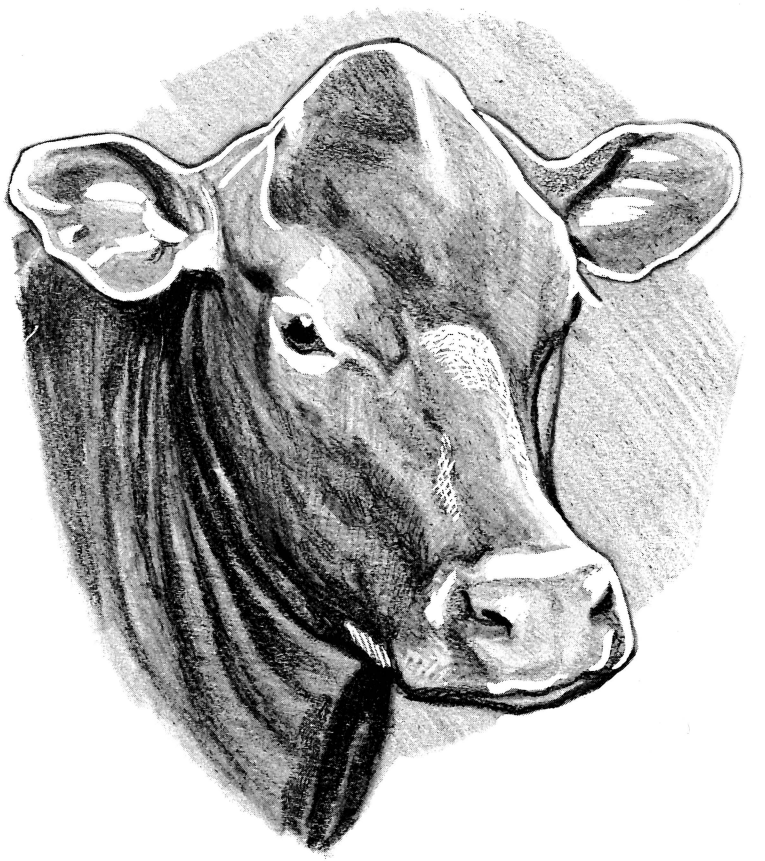
Developing
Dairy Heifers



by E. T. Itschner

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Developing
Dairy Heifers

By E. T. Itschner

At one year of age, your dairy heifer should be vigorous and thrifty. Its coat should be smooth, bright, and sleek. The heifer should be lean, neither fat or emaciated, and its weight should be normal for its age and breed.

Normal Weight of Dairy Heifers at 12 Mo. of Age

	Weight	Corresponding Heart Girth Inches
Ayrshire	540 lbs.	56 inches
Brown Swiss	630 "	59 "
Guernsey	490 "	55 "
Holstein	630 "	59 "
Jersey	450 "	54 "

By this time, the heifer should have been permanently identified. The type of identification varies by breed.

For registration, Jersey, Brown Swiss, and solid colored Guernseys must be identified by a tattoo in the ear which is then recorded on the application for registry. Guernseys and Holsteins are identified by photograph or a drawing of the color markings on the application.

The most satisfactory way of identifying grade animals is by numbered ear tag which is recorded in a herd record book.

Identification calls for these facts:

1—Name and number
2—Birth date
3—Sire—Name and registration number
4—Dam—Name and registration number
5—Identifying marks and numbers all of which are recorded in the record.

WELL GROWN YEARLING HOLSTEINS

Coded eartags for grade animals carrying a nine-digit number which will not be repeated anywhere in the United States may be obtained from your veterinarian, your artificial breeding technician, or your DHIA supervisor when they are servicing your farm.

If, when it was a calf, the heifer had not been dehorned and extra teats had not been removed, it is best to attend to this without further delay. However, in "fly time", there is some risk that the wounds may become infested with screw worms. Extra precautions should be taken to protect the animal if any surgery is performed in warm weather.

When the heifer is one year old, it is too late to vaccinate her for Brucellosis. This must be done when she is four to eight months old. If you vaccinate her after 8 months of age, the otherwise temporary reaction which follows vaccination may become permanent. You should know whether or not the heifer has been vaccinated. Record the vaccination date in the record.

Also, when she was a calf, the heifer should have been taught to lead and to handle nicely. Whether or not you expect to show your heifer, it pays to teach her to lead and be handled by halter. This is much more easily done when she is a small animal, the earlier the better after two months of age.

If at one year of age, your heifer is healthy, of normal weight and condition, has been identified and registered, dehorned, vaccinated and checked for extra teats and has been taught to lead you have a good start toward a herd replacement or a sound animal for your 4-H project.

Selecting or Evaluating Your Heifer

In evaluating your heifer or if you are selecting one for your herd or project, you should have in mind the things to look for that tend to add value to the animal. These are generally:

1—Health, Vigor, and Development

2—Pedigree, including production and type records of ancestors

3—Type.

General Health, Vigor, and Development

A heifer to be a good prospect for a dairy cow should be thrifty and without any important health defects. It should be of normal size and weight for its age. It should have a good appetite and have a good general disposition.

As a yearling it should be well balanced and look like a heifer, not like a small cow.

GOOD PROSPECTS

Pedigree

The heifer's pedigree, if properly prepared, should give an accurate history of the performance of its ancestors. It should include the production records and type rating of the dam of the heifer, its grand dams and the other daughters of its sire and grand sires. Preferably it should be from a ***family*** of cattle that are or were consistantly good producers as well as having acceptable type. This is more important than having a heifer that is the offspring of the only good member of a family.

Type

Everyone prefers an animal that has good dairy type and is pleasing to the eye. Type is of particular importance where you wish to show your animal or where you expect to merchandise cattle from your herd. Good type is also associated with good production, but probably not to the degree that one might expect.

Of course, serious type or conformation defects are of great importance. For instance, a cow family that has weak feet and legs is not desirable because these defects eventually interfere with the normal functioning of the animal, its ability to graze extensively etc. Further, a family of cows that has poorly attached udders is to be avoided because such defects are related to a short productive life, and more trouble with mastitis. Also, milking is more difficult.

One should distinguish between soundness and the fine points of show type. Soundness, or the absence of defects, is quite important to the productiveness of the cow. The fine points of type may effect her show and sale record but may have little to do with production or usefulness.

PEDIGREE of VIOLET

In this Pedigree there are few important facts and these are Largely Meaningless

SIRE

Buddy

A Nice Young Bull
Daughters just
beginning to freshen

Blue Boy

Sired by "Silver" with
11 tested daughters
including "Jane"
4-2 - 295 - 9810 - 502

Pinkey

Paternal Sister to "Susan"
2-6 - 300 - 7060 - 381
3-8 - 290 - 8140 - 408
4-11 - 301 - 8080 - 411
6-2 - 289 - 9110 - 460

DAM

Madam G+

A very persistent milker.
Half sister to Della:
63 - 285 - 8410 - 441

Dreamer

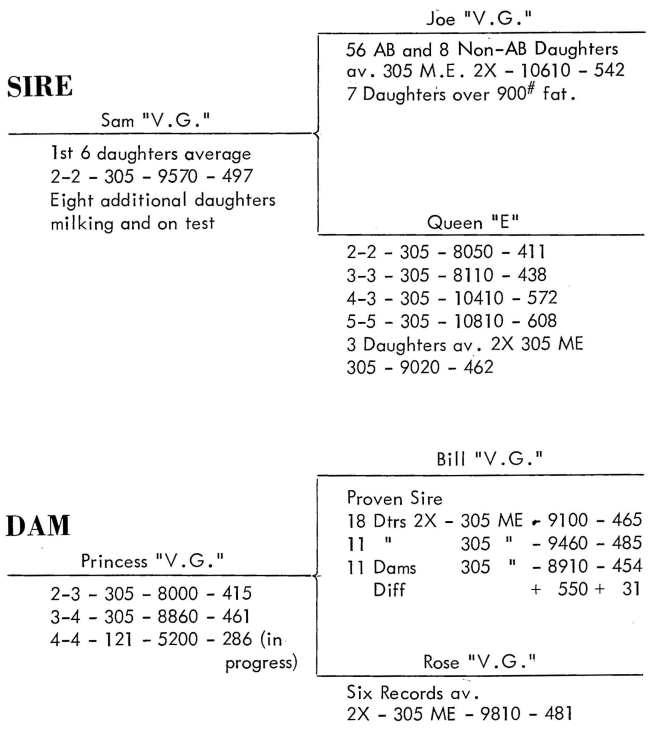
Three Times Grand Champion
Blue Co. Fair.
2 Daughters av.
40 - 300 - 8640 - 365

Patsy

1 Daughter
"Della" - 6-3 - 385 - 8410 - 441

PEDIGREE of PEARL

There is Real Substance in this Pedigree



Good dairy type is best described in the unified score card. It applies to all the five dairy breeds. (Page 7 and 8).

The Score Card should be studied along with the breed characteristics and the common defects found in dairy cattle to learn the details of desirable type. The point values given on the score card indicate the relative importance of the part. Not all parts of the score card can be applied to heifers however.

What are we looking for?

Remember we are looking for a heifer that will become a profitable dairy cow. We want one that will:

Have high production
Have good type
Be a regular breeder
Have good health for long life
Have good disposition
Be a good feeder.

