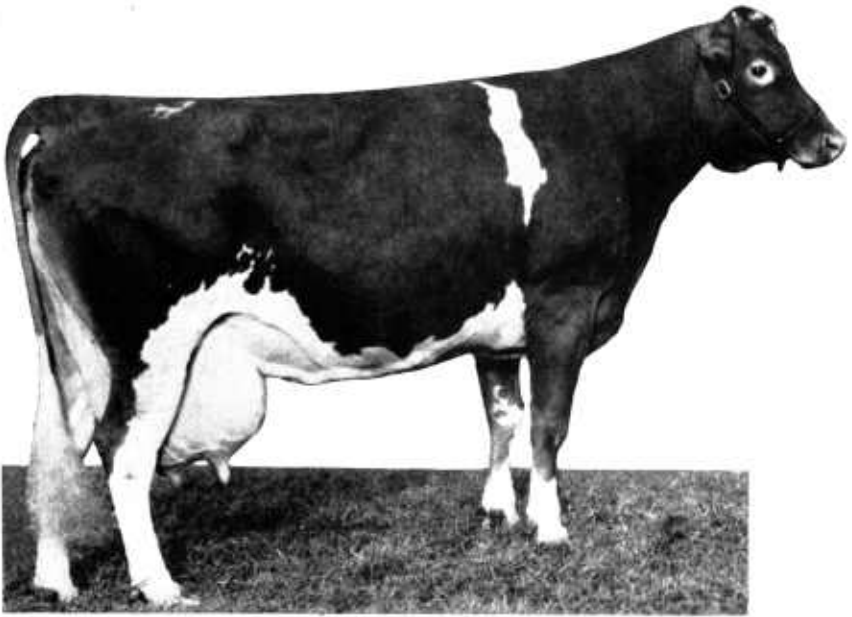


FIGURE 9.—Guernsey cow, Cathedral Rosalie 334299. Highest butterfat producer of the breed in the United States.

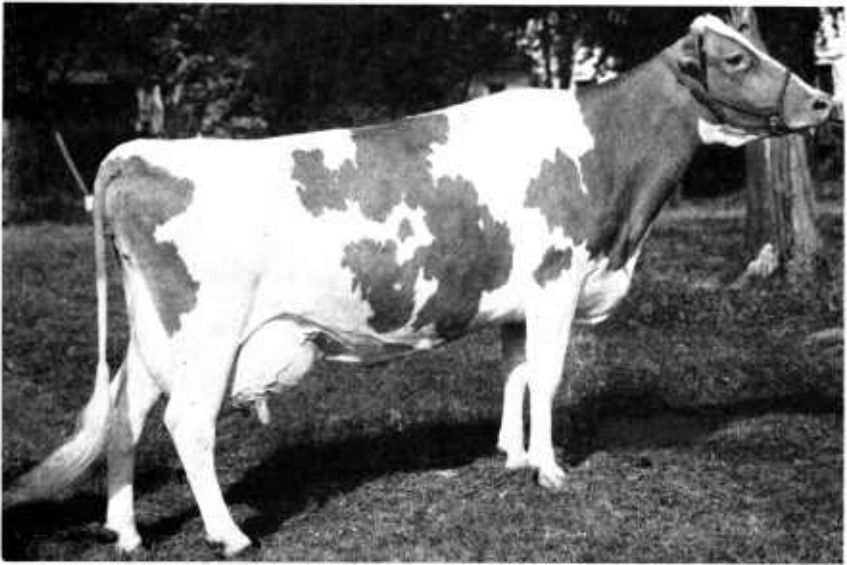


FIGURE 10.—Guernsey cow, Welcome In Forward's Clara 957836. Highest milk producer of the breed in the United States.

Under herd-test rules, Guernsey cows and heifers had completed 97,312 records up to June 15, 1952, with an average production of 8,175 pounds of milk and 397 pounds of butterfat, and a test of 4.8 percent.

The 10 highest milk records and the 10 highest butterfat records made by Guernsey cows up to June 15, 1952, and the conditions under which the records were made, are given in table 6.