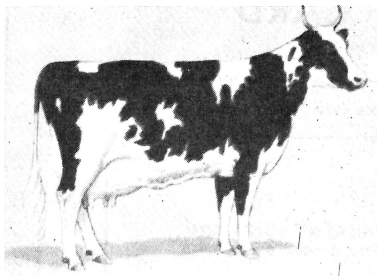
We should look for these same qualities in the families of the heifer we select.

Look at the Records

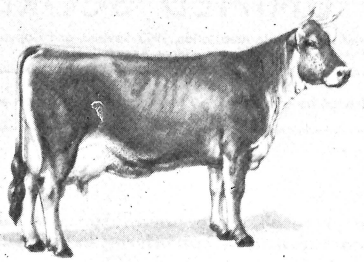
In evaluating a heifer and her pedigree you will want to pay particular attention to production records. Prefer animals that have several consecutive good records to those with one extremely high record, for this indicates not only good production but regular breeding and good health.

Remember that a 300 pound actual butterfat record by a two year old in ten months is considered equal to a 545 pound record by a mature cow, in 12 months, milked three times daily. Records made under practical farm conditions are of more significance to the average dairyman than records made under fancy "box stall" conditions.

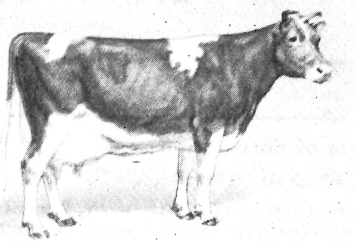
The importance of high production is shown in the following table, with figures from DHIA records. It pays to have good cows.



IDEAL AYRSHIRE COW

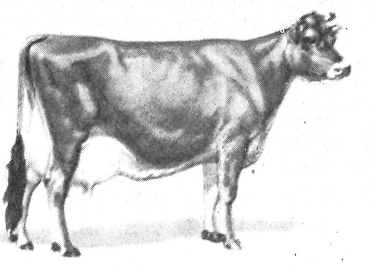


IDEAL BROWN-SWISS COW



IDEAL GUERNSEY COW

IDEAL HOLSTEIN-FRIESIAN COW



IDEAL JERSEY COW

BREED CHARACTERISTICS

AYRSHIRE

Strong and robust, howing constitution and vigor, symmetry, style and balance throughout, and characterized by strongly attached, evenly balanced, well shaped udder.

COLOR — Light to deep cherry red, mahogany, brown, or a combination of any of these colors with white, or white alone, distinctive red and white markings preferred, black or brindle objectionable.

SIZE — A mature cow in milk should weigh at least 1200 lbs.

HORNS — Inclining upward, refined, medium length and tapered toward tips. No discrimination for absence of horns.

GUERNSEY

Size and strength, with quality and character desired.

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

SIZE — A mature cow in milk should weigh at least 1100 lbs. "In milk" means normal condition after having been in milk from 3 to 6 months.

HORNS — No discrimination for absence of horns.

JERSEY

Sharpness with strength indicating productive efficiency.

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

SIZE — A mature cow in milk should weigh about 1000 lbs.

HORNS — Incurving, refined, medium length and tapering toward tips. No discrimination for absence of horns.

BROWN SWISS

Strong and vigorous, but not coarse. Size and ruggedness with quality desired. Extreme refinement undesirable.

COLOR — Solid brown varying from very light to dark. White or off-color spots objectionable. Females with any white or off-color markings above the underside of the belly, or with white core in switch do not meet color standards of the Brown Swiss breed, and shall be so designated when registered. Pink noses and light streaks up the side of the face objectionable.

SIZE — The minimum weight for mature cows should be about 1400 lbs.

HORNS — Incurving and inclining slightly up. Of medium length, lacking coarseness, tapering toward tips. Polled animals not barred from registry. No discrimination for absence of horns.

HOLSTEIN

Rugged, feminine qualities in an alert cow possessing Holstein size and vigor.

COLOR — Black and white markings clearly defined. Color markings that bar registry are solid black, solid white, black in switch, black belly, black encircling leg touching hoof head, 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 at least 1500 lbs.

HORNS — No discrimination for absence of horns.

EVALUATION OF DEFECTS

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.*
3. Cross-eyes: *Slight discrimination.*

WRY FACE
Slight to serious discrimination.

CROPPED EARS
Slight discrimination.

PARROT JAW
Slight to serious discrimination.

SHOULDERS
Winged: *Slight to serious 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: *Slight to serious discrimination.*
3. Evidence of arthritis, crampy hind leg: *Serious discrimination.*
4. Boggy hocks: *Slight to serious discrimination.*

ABSENCE OF HORNS
No discrimination.

LACK OF SIZE
Slight to serious discrimination.

UDDER
1. Blind quarter: *Disqualification.*
2. Abnormal milk (bloody, clotted, watery): *Possible disqualification.*
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, obstruction in teat (spider): *Slight to serious discrimination.*
6. Side leak: *Slight discrimination.*

DRY COWS
Among cows of apparently equal merit: *Give strong preference to cows in milk.*

FREEMARTIN HEIFERS
Disqualification unless proved pregnant.

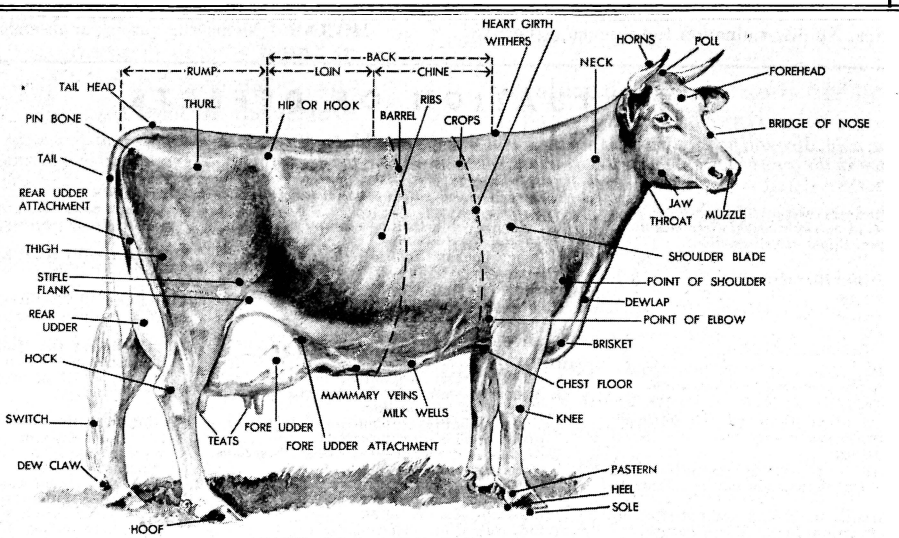
OVERCONDITIONED
Slight to serious discrimination.

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. Uncalved heifers showing evidence of having been milked: *Serious discrimination.*

DAIRY COW UNIFIED SCORE CARD

Breed characteristics should be considered in the application of this score card		Perfect Score
Order of observation		
1. GENERAL APPEARANCE		**30**
(***Attractive individuality with, feminity, vigor, stretch, scale, harmonious blending of all parts, and impressive style and carriage. All parts of a cow should be considered in evaluating a cow's general appearance***)	10	
BREED CHARACTERISTICS — (see reverse side) **HEAD** — clean cut, proportionate to body; broad muzzle with large, open nostrils; strong jaws; large, bright eyes; forehead, broad and moderately dished; bridge of nose straight; ears medium size and alertly carried		
SHOULDER BLADES — set smoothly and tightly against the body	10	
BACK — straight and strong; loin, broad and nearly level **RUMP** — long, wide and nearly level from **HOOK BONES** to **PIN BONES;** clean cut and free from patchiness; **THURLS,** high and wide apart; **TAIL HEAD,** set level with backline and free from coarseness; **TAIL,** slender		
LEGS AND FEET — bone flat and strong, pasterns short and strong, hocks cleanly moulded. **FEET,** short, compact and well rounded with deep heel and level sole. **FORE LEGS,** medium in length, straight, wide apart, and squarely placed. **HIND LEGS,** nearly perpendicular from hock to pastern, from the side view, and straight from the rear view	10	
2. DAIRY CHARACTER		**20**
(***Evidence of milking ability, angularity, and general openness, without weakness; freedom from coarseness, giving due regard to period of lactation***)		
NECK — long, lean, and blending smoothly into shoulders; clean cut throat, dewlap, and brisket **WITHERS,** sharp. **RIBS,** wide apart, rib bones wide, flat, and long. **FLANKS,** deep and refined. **THIGHS,** incurving to flat, and wide apart from the rear view, providing ample room for the udder and its rear attachment. **SKIN,** loose, and pliable	20	
3. BODY CAPACITY		**20**
(***Relatively large in proportion to size of animal, providing ample capacity, strength, and vigor***)		
BARREL — strongly supported, long and deep; ribs highly and widely sprung; depth and width of barrel tending to increase toward rear	10	
HEART GIRTH — large and deep, with well sprung fore ribs blending into the shoulders; full crops; full at elbows; wide chest floor	10	
4. MAMMARY SYSTEM		**30**
(***A strongly attached, well balanced, capacious udder of fine texture indicating heavy production and a long period of usefulness***)		
UDDER — symmetrical, moderately long, wide and deep, strongly attached, showing moderate cleavage between halves, no quartering on sides; soft, pliable, and well collapsed after milking; quarters evenly balanced	10	
FORE UDDER — moderate length, uniform width from front to rear and strongly attached	6	
REAR UDDER — high, wide, slightly rounded, fairly uniform width from top to floor, and strongly attached	7	
TEATS — uniform size, of medium length and diameter, cylindrical, squarely placed under each quarter, plumb, and well spaced from side and rear views	5	
MAMMARY VEINS — large, long, tortuous, branching	2	
"Because of the natural undeveloped mammary system in heifer calves and yearlings, less emphasis is placed on mammary system and more on general appearance, dairy character, and body capacity. A slight to serious discrimination applies to overdeveloped, fatty udders in heifer calves and yearlings."		
Subscores are not used in breed type classification.	**TOTAL**	**100**



PARTS OF A DAIRY COW

How Production Effects Income

Herd Production Av. Lbs. B'Fat	Herd Value of Product	Feed Cost	Other Costs (Est.)	Return Above Feed and other Expenses	Feed and Other Costs per # B'Fat
250	$251	$125	$62	$ 64	.75
350	362	150	75	137	.64
450	458	165	82	211	.55
550	555	187	93	275	.51

High Producing Cows Return More Profit

In order to get high production from his cows a dairyman needs to:

1—Have animals that are bred for high production

2—Provide ample high quality feed

3—Feed and manage the herd in such a way as to realize their full production possibilities.