TABLE 6.—*The 10 highest milk records and the 10 highest butterfat records made by Guernsey cows, up to June 15, 1952*

MILK					
Cow	Age when record began		Days milked	Daily milkings	Production
	Year	Month	Number	Number	Pounds
Welcome In Forward's Clara 957836	6	7	365	3	26, 672
Franchester Saint Charm 770885	7	4	¹ 365	3	24, 578
Murne Cowan 19597	8	9	365	4	24, 008
Ideal's L. D.'s Ella Mae 950465	4	10	¹ 365	3	23, 744
Cathedral Rosalie 334299	5	0	365	3	23, 714
Kokosing's Hilda 792638	7	6	365	3	23, 422
Ideal's Peter's May Jewel 912964	7	0	¹ 365	3	23, 364
Ideal's Peter's May Jewel 912964	5	8	365	3	23, 275
Spar Hill Clematis 775040	7	0	365	3	23, 096
Grassland Zenoria 185315	6	6	365	4	22, 848

BUTTERFAT					
Cow	Age when record began		Days milked	Daily milkings	Production
	Year	Month	Number	Number	Pounds
Cathedral Rosalie 334299	5	0	365	3	1, 213
Ideal's Peter's May Jewel 912964	7	0	¹ 365	3	1, 210
Spot's Whittie 821943	8	9	¹ 365	3	1, 206
Spar Hill Clematis 775040	7	0	365	3	1, 205
Ideal's Peter's May Jewel 912964	5	8	365	3	1, 194
Noranda's Milkmaid 266975	7	0	365	3	1, 155
Flying Horse Royal Rose 641767	5	11	¹ 365	3	1, 154
Ideal's-L. D.'s Ella Mae 950465	4	10	¹ 365	3	1, 137
Welcome In Forward's Clara 957836	6	7	365	3	1, 120
Anesthesia Faith of Hill Stead 114354	4	11	365	3	1, 112

¹ Carried calf for 200 days.

Bulls

Table 7 lists 10 registered Guernsey bulls that were proved in dairy-herd-improvement associations and reported in the Bureau of Dairy Industry proved-sire lists, published by the United States Department of Agriculture up to July 1, 1952. For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had 20 or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 pounds or more.

(3) His daughters must have produced an average of 400 pounds or more of butterfat.

Records of the daughters and their dams were converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records was taken.

From the 56 sires that met these conditions the 10 whose daughters average the highest in butterfat production were selected.

TABLE 7.—*Ten registered Guernsey sires proved in dairy-herd-improvement associations, selected according to requirements described in text*

Name and number of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	Pounds	Pounds
Florham Superior 70439.....	29	518	131
Mt. Ararat Royal Valor 343167.....	25	516	36
Dorella Rival's Soldier 316392.....	32	504	70
Hasty Pudding of Whimsey Farm 219292.....	26	493	49
Count Sterling 287309.....	20	485	37
Valleywood Valiant Hero 235690.....	30	483	41
Monarch's Challenger 245978.....	20	482	28
Hilltop Butterfat Chief 272919.....	21	469	57
Golden Steadfast 224508.....	22	467	45
Masterful's John of Hillside 260741.....	22	467	35

Holstein-Friesian

Origin and history

The cattle from which our present Holstein-Friesian breed has descended were developed in the northern part of the Netherlands, especially in the Province of Friesland, and in the neighboring Provinces of northern Germany. The time of their origin as a recognized distinct breed is unknown, but it is probable that they have been selected for their dairy qualities for about 2,000 years.

Before 1885 there were two associations furthering the interests of this breed in the United States. One maintained a Holstein herdbook, and the other a Dutch-Friesian herdbook. In 1885 the two associations were combined into the Holstein-Friesian Association of America, and from that time on only one herd register has been maintained. This is known as the Holstein-Friesian herdbook. While the official name of the breed is Holstein-Friesian, the single word "Holstein" is more common in ordinary use.

Importation and distribution

The first importations of Holsteins into the United States were made in 1795, and afterwards a few were brought in from time to time up to 1879, following which heavy importations were made each year until 1887. Thereafter only a few were imported up to 1905, and since then, because of the prevalence of foot-and-mouth disease in Europe, very few have been imported.

It is estimated that there were approximately 1,148,000 living registered Holsteins in the United States on January 1, 1952,⁵ but the

⁵ See footnote 2, p. 9.

total number (registered and grade) is not known. Holstein cattle are found throughout all the 48 States, though by far the largest numbers are in New York, Wisconsin, Pennsylvania, Michigan, Ohio, and Illinois, in the order named. These 6 States probably contain more than 60 percent of the registered Holstein cattle in the United States.

General characteristics

The Holsteins (figs. 11, 12, and 13) are the largest of the dairy breeds. The score cards for bulls and cows adopted by the Purebred Dairy Cattle Association describe the Holstein characteristics as follows:

Color.—Black and white markings clearly defined. Color markings which bar registry are solid black, solid white, black in switch, black belly, black encircling leg touching hoof, black from hoof to knee or hock, black and white intermixed to give color other than distinct black and white.

Size.—A mature cow in milk should weigh about 1,500 pounds. A mature bull in breeding condition should weigh about 2,000 pounds. Calves at birth weigh from 70 to 105 pounds.

Horns.—Inclining forward, incurving, small at base, refined, medium length and tapering toward tips.

Production

The Holsteins produce a large quantity of milk with a comparatively low butterfat content.

The 94,925 Holstein cows and heifers of all ages that had completed official yearly and 10-month production records in the Advanced Registry up to December 31, 1951, had an average production per cow of 15,636 pounds of milk and 545 pounds of butterfat, and an average test of 3.49 percent.



FIGURE 11.—Holstein bull, Smithland Supreme Champion 1017963. Grand Champion, Dairy Cattle Congress, 1951.

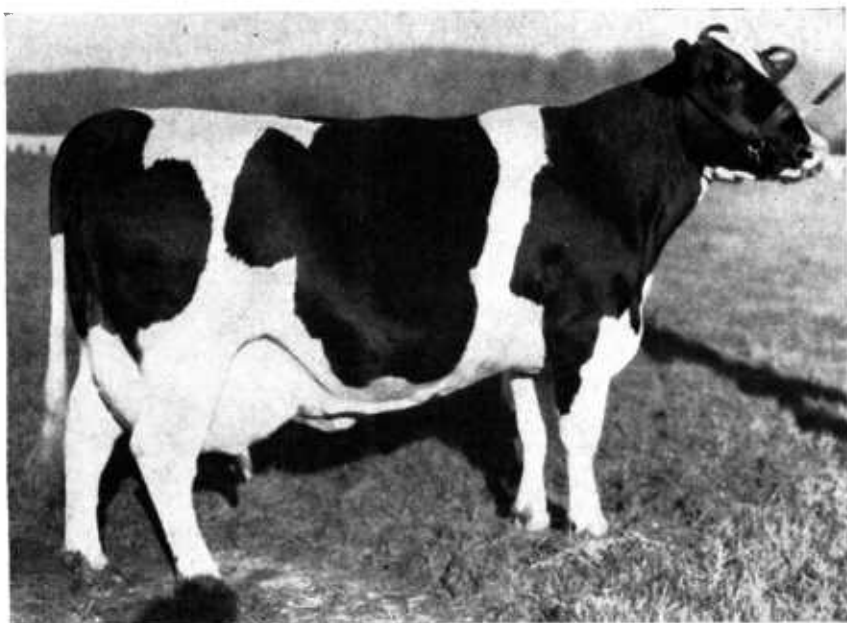


FIGURE 12.—Holstein cow, Carnation Homestead Daisy Madcap 2337079. This cow holds the highest yearly butterfat record of all the breeds in the United States.