Feeding

A feeding program for yearling heifers may be comparatively simple. However, heifers are often neglected because they are not as demanding as younger calves and producing cows. The digestive system in the yearling heifer is functioning as a mature ruminant; however, its roughage capacity is somewhat lacking in proportion to its needs for growth and development.

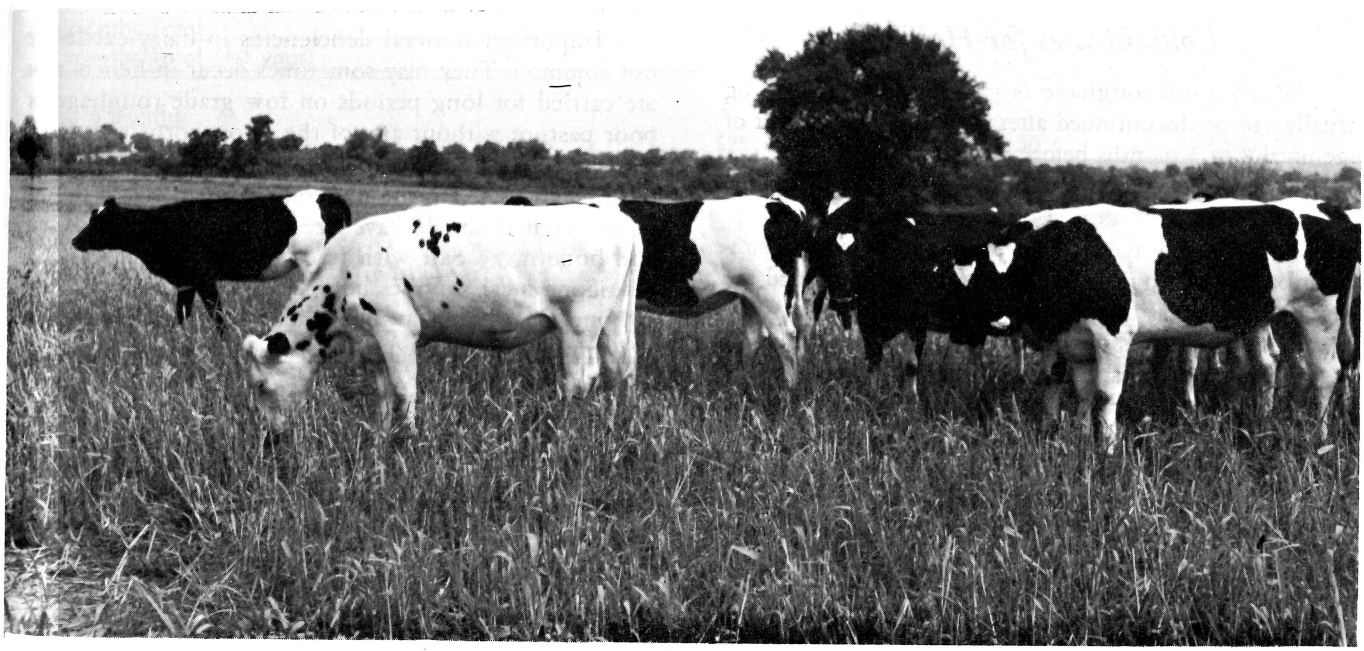
Yearling heifers of normal development can be fed very satisfactorily on roughage alone, ***provided the roughage is of good quality and palatable.***

Younger heifers are rather dainty eaters and may not consume roughage in sufficient amounts for their full needs unless it is of high quality and palatable.

If fed on hay alone, heifers should consume the following amounts daily to meet their needs.

Average Heart Girth	Weight	Pounds of good hay needed
40	200	8
46	300	11
51	400	13
55	500	15
59	600	17
62	700	18
65	800	19
68	900	20
70	1000	22
75	1200	24

HEIFERS ON SUDAN



If the heifer does not consume these amounts of hay or equivalent in pasture or silage, the difference should be made up by providing grain at the rate of six-tenths pound of grain for each pound below the recommended amount for hay consumption. Thus, if your 600 pound heifer consumes only twelve pounds of hay, she should get three pounds of grain in addition:—

17 - 12 = 5.0 amount of hay deficient
5 x .6 = 3.0 amount of grain needed.

Often, a small amount of grain will be needed to keep a normal growth rate.

Watch the growth and weight of your heifer. Generally, Holsteins should gain from one pound to one and five-tenths pounds per day on the average, and Jerseys from eight-tenths to one and two-tenths pounds per day from one-half to two years of age. See chart page 13.

Kinds of Roughage

Good hay is the preferred roughage for younger heifers. Legume hay or hay that is at least half legume is best. Pasture and silage may be substituted for part of the hay after six months. After one year of age heifers may be able to get along very well on good pasture alone if it is of good to excellent quality. Heifers are somewhat choosy about their pasture and if it is not good they may not consume enough for their full needs. About 4 pounds of pasture or green chopped roughage is equal to one pound of hay. Many good herdsmen prefer to keep some hay before their heifers at all times, even when they are on good pasture.

Three pounds of silage are equal in feeding value to one pound of hay. Heifers usually will not consume enough silage to fully meet their needs when it is the only roughage provided. Therefore, for best results with heifers, silage should always be supplemented with some hay or with concentrates.

Concentrates for Heifers

When good roughage is provided, grain feeding usually can be discontinued after the heifer is one year of age until 2 to 3 months before calving.

Where concentrates are called for in developing the yearling heifer, as indicated by low roughage consumption, or below normal gain in weight they may be simple mixtures or single home grown grains, provided the heifers have access to good legume hay and/or pasture. Protein requirements for heifers are about three-fourths to one pound of digestible protein per day. This is easily met by the hay ration if it is early cut legume or mixed legume and grain hay. Good pasture also usually provides ample protein. Deficiencies, if any, are likely to be in energy. Home grown grains fed as required will best fill the need for energy which is not supplied by roughage or pasture.

Also, the heifer will usually require some grain, two or three months before calving, to continue growth and meet the growth needs of the unborn calf. Four to eight pounds per day usually are sufficient.

Corn, oats, barley, sorghums and bran are all good feeds for heifers. All grain should be ground for heifers over six months of age. Any of the above feeds will be satisfactorily fed singly or in combination, except that sorghums or kaffir are usually fed in combination with other grains.

When more convenient or more economical, the milking ration, such as the following mixture, may be used for heifers when concentrates are required. This, or some other good ration containing about 15 to 16 percent of crude protein (12 to 13 percent digestible protein), should be provided when the roughage consists of low grade hay, late summer pastures, or when corn or sorghum silage is the principal roughage.

General Purpose Ration

Ground Shelled Corn	400 lbs.
Ground Oats	300 lbs.
Bran	200 lbs.
Soybean Oil Meal	100 lbs.
Bone Meal	10 lbs.
Trace Mineralized Salt	10 lbs.

This mixture contains about 12 percent digestible protein, 15 percent total protein. It is usually economical. Any farm grown feed grains may be used. Changes or substitutions in the grain portions can be made when such changes will cheapen the ration. For instance, oats is often too expensive to include in the ration and may be replaced by barley, corn, or sorghums when these are cheaper.

Minerals

Important mineral deficiencies in dairy cattle are not common. They may sometimes occur in heifers that are carried for long periods on low grade roughage or poor pasture without any of the phosphorus rich feeds such as bran and oil meals in the ration. Calcium, phosphorus, and salt are the minerals most likely to be deficient. Heifers should have free access to a supply of salt and bone meal. Salt with trace minerals may be used. The bone meal supplies both phosphorus and calcium. If bone meal is not available feeding grade di-calcium phosphate may be used.

Vitamins

Ordinarily, heifers, if they have good roughage, will get all the vitamins they need. This may not be true when the roughage consists of late cut or weather damaged hay, which may lack vitamin A. Some good green legume hay is the best source of Vitamin A. Pastures usually provide plenty of vitamin A.

Water

Plenty of good water is necessary at all times. Heifers require from 2 to 10 gallons of water per day depending on age, weather, etc.

In winter, the water supply should be kept above freezing. In summer, a water supply near shade and pasture is desirable.

Economy

The cost of feed to raise a heifer from birth to first calving is about equal to the cost of keeping a producing cow a year. About 45 percent of the total cost is incurred in the first year, about 55 percent the second year. On the average, cows in the dairy herd have a productive life of only four or five years. This means that for each four cows we need to have a calf and a heifer coming on to maintain the herd; we need more, if we expect to cull the herd at a higher than normal rate or to increase it in size.