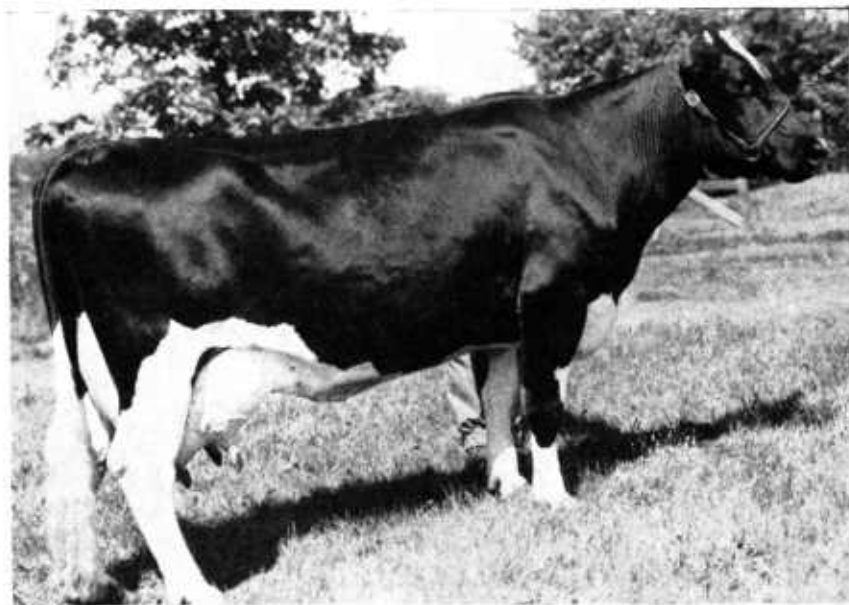


FIGURE 13.—Holstein cow, Green Meadow Lily Pabst 2802406. This cow holds the highest yearly milk record of all the breeds in the United States.

In the Herd Improvement Registry, 15,004 Holstein herds containing 341,161 cows had completed yearly records up to December 31, 1951, and these records average 11,329 pounds of milk and 400 pounds of butterfat, and an average test of 3.53 percent.

The 10 highest milk records and the 10 highest butterfat records made by Holstein cows up to July 1, 1952, and the conditions under which the records were made, are given in table 8.

TABLE 8.—*The 10 highest milk records and the 10 highest butterfat records made by Holstein cows, up to July 1, 1952*

MILK					
Cow	Age when record began		Days milked	Daily milkings	Production
	Year	Month	Number	Number	Pounds
Green Meadow Lily Pabst 2802406 (GP).....	7	5	365	3	42, 805
Carnation Ormsby Madcap Fayne 1639621.....	8	4	365	4	41, 943
Carnation Ormsby Butter King 1165152.....	8	5	365	4	38, 607
Carnation Ormsby Madcap Fayne 1639621.....	5	10	365	4	37, 506
Segis Pietertje Prospect 221846.....	6	8	365	4	37, 381
Carnation Prospect Veeman 799610.....	8	7	365	4	36, 859
Carnation Ormsby Madcap 1554602.....	6	3	365	4	36, 851
Helm Veeman Woodcrest 486877.....	4	8	365	4	36, 218
Carnation Ormsby Nellie 1326284.....	6	2	365	4	35, 887
Lady Pride Pontiac Lieuwkje 849602.....	8	0	365	4	35, 627

BUTTERFAT					
Carnation Homestead Daisy Madcap 2337079.....	7	5	365	4	1, 413. 6
Carnation Ormsby Butter King 1165152.....	8	5	365	4	1, 402. 0
Carnation Ormsby Madcap Fayne 1639621.....	8	4	365	4	1, 392. 4
De Kol Plus Segis Dixie 295135.....	9	1	365	4	1, 349. 3
Carnation Homestead Inka Mutual 1820797.....	7	8	365	4	1, 333. 8
Carnation Ormsby Nellie 1326284.....	6	2	365	4	1, 328. 8
Calamity Nig of Elmwood Farms 1560447.....	8	7	365	4	1, 327. 9
Carnation Ormsby Madcap 1554602.....	6	3	365	4	1, 313. 0
Carnation Ormsby Madcap Fayne 1639621.....	5	10	365	4	1, 306. 1
Carnation Ormsby Segis Beauty 1203395.....	7	8	365	4	1, 290. 4

Bulls

Table 9 lists 10 registered Holstein bulls that were proved in dairy-herd-improvement associations and reported in the Bureau of Dairy Industry proved-sire lists, published by the United States Department of Agriculture up to July 1, 1952. For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had 20 or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 pounds or more.

(3) His daughters must have produced an average of 400 pounds or more of butterfat.

Records of the daughters and of their dams were converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records was taken.

From the 284 sires that met these conditions the 10 whose daughters average the highest in butterfat production were selected.

TABLE 9.—*Ten registered Holstein-Friesian sires proved in dairy-herd-improvement associations, selected according to requirements described in text*

Name and number of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	Pounds	Pounds
Cornell Neptune King 848001.....	30	607	71
Sequoia Quality De Kol Segis 778404...	29	590	95
Carnation Imperial Ideal 813170.....	22	586	35
Winterthur Fobes Great Viscount 823055.....	21	581	59
Taylaker Bess Ormsby Gettie 896133...	35	579	96
Sir Ormsby Chieftain Direct 870736 ¹ ...	25	578	121
Curtiss Candy Della Lad 893934.....	21	574	86
Sir Taylaker Ormsby Gettie 686679.....	24	570	85
King Los Robles Winnie 850336.....	28	566	49
Rainbow Captain Bold 822580.....	20	556	54

¹ Also registered as Sir Ormsby Chieftain Direct 636 in American Dairy Cattle Club.

Jersey

Origin and history

The Jersey breed originated in the Island of Jersey, one of the group of Channel Islands, between England and France. In 1789 a law was passed prohibiting the importation of cattle into Jersey Island except for immediate slaughter. Shortly afterwards the cattle on that island became known by the name of Jersey instead of Alderney. No outside blood has been introduced since that time.

Importation and distribution

The first importation of Jerseys into the United States was made in 1850. A few more were brought over about 20 years later, and from 1870 to 1890 there were numerous importations. Since 1890 many Jerseys have been imported every year, except during the war years.

It is estimated that there were approximately 462,860 living registered Jerseys in the United States on January 1, 1952,⁶ but the total number (registered and grade) is not known. Jerseys are more evenly distributed among the States than any other dairy breed, with the South having the greatest concentration.

⁶ See footnote 2, p. 9.

General characteristics

The score cards for bulls and cows adopted by the Purebred Dairy Cattle Association describe the Jersey characteristics as follows:

Color.—A shade of fawn, with or without white markings.

Size.—A mature cow in milk should weigh about 1,000 pounds. A mature bull in breeding condition should weigh about 1,500 pounds.

Horns.—Inclining forward, incurving, small at base, refined, medium length and tapering toward tips.

The Jersey (figs. 14 and 15) is the smallest of the breeds discussed in this bulletin. The calves weigh from 40 to 75 pounds at birth. The heifers develop rapidly and usually mature sufficiently to calve the first time at 24 months of age.

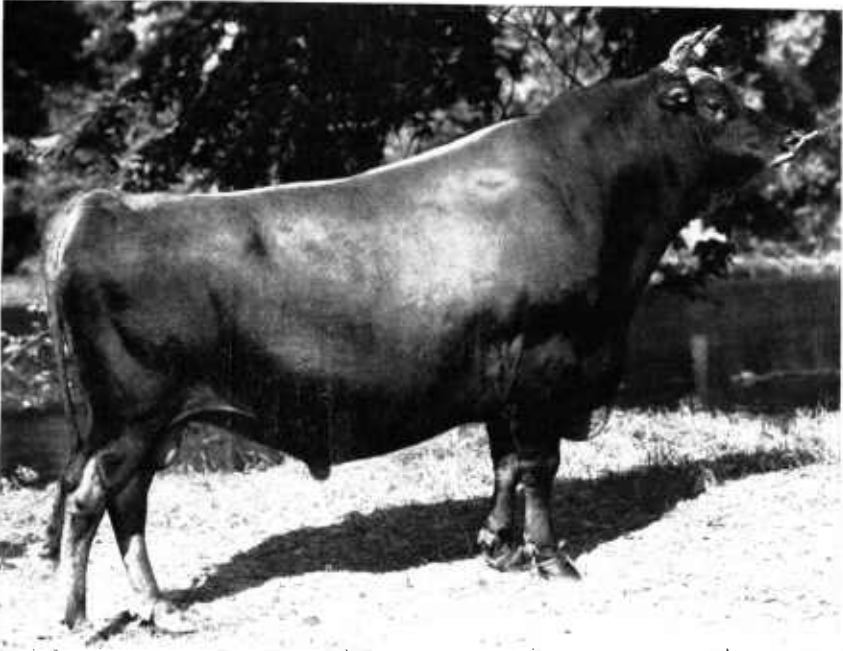


FIGURE 14.—Jersey bull, Pompos Dreaming Standard. Grand Champion, All American Jersey Show, 1946.

Production

Jersey milk usually is high in color and also in percentage of butterfat and solids not fat.

The 78,226 Jersey cows and heifers of all ages that had completed official yearly and 305-day Register of Merit production records up to April 1, 1947 (the last year computations were made), had an average production per cow of 8,636 pounds of milk and 463 pounds of butterfat, and an average test of 5.36 percent.