The following table lists the kind and approximate amounts of feed to raise a heifer to calving time. Ordinarily, pasture and perhaps silage will replace a considerable portion of the hay with some saving in cost.

Economy in raising heifers is important. Usually, the sooner we can carry the heifers on roughage, without concentrates, the lower the feeding cost. The more we can use pasture for the heifers the lower the cost, for ordinarily pasture provides the cheapest source of feed nutrients. There is no economy, however, in skimping heifers on feed. In the long run, heifers that grow at a normal rate and are ready to breed at 15-17 months are most satisfactory.

ESTIMATED AMOUNTS OF FEED REQUIRED FOR RAISING HEIFERS

Feed	Amount Needed	Price Assumed	Cost	Total Digestible Nutrients Furnished (approx.)
1st 6 months				
Milk	400 lb.	$ 4.00	$ 16.00	65
Starter	250 lb.	4.00	10.00	170
Grower	200 lb.	2.50	5.00	150
Hay	400 lb.	25.00	5.00	200
6 months total	--	--	$ 36.00	585
2nd 6 months				
Grower	500 lb.	$ 2.50	$ 12.50	375
Hay	1500 lb.	25.00	18.75	750
6 months Total	--	--	31.25	1125
12 months Total (1st year)	--	--	$ 67.25	1710
3rd 6 months				
Hay	3000 lb.	$25.00	$ 37.50	1500
6 months Total	--	--	$ 37.50	1500
4th 6 months				
Hay	4000 lb.	$25.00	$ 50.00	2000
Grower or	(minumum)			
Milking ration	100 lb.	2.50	2.50	
6 months total	--	--	$ 52.50	2075
12 months total (2nd year)	--	--	$ 90.00	3575
24 months total	--	--	$157.25	5285 pounds

Total amounts required to 24 months

- Milk -- 400 pounds
- Starter -- 250 pounds
- Grower -- 800 pounds
- Hay -- 8900 - 10,000 pounds

Feed cost is the largest item. It is about 70 percent of the total cost of raising a heifer. Other important items are:

Labor	$25 to $40
Veterinary	$5 to $8
Breeding Fees	$6 to $8
Depreciation and repairs	$2 to $4
Taxes and insurance	$1 to $2
Miscellaneous	$5 to $10
Total	$44 to $72

These are rough estimates of the cost of these items up to freshening time. For the first 15 months or up through breeding time, about three-fourths of these costs, other than cost of feed will be incurred.

Breeding

Your Dairy heifers should be bred to freshen at 24 to 26 months if they are normal in size and development. Jerseys may be bred from 14 to 16 months of age and should weigh 500 to 550 pounds. Guernseys should be bred at 15 to 17 months of age weighing 550 to 600 pounds. Holsteins and Brown Swiss being slower maturing should be bred at 15 to 18 months of age weighing 750 to 850 pounds.

The heifer should be in good condition but not carrying excess fat.

With artificial insemination service available in all parts of the state, there is no longer any reason for not breeding your heifers to one of the outstanding sires of the breed, if a good bull is not available on your farm. You may get pedigrees of bulls in use in artificial breeding studs by requesting them.

You may want to follow the plan used by most dairy breeders and practice "linebreeding". This is the mating of animals that are distantly related or both related to a certain outstanding individual. "Inbreeding" is the mating of closely related animals. "Outcrossing" is mating of animals without common ancestors in the pedigree for 4 or 5 generations.

It is generally thought that out crossing, while increasing vigor, results in offspring that are less uniform. Linebreeding tends to concentrate the blood of the common ancestor. Inbreeding by reducing the number of different ancestors in the pedigree is thought to increase uniformity of the offspring, perhaps to some extent at the expense of size and vigor.

Only a skilled breeder should practice inbreeding and then, cautiously. Properly used, it is one of the tools for improving livestock.

Usually, your County Agent or representatives of the artificial breeding establishments will be able to advise you on the characteristics of the sires from which service is available. You can then select one that should help to improve any defects present in your heifer. For instance, if the dam of your heifer had a defective, weakly attached udder you would want to know that the sire you are using was from a ***family*** with good well attached udders.

Two or three months before your heifer has reached breeding age and size you should keep her where she can be observed regularly. If she is with other animals it is usually easy to tell when she is in heat by the fact that the heifer that is in heat will stand when mounted by other animals. If alone, the heifer in heat tends to be nervous, may stand or walk along the fence and bawl and generally indicate a desire to be with other cattle. There may be swelling of the vulva and a discharge of clear mucous (preceded at times by a milky thicker mucous 2 to 24 hours before "standing" heat) If bleeding is observed it usually means that the heifer was in heat about 48 hours earlier.

Some individual heifers give little or no indication of heat. Close observation is necessary.

Start your Breeding Record

When you have a definite indication that the heifer is or has been in heat, that is the time to start your breeding record. Record the date when the heifer was thought to be in heat. Then about 3 weeks later she should, if normal and not bred, be in heat again. This interval may vary from 18 to 24 days. After you have observed one or more heat periods you will know when to expect the next one and be ready to breed the heifer at the proper time. Record the dates of all heat periods. The best time to breed the heifer is 6 to 18 hours after the onset of standing heat.

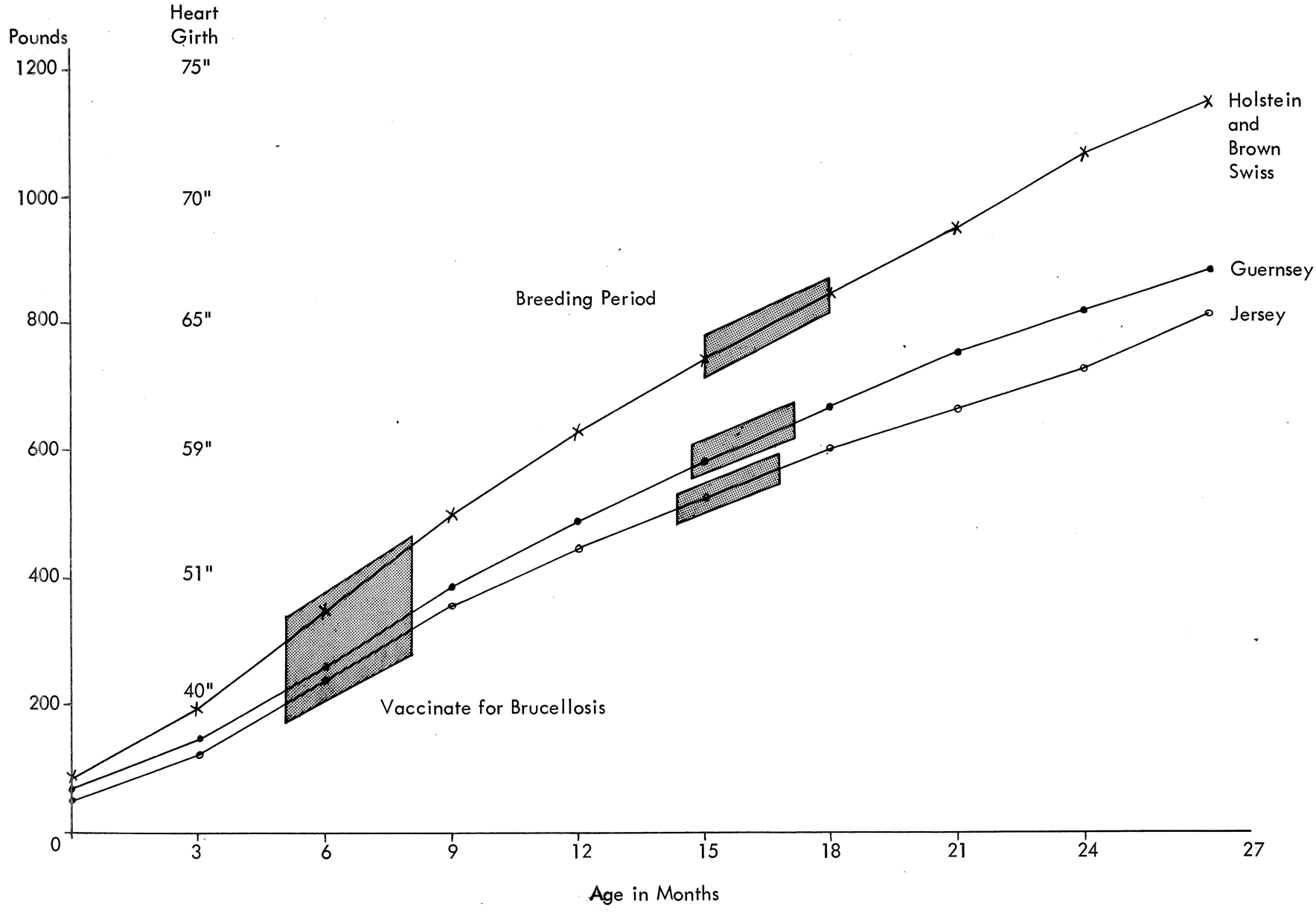
The female ovulates or releases the egg usually about 30 hours after the beginning or 12 hours after the end of standing heat. The egg is short lived and has a better chance of being fertilized if the cow is bred during the last half of the heat period.

When your heifer has been bred, be sure to record the date and the registration number of the sire used. If the heifer was bred artificially, you will receive a breeding receipt with this information, however the information should also be recorded in your record book. You will need the breeding receipt to register the offspring. Note also the expected calving date, which will be approximately 283 days later. The period from breeding to calving is known as the gestation period and varies by individuals and by breeds, most periods lasting between 274 to 295 days. Holsteins average *279* days, Jerseys *279,* Guernseys *284* and Brown Swiss *291.*

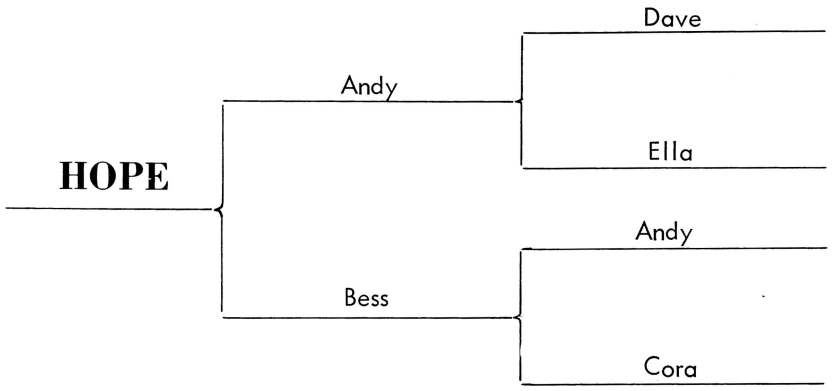
Do not be too surprised if the heifer does not "settle" on the first breeding. In such cases she usually will come back in heat at her regular time and will have to be rebred. If the heifer is irregular in heat periods she is less likely to settle promptly and it may be advisable to consult your veterinarian.

About 65 out of a hundred females will settle on the first service. The remainder will require two or more

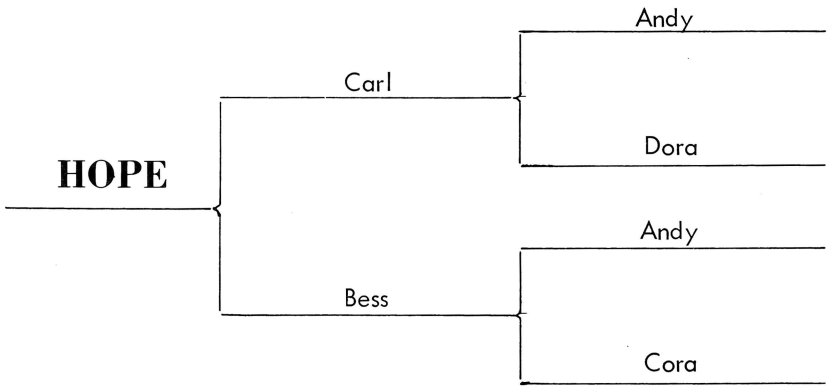
NORMAL GROWTH OF HEIFERS



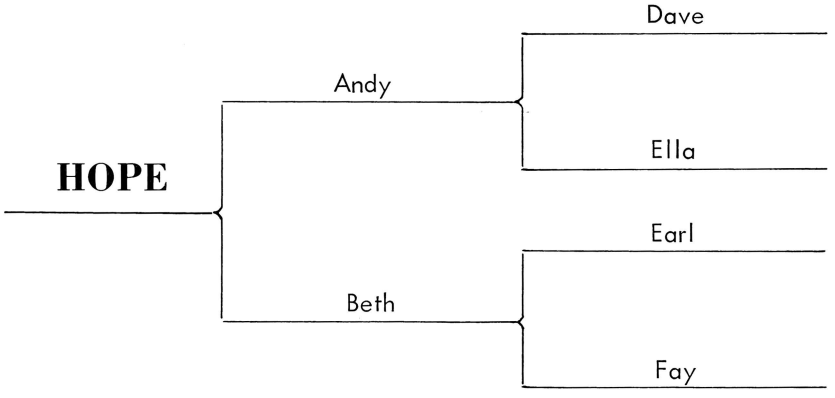
Examples of Breeding Systems



1 Inbreeding -Sire to Daughter



2 Line breeding - Half brother and sister



3 Out Crossing--No common ancesters appear

services. This is true with both natural and artificial insemination.

When heifers fail to breed after two or three services it will be well to have them examined by a veterinarian for possible disease or abnormalities.

Heifers should preferably be bred artificially or to a good young bull that has not been used in natural service. This is to lessen the possibility of bulls infecting the heifer with diseases that may be present in the older cows.

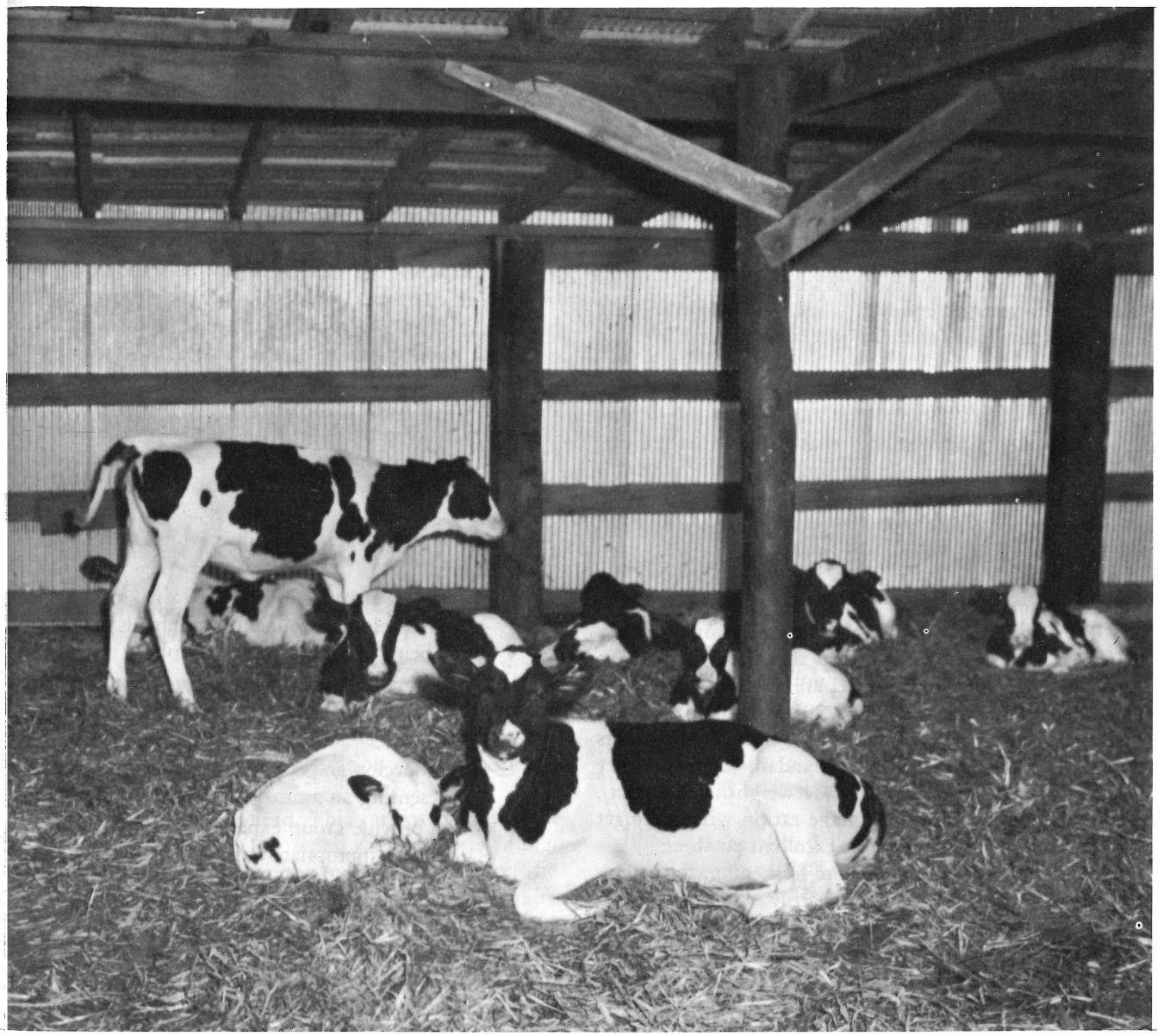
Housing

Housing requirements for yearling heifers are relatively simple. Well fed heifers require only an open shed where they can get in out of the wind and rain in cold weather. Forty to fifty square feet of floor space per heifer is recommended. The ceiling should be high enough to allow for 1 to 2 feet of built-up bedding. Roughage can be fed in outside bunks or mangers.

In summer, heifers should have access to shade. This may be provided by trees or an open shed where air circulation is good. Quarters that are well lighted, well ventilated, and clean, discourage flies and help to prevent disease. If a suitable shed or other shade is not available, it can be cheaply built with native posts and scrap metal roofing or with straw over woven wire fencing.

It is best to separate heifers of different sizes and ages. Smaller or younger heifers are likely to fare badly and gain slowly when they run with larger or older animals.

HEIFERS IN AN OPEN SHED



Training for the Milking Herd

Heifers should be handled occasionally during the second year so that less "breaking in" is necessary at calving time. If the yearling heifer is turned out to pasture and brought back only a few days before calving it is only natural that she will be nervous and frightened at the unusual handling.

One should work with the heifers regularly in feeding, salting, checking, etc., so that when they are being handled, fed, and watered, they are used to having people around. Heifers should be haltered and led or tied up occasionally so they are used to the halter.