Under herd-test rules, Jersey cows and heifers had completed 171,365 records in the past 10 years, with an average production of 7,120 pounds of milk and 379 pounds of butterfat, and a test of 5.32 percent.

The 10 highest milk records and the 10 highest butterfat records made by Jersey cows up to June 1, 1952, and the conditions under which the records were made, are given in table 10.

TABLE 10.—*The 10 highest milk records and the 10 highest butterfat records made by Jersey cows, up to June 1, 1952*

MILK					
Cow	Age when record began		Days milked	Daily milkings	Production
	Year	Month	Number	Number	Pounds
Opal Crystal Lady 1386634.....	7	8	365	2	23, 725
Abigail of Hillside 457241.....	8	6	365	3	23, 677
Wonderful Royal Sybil 1344069....	8	2	365	3	22, 992
Financial Madam Bess 990929.....	11	1	365	(1)	21, 251
Blossom Susie of Redmond 1553058..	4	5	365	2	21, 243
Financial Madam Bess 990929.....	9	11	365	(2)	21, 141
U. N. H. Golden Eudora 1191091....	7	10	365	(3)	20, 994
Queen Jade of Redmond 1298071....	9	2	365	2	20, 741
Brampton Lea Zana 1467753.....	7	0	365	3	20, 724
Madeline of Hillside 389336.....	8	3	365	(4)	20, 624

BUTTERFAT					
Opal Crystal Lady 1386634.....	7	8	365	2	1, 237
Orrland Signal Vol. Sable 1556824..	4	7	365	3	1, 223
Stockwell's April Pogis of H. P. 694544.....	8	3	365	3	1, 218
Blossom Susie of Redmond 1553058..	4	5	365	2	1, 210
Abigail of Hillside 457241.....	8	6	365	3	1, 198
Volunteer Winsome Victory 1478431.....	5	1	365	2	1, 174
June Volunteer Pietje B. 1513225....	4	2	365	(5)	1, 151
Welcome Volunteer Sable 1305780....	5	2	365	(6)	1, 144
Darling's Jolly Lassie 435948.....	4	0	365	3	1, 141
Dairylike Star Dolly 1099469.....	5	0	365	(7)	1, 132

¹ Milked 4 times a day for 346 days, 3 times for 19 days.

² Milked 4 times a day for 181 days, 3 times for 184 days.

³ Milked 3 times a day for 162 days, 2 times for 203 days.

⁴ Milked 3 times a day for 350 days, 2 times for 15 days.

⁵ Milked 4 times a day for 84 days, 3 times for 281 days.

⁶ Milked 3 times a day for 304 days, 2 times for 61 days.

⁷ Milked 3 times a day for 325 days, 2 times for 40 days.

Bulls

Table 11 lists 10 registered Jersey bulls that were proved in dairy-herd-improvement associations and reported in the Bureau of Dairy Industry proved-sire lists, published by the United States Department of Agriculture up to July 1, 1952. For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had 20 or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 pounds or more.

(3) His daughters must have produced an average of 400 pounds or more of butterfat.

Records of the daughters and of their dams were converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records was taken.

From the 42 sires that met these conditions, the 10 whose daughters average the highest in butterfat production were selected.