About two months before freshening, the heifer will probably need to be fed some grain so she will continue normal growth while her calf is developing. This is a good time to handle the heifers so they will be used to halter, stanchion, milking parlor and any other place, procedure or process that may be strange to them. Dairymen often run the heifers with the milking herd at this period and feed them in the milking barn so they become accustomed to the entire routine of feeding and handling. It is important to handle the udder of the heifer when she comes into the milking barn so this too will not be entirely strange. However one should ordinarily not milk the heifer before freshening, nor handle the udder enough to stimulate milk let down.

When running heifers with the milking herd, be sure that the heifers are not crowded out to the point that they do not get enough to eat. At this stage, they need plenty of feed for their own body growth and for that of the calf.

Avoid Over Conditioning Heifers

Experiments have shown that heifers that are carried on too high a plane of nutrition, (that is, overfed and too fat), tend to produce less in their lifetime and have a shorter productive life than heifers that are well grown out but kept on the "lean" side during their second year. This certainly does not mean that heifers should be starved or underfed.

There is a great temptation where only one or a few heifers are being grown, to keep them too fat. This is particularly true of junior project animals which are often made pets and overfed. For this reason, one should take the chest measure and estimate the weight of the heifers frequently. Compare it with the standard to be sure they are not getting overweight or underweight. (See chart, p. 13.) Heifers on an all roughage ration will rarely get too fat, but they may when on excellent pasture.

In the last two months before freshening, the heifer's requirements for feed increases sharply, which is the reason why grain feeding is usually advisable at this period.

The increased requirement due to the developing calf amounts to about six pounds of Total Digestible Nutrients (T.D.N.) which is in addition to about 11 pounds needed by the 1000-pound growing heifer for her own growth and development, a total of 17 pounds of T.D.N. per day.

If the heifer consumes 25 pounds of good hay or is on very good pasture she would receive only about 12 pounds of T.D.N. daily. This would leave five pounds to be supplied by grain. Seven pounds of a good grain mixture with 72 percent T.D.N. would make up the difference.

$$(5 \div 72 \times 100 = 7)$$

More grain might be required if the hay or pasture is not of good quality.

Fitting Animals for Showing and Sale

Why show?

You can learn a great deal about desirable type and conformation of dairy animals by studying the uniform score card for dairy cows shown on pages 7 and 8 However, until you have had an opportunity to compare two or more animals side by side, as in a show ring, it may be difficult to really see the differences which cause one animal to score, or place, higher than another. Nevertheless, you should study the score card carefully, applying it to your animals, noting the parts of the animal and the points given to each which indicate its relative importance.

Knowing good dairy type is important to the dairyman and dairy cattle breeder. While good type (high score) is not a guarantee of a profitable high producing animal, good type does, to some degree, tend to be associated with good production. Good type animals ordinarily win at shows and sell best in the sales ring.

If you keep purebred dairy cattle you probably will have breeding animals for sale. It will be to your advantage if these animals are presented at their best.

As a club member, you will want to show your animals for several reasons, some of which may be:

1—As a demonstration of your progress in raising and developing your project animals and as a way of being recognized for the job

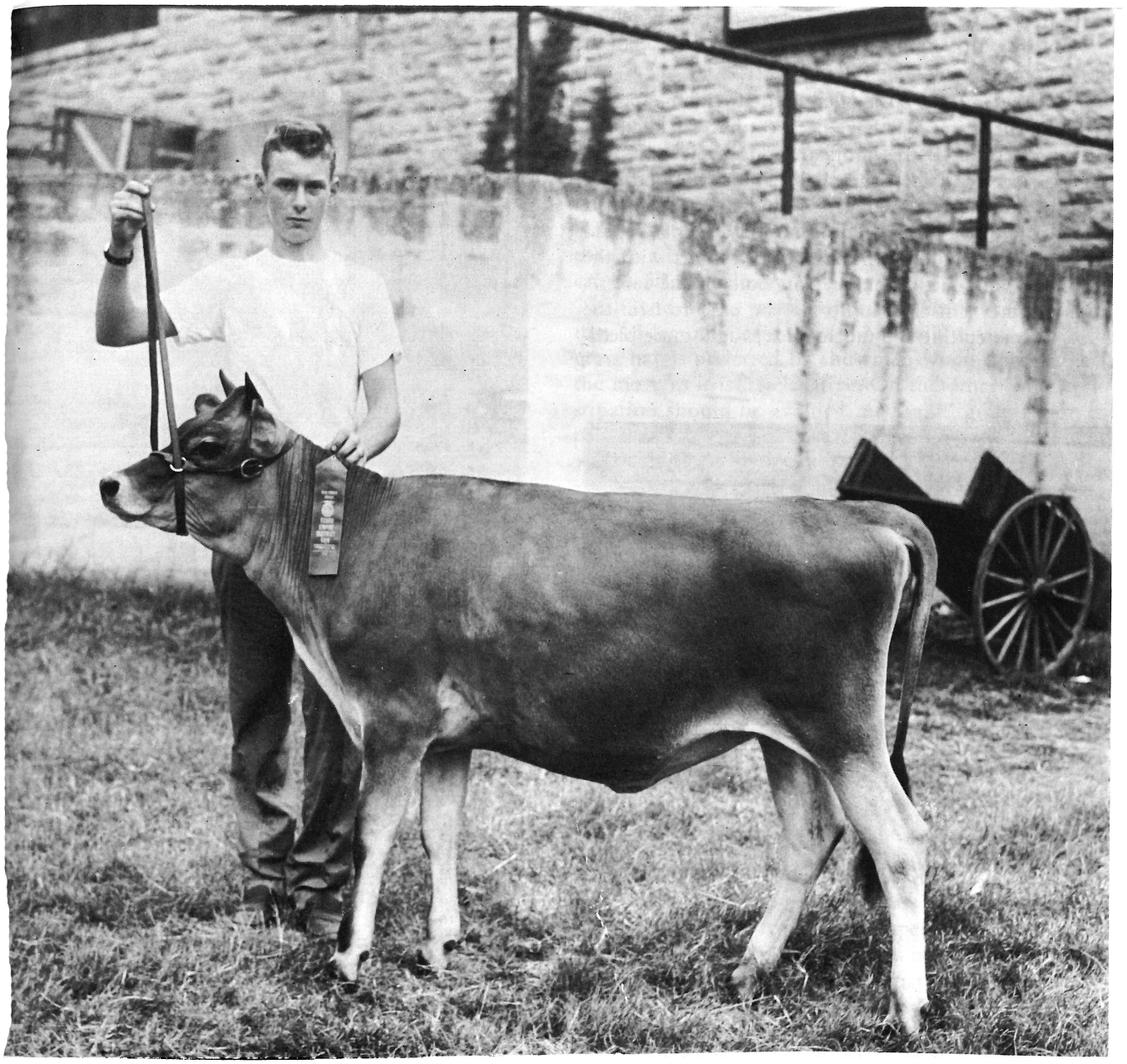
2—To develop your ability to recognize and appreciate desirable livestock by comparing them with others

3—To develop and apply your skill in preparing and presenting an animal at its best for show or sale

4—To provide group experiences that will help you develop appropriate attitudes, understanding, and ability, when working with others

5—To acquaint the public with 4-H club work.

Without a doubt, it pays to ***fit*** animals that are to be shown or sold. ***Fitting*** is simply to have the animal looking its best. The principal points to be considered are



WELL FITTED HEIFER

listed below. Some phases of fitting require time. Don't wait until the day before the show or sale and expect the animal to be at its best. As much as two months time may be required to properly condition and train an animal.

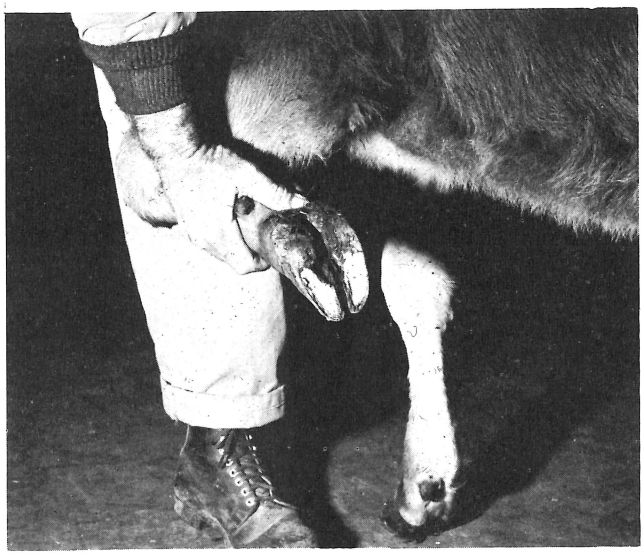
1—Teaching her to lead. This cannot be done in a day or two. Preferably, start when the animal is young. Once a heifer has been taught to know the halter, she will never entirely forget it, although she may require some more training if she goes for a long time without being haltered. Start by haltering and tieing her to the feed manger. Lead her to water twice daily. Teach her to stop and walk slowly to the halter. Practice until you have good control by halter.

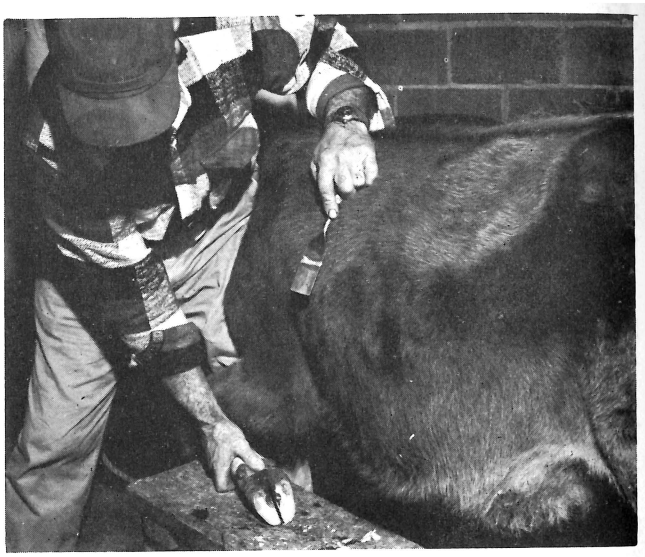
2—The ***Condition*** of the heifer or cow when shown is important. Do not allow her to get too fat, but plan ahead to have the animal gaining moderately at show time. This adds to her "bloom" and usually will mean that she will be feeling good, showing more alterness and spirit.

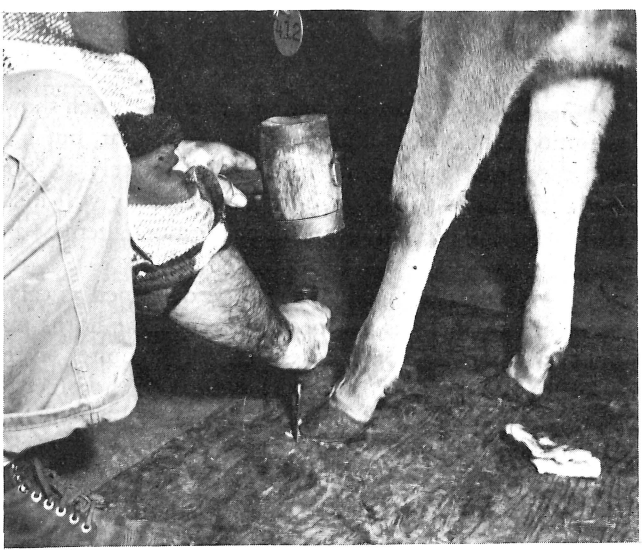
3—Generally, heifers should be dehorned as calves but if the animal has not been dehorned the horns may need training in some cases. It may require several weeks, to shape them in a way typical of the breed. If horn trainers or weights are used, proceed slowly and cautiously. Often, horns may be trained by shaping a point in the direction desired. Finally a few days before the show or sale smooth and shape the horns with a rasp

to desired shape, smooth with scraper and emery cloth and polish with a light oil and strips of cloth. Repolish just before showing.

4—The animal's *hoofs* often need attention, especially where the heifer may have been confined in the barn for long periods. If the hoofs are long they should be trimmed back and the outer shell trimmed smoothly at the bottom so the animal stands squarely on each foot. If any part of the outer shell is turned under it should be trimmed off so only the edge is in contact with the ground. Avoid cutting on the soft bulb of the foot. A hoof trimmer, chisel or knife may be used to trim the hoofs. Avoid cutting too much. That would cause bleeding.





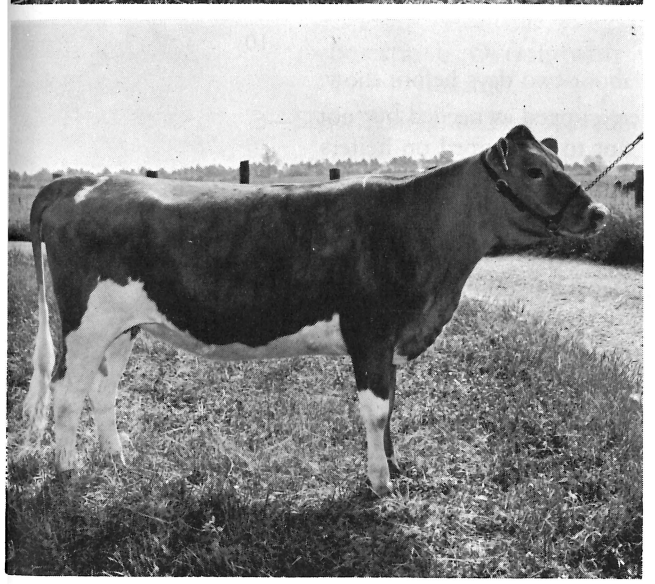


5—Animals to be shown or offered for sale will look better if stabled for two weeks out of the sun. Blanketing will soften the hide and hair and speed up shedding of long winter hair in the spring. First clean the coat by washing with mild soap or detergent, then keep the animal clean by using ample bedding and by daily grooming. Avoid frequent washings which tend to remove the natural oil from the skin and hair. Be sure the tail and switch are clean and brushed when shown.

6—Clipping properly is important and it requires practice. Clip two or three days before the show. Always hold the clipper head in contact with the skin. Clip

against the lay of the hair except where you stop. Then clip with the hair to blend smoothly. Clip around the head, ears and poll, back to the halter line. Some times it may be necessary to clip the long hair on the neck and shoulder but go cautiously. Some showmen clip the neck to a line from the bottom of the shoulders to the top of the withers. Next clip the tail, starting an inch or two above the top of the switch and stop at the tail head. Clip the tail as close as possible but blend out at the tail head by clipping with the hair. If the rump is high or has long hair one stroke squarely over the top of the rump from the back of the loin to the tail head often

BEFORE AND AFTER CLIPPING



is a great help. Skill comes from knowing where to stop and by blending neatly at that point. Avoid excessive clipping and never clip the entire animal.

The udders and milk veins on producing cows may be clipped to give a neater appearance, but do not clip the underline of a heifer, thus, causing her to look shallow.

7—Everyday grooming with brush and lots of "elbow grease" is an important part of fitting. Regular handling helps to develop "good manners" and ease of handling.

Feeding Show Animals

You will not need special feeds for your show or sale animals. They should be in good condition but not fat. Start conditioning far enough ahead of the show or sale date so that any improvement or change in condition can be made gradually.

Good hay is most important. Feed it freely. Hay may be legume or grass of good quality. Good quality grass hay is preferred by showmen when cattle are on the move as it is less laxative. On the other hand, constipation should be avoided. A "light" grain ration is preferred such as two parts each of corn, oats, and bran, with one part of linseed or soybean oil meal. Add one and one-half pounds of salt to each 100 pounds of the mixture.

Dried beet pulp is favored as a succulent feed for show or sale animals. It is usually soaked from one feeding to the next. Heifers should be taken off pasture and silage and started on beet pulp two weeks before showing.

Avoid over feeding, especially on grain, when the cattle are to be moved. On arrival, bed well and allow the cattle to rest if possible. They should be fed and watered before showing but do not over fill on cold water which may give them a bloated appearance.

Have Papers in Order

When planning to show or sell dairy cattle start several weeks ahead to be sure your papers are in order. This will avoid delays and embarrassing situations later.

First check the registration papers of animals to be shown or sold. Be sure the tattoos or markings on the animal check with those on the papers. Mistakes can happen.

Then check show entry dates. Late entries at shows often result in inconveniences; so make entries in plenty of time. Most shows require that entries be made in exactly the same name as appears on the registration papers.

Check the requirements for health tests and vaccinations and get them done in ample time. Health requirements protect your animals. It pays to cooperate fully.

After you have all papers in order it is a good idea to fasten them securely in a folder or binder and then see that they accompany the cattle as they go to the show or sale.

Transporting show animals

When show animals are transported by truck, they should be loaded snugly so they will not be thrown around in the truck nor be too crowded. Avoiding loading young animals in the same compartment with large ones.

Floors should be covered with material to prevent slipping. Cattle should be protected from drafts at all times, particularly in cold wet weather. Get an experienced trucker—a safe driver.

In the Show Ring

When you go into the show ring you will be in good position:

1—If you are on time

2—If your animal is alert and feeling good

3—If you know your entry, its weaknesses, and strong points, also its birth date, and last freshening date if she is a mature animal

4—If your animal is well trained and easy to control

5—If your animal is clean and well fitted

6—If you are neatly dressed and alert.

Sportsmanship is important in the show ring. Learn to be a good loser as well as a good winner. Listen to the judges' reasons.

Always be on time. Follow the judges' instructions. Do not allow your animals to interfere with any other animal in the ring. Keep showing until the class is dismissed and allow those placed above you to leave the ring first.

Score Card for Fitting and Showing

The following score card for fitting and showing dairy cattle with explanation of points is recommended by the Purebred Dairy Cattle Association.

Uniform Score Card for Judging, Fitting and Showing With Explanations

	Points
A—Appearance of Animal	40
1—Condition and thriftiness, showing normal growth, being neither too fat nor too thin	10
2—Grooming	10
a—Hair properly groomed and the hide soft and pliable Hair dresser should not be used in excess.	
b—Hoofs trimmed and shaped to enable animal to walk and stand naturally.	
c—Horns (if present) scraped and polished	
3—Clipping	10
a—The final clipping should be done about two days before show.	
b—Head, ears, tail, udder, and elsewhere clipped as needed but not over entire body. Belly and udder not to be clipped on heifers that have not freshened and are not springing close.	
4—Cleanliness	10
a—Hair and switch clean and if possible free of stains.	
b—Hide and ears free of dirt, and legs and feet clean.	
B—Appearance of Exhibitor	10
1—Clothes and person, neat and clean.	
2—White costume preferred.	
C—Showing Animal in the Ring	50
1—Leading	15
a—Enter leading the animal at normal walk around the ring in a clockwise direction walking opposite her head on the left side, holding the lead strap (or rope) with the right hand quite close to the halter with the strap neatly, but naturally (not necessarily coiled) gathered in one or both hands. Holding close to the halter insures a more secure control of an animal.	
b—Animal should lead readily and respond quickly.	
c—Halter of right type, fitting properly and correctly placed on animal. A leather halter with leather lead strap is best.	

d—As the judge studies your animal the preferred method of leading is walking slowly backward facing the animal and holding the lead rope in the left hand with the remainder of it neatly, but naturally, gathered in one or both hands. (Face forward when leading at all other times.)

e—Lead slowly with animal's head held high enough for impressive style, attractive carriage and graceful walk.