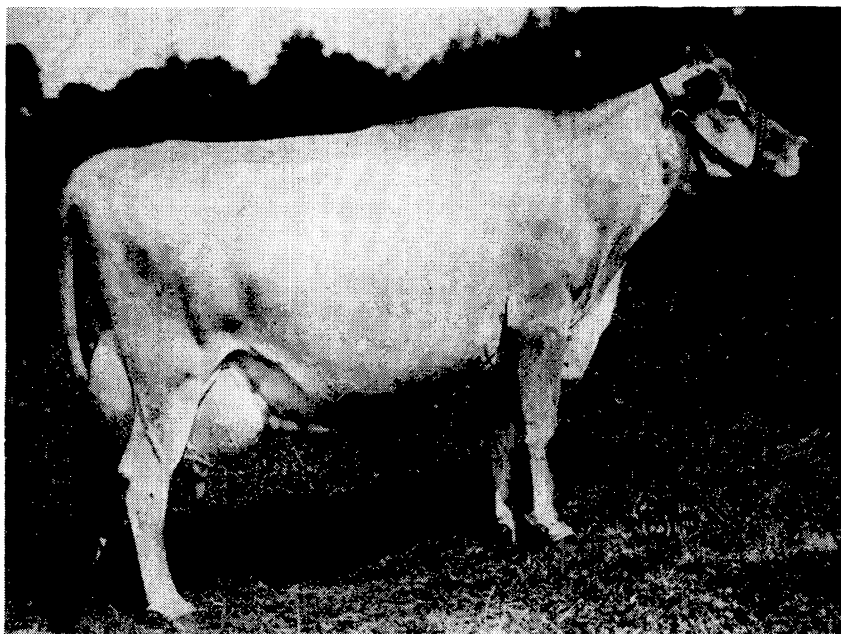


FIGURE 15.—Jersey cow, Opal Crystal Lady 1386634, the highest milk and butterfat producer of the breed in the United States. Also, she is claimed to be the only cow of any breed to produce more than 1,000 pounds of butterfat during each of 4 consecutive lactations on 2 milkings a day.

TABLE 11.—Ten registered Jersey sires proved in dairy-herd-improvement associations, selected according to requirements described in text

Name and number of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	<i>Number</i>	<i>Pounds</i>	<i>Pounds</i>
Lilac St. Mawes Remus Rex 396711-----	22	583	72
Welcome Volunteer 399447-----	27	568	48
High Lawn Torono Siegfried 376677-----	44	561	73
Lord Dreamer 397562-----	20	546	98
Pauline's Missionary 370287-----	23	519	75
Randleigh Farm Warrior 382900-----	20	519	71
Baronet Ashburn Noble 450391-----	20	513	38
Josephine's Royal King 250214-----	104	502	35
Flying Fauvic 400065-----	21	476	77
Lilac Remus Unrivalled Abner 458088--	25	470	51

The American Dairy Cattle Club

The American Dairy Cattle Club, which was organized under the laws of the State of Illinois, filed its certificate of organization November 14, 1936. According to its bylaws this club was formed to improve the dairy cattle of the United States, regardless of color or previous breeding, through the practice of continuously testing the

production of females and proving bulls in the herds of both members and nonmembers, under rules established by the board of directors.

The recording system consists of five orders. Each order represents a generation, starting with the First (or lowest) and progressing to the Fifth (or highest) Order. No ancestry or pedigree record is required for the First Order, but for recording in all higher orders, with few exceptions, there is a pedigree as well as a performance requirement. All performance requirements for females are based on a twice-a-day milking, 305-day record, calculated to maturity, and for bulls on an intermediate index of milk production and percentage of butterfat from at least five dam-and-daughter pairs, based on such records. The requirements for recording are given in table 12.

Up to July 1, 1952, 204 animals had been recorded in the Fourth Order and 38 cows had been recorded in the Fifth Order.

TABLE 12.—Requirements for recording cows and bulls in American Dairy Cattle Club record

Order	Pedigree requirements for recording cow or bull	Performance requirements for recording—	
		Cows (record of butterfat production)	Bulls (proved-sire index of butterfat production)
First Order.....	No pedigree requirement.....	<i>Pounds</i> (³)	<i>Pounds</i> 375
Second Order.....	Parents must be recorded in at least the First Order. ¹	350	400
Third Order.....	Parents must be recorded in at least the Second Order. ²	375	425
Fourth Order.....	Parents must be recorded in at least the Third Order.	400	450
Fifth Order.....	Parents must be recorded in at least the Fourth Order.	425	475

¹ The pedigree requirement for recording a bull in the Second Order is waived in the case of any dairy bull with a 10-pair index of 450 pounds of butterfat.

² The pedigree requirement for recording a bull in the Third Order is waived in the case of any bull with a 15-pair index of 500 pounds of butterfat.

³ The performance requirement for recording a cow in the First Order is waived in the case of any cow with two daughters each having a record of at least 300 pounds of butterfat. (Must have a complete lactation record, no quantity requirement.)

The Purebred Dairy Cattle Association

The Purebred Dairy Cattle Association was organized in 1940. Membership is limited to recognized clubs, societies, and associations engaged in maintaining registers of purebred dairy cattle. Each such organization has three representatives.

The object of the association in general is to increase the interest of all dairymen in purebred dairy cattle, first, by cooperatively making available data showing the economic need for and the value of the

registered dairy animal; secondly, by cooperating with and assisting agricultural educational institutions in the United States in such projects and programs as will encourage the breeding of better dairy cattle through the use of purebred seed stock; and thirdly, by originating or participating in activities which will advance the interests of purebred registered dairy cattle.

Some of the major projects which the association has sponsored or adopted are: (1) Uniform rules for official testing; (2) classification for each breed of dairy cattle at State fairs; (3) rules and regulations governing artificial insemination in purebred dairy herds; and (4) code of ethics for public and private sales.

The membership of this association July 1, 1952, consisted of five national breed associations representing the following breeds: Ayrshire, Brown Swiss, Guernsey, Holstein, and Jersey.

Breed Associations

The various national breed associations maintain offices and forces whose duty it is: (1) To keep the herdbooks for their respective breeds; (2) to keep a record of the animals that have qualified for the additional registration because of meritorious performance; and (3) to further the interest of the breed in other ways. The official names of these organizations, the names of their respective secretaries, and their addresses are as follows:

The American Guernsey Cattle Club, Karl B. Musser, Secretary, Peterborough, N. H.

The American Jersey Cattle Club, Floyd Johnston, Secretary, 1521 E. Broad St., Columbus 5, Ohio.

The American Red Danish Cattle Association, Clifford Shantz, Secretary, Fairview, Mich.

The Ayrshire Breeders Association, Chester C. Putney, Secretary, Brandon, Vt.

The Brown Swiss Cattle Breeders Association, Fred S. Idtse, Secretary, Beloit, Wis.

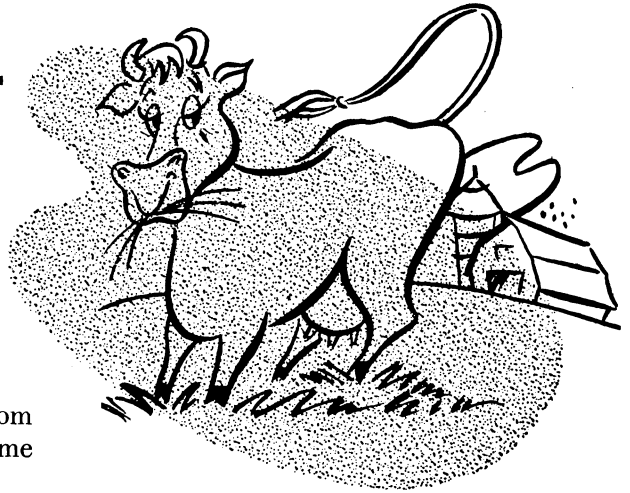
The Holstein-Friesian Association of America, Robert H. Ruml, Secretary, Brattleboro, Vt.

The secretary and address of the American Dairy Cattle Club and of the Purebred Dairy Cattle Association, described on pages 27 to 29, are as follows:

The American Dairy Cattle Club, Robert W. Hitchcock, Secretary, Interlaken, N. Y.

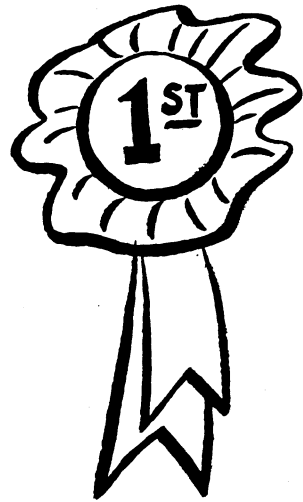
The Purebred Dairy Cattle Association, J. F. Cavanaugh, Secretary, 1521 E. Broad St., Columbus 5, Ohio.

Improve Your Grasslands and . . .



- Cut your feed costs.
- Get more income from your grass and legume acreage.
- Build up and conserve your soil.
- Save work and cut your labor bill.
- Get higher yields from other crops in your rotation.

To Improve Your Grasslands . . .



- Seed varieties and strains that are adapted to your farm and to your feeding plans. Use high-quality seed. Buy certified seed if possible.
- Sow at the right time on a properly prepared seedbed.
- Fertilize and lime your soil.
- Control weeds, brush, and insect pests.
- Practice controlled and rotation grazing, where necessary.
- Plan pastures to provide good grazing as much of the year as possible.

For Details . . . SEE YOUR COUNTY AGENT.