2—Posing 15

a—When posing and showing an animal stay on the animal's left side and stand faced at an angle to her in a position far enough away to see stance of her feet and her topline.

b—Pose animal with feet placed squarely under her with the hind leg nearest to the judge slightly behind the other one.

c—Face animal up-grade, if possible, with her front feet on a slight incline.

d—Neither crowd the exhibitor next to you nor leave enough space for another animal when you lead into a side by side position.

e—Animal may be backed out of line when judge requests that her placing be changed. Many prefer to lead animal forward and around the end of line or back through the line. Do not lead animal between the judge and an animal he is observing.

f—Do most of the showing with the halter lead strap and avoid stepping on animal's hind feet to move them.

g—Step animal ahead by a slight pull on the lead strap.

h—Move animal back by exerting pressure on the shoulder point with the thumb and fingers of the right hand as you push back with the halter.

i—When judge is observing the animal, let her stand when posed reasonably well.

j—Be natural. Overshowing, undue fussing and maneuvering is objectionable.

3—Show Animal to Best Advantage 10

a—Quickly recognize the conformation faults of the animal you are leading and show her to overcome them. You may be asked to exchange with another exhibitor and show her or his heifer for awhile.

4—Poise, Alertness and Attitude 10

a—Keep an eye on your animal and be aware of the position of the judge at all times. Do not be distracted by persons and things outside the ring.

b—Show animal at all times and not yourself.

c—Respond rapidly to requests from the judge and officials.

d—Be courteous and sportsmanlike at all times.

e—Keep showing until the entire class has been placed and the judge has given his reasons.

Total **100**

Judging

Two things are required of you if you wish to become a good judge of dairy cattle. First, you must develop a systematic mental habit of observing, scoring, and comparing animals. Second, you must practice this habit until it becomes automatic and you hardly recognize that you are doing it.

You are already acquainted with the Dairy Cow Uniform Score Card. See Pages 7 and 8. (There is also a Dairy Bull Uniform Score Card, but you need not concern yourself with judging bulls at first.) The score card provides you with an order of observation: General Appearance, Dairy Character, Body Capacity, and Mammary System. It gives a value for each part of the body that makes up these four divisions of the score card.

There is no better place to start your judging training than to learn the parts of the animal, the score card, and the point values of each division. Knowing the breed characteristics and evaluation of defects is, also, helpful. Start to use what you know about the score card by comparing cows and heifers on your farm with the ideal type as portrayed by the score card.

This brings you to the first actual step in judging. You must gather facts about your cows. You can do this first with a score card in hand. Write in the margin the value you believe to be deserved by an individual animal.

Stand about 20 to 30 feet away from the animal. At this distance, general appearance can be most easily observed. You can note the major good and bad points, without being influenced by minor points.

If you have an opportunity, visit a purebred herd when a type classification is being conducted. Here you will see a highly trained judge classifying each animal in the herd according to his judgment of how it compares with the score card and ideal type.

The next step is to consider two or more animals. Your experience in working with a score card has developed a mental picture of how an ideal type animal should look. You begin to compare first one animal, then the other, with the score card. Finally, you compare each animal with the other to decide which more nearly resembles the ideal type. The process is the same for two, four, or a class of animals at a show. You will learn to select the more outstanding animal rapidly. Then move on to comparing close pairs.

In judging a class of four animals, you should reach a tentative placing for the class before moving in for close inspection. Almost instinctively, one stands too close to the class and to individual animals. Close inspection should be made only for the purpose of confirming certain points in question.

Calves and heifers are scored and judged by the same score card as mature cows. Proportionately more credit is given to general appearance, dairy character, and body capacity, and less on the development of the mammary system.

Judging Contests

Judging contests are important in developing experience in evaluating animals, to train yourself to recognize a good animal when you see it, and to make and logically defend your own decision.

You are provided with a placing card to record your placing of a class of four animals. Based on what you have seen and evaluated, record your decision or placing. Place the most desirable animal first; the next, second; the next, third; etc.

Be sure the name of the class and your own name or identifiation number is on the card.

University of Missouri
College of Agriculture

4-H Club Dairy Cattle Judging

Class_____

First	Second	Third	Fourth

Placing Score_____

Contestant

Reason Score_____

_____ Total_____

Reasons for Placing

Giving reasons for dairy cattle placings provides practice in expression and communication. The value of giving oral or written reason on a class of dairy cows goes far beyond merely justifying your placing. It helps you to organize your thoughts and to choose the most important ideas. It trains you to express yourself in a confident and convincing manner.

After you have placed a class, develop your notes. First, list briefly the reasons for placing the first animal above the second. List the most important points first. Be convinced that number "one" has important merits that excel those of the number "two" animal.

If there are one or two points in which your second place animal excels the first place individual, it will be to your credit to recognize and mention this superiority. The number one animal will likely have some faults not possessed by number two. This is called "granting";—you are granting that the number "two" animal is superior to the number "one" in some respect in spite of placing number "two" second. Granting, conceding, admitting, or recognizing these points actually strengthens your judgment, for it shows that you did weigh the merits of these two individuals.

Compare the second and third place animals, then the third and fourth place animals, and, finally, tell why number four was placed at the bottom of the class.

Unless you have compared the individuals in the class, you have not given reasons, you have merely described four animals.

Learn to develop a mental picture of each animal. Visualize each animal so that you can recall her important characteristics. Then it will not be necessary to memorize your reasons. You can talk about the cows from the mental image you have retained.

When giving oral reasons, always stand 6 to 10 feet from the person listening to your reasons. Stand erect, be at ease, speak clearly with confidence, and in normal tone of voice. Use present tense in giving reasons;—"she *is* stronger and more level in top line". Avoid the use of words such as better, good, and nice. Use the correct terms for the parts of an animal. When writing reasons, spell correctly and write plainly and neatly.

Reasons are graded on:

Accuracy—Correctness of facts shows that you have observed accurately

Presentation—You are trained to use the correct terms, have a confident but not cocky attitude, and can present reasons with a pleasant smooth delivery

Emphasis—You put first things first, knowing which are the most important differences as you ***compare*** one animal with another

Completeness—You will have to omit some details but don't forget important points.

In scoring reasons the following is frequently used as a guide:

	Points
First pair of animals	10
Second pair of animals	10
Third pair of animals	10
Reason for placing last animal	5
Written Reasons—English, neatness, spelling and organization of facts or	15
Oral Reasons—Poise, forceful presentation, confidence and smooth delivery	
Total	**50**

The following reasons given on a class of cows may be helpful:

"I place this class of three-year-old Guernsey cows 4-2-1-3. 4 and 2 are easily the top pair of cows in this class, but the placing between them is close. 4 shows more dairy character than 2 in that she has a more refined head, is longer and leaner in the neck, sharper over the withers, and is longer and more open in the rib than 2. 4 has a softer, more pliable udder, carrying less excess meaty tissue than 2. It is more strongly attached in front and attached higher in the rear than 2 is.

"Also, 4 is stronger in her top, particularly over the loin.

"I grant that 2 is superior in strength, size, and body capacity, and balance of udder.

"I place 2 over 1 because of her greater strength and capacity of udder. It is larger, wider, and more nearly balanced than 1's udder. Although 1 is straighter in top line and has more style, 2 is larger, has more width, length, depth, and spring of rib than 1. Thus, 2 has the greater body capacity.

"I place 1 over 3 because of superior breed type and general appearance. One has a straighter top line and is much more refined than 3, particularly in the shoulders. She shows more quality and dairy character than 3. 1's udder, though deficient in size, is not quartered as badly as that of 3 and is more strongly attached both front and rear.

"I place 3 last as she is plain about the head, thick in the shoulders, low in her back, and lacks dairy character. Her udder is seriously quartered and poorly attached.

For these reasons I place this class 4-2-1-3."

Judging and giving reasons requires practice. Practice judging whenever you can. Give reasons to anyone who will listen or give them to yourself before a mirror or to a tape recorder. At the contest, get off by yourself while waiting your turn to give reasons. Organize your reasons and rehearse your presentation of them. It will pay.

Common Diseases and Ailments of Young Dairy Cattle

Name - Cause	Symptoms	What to do.
Pneumonia Bacteria - Viruses and lung worms. Follows exposure, damp poorly ventilated pens. Colds and indigestion.	Coughing - fast breathing, fever -- poor appetite. Discharge from eyes and and nose.	Reduce feed. Dry, well ventilated quarters. Avoid drafts and over-crowding. Sulfonamids and antibiotics on advice of veterinarian
Scours In older calves usually due to indigestion, poisoning, internal parasites.	Scouring - Loss of weight (See Internal Parasites)	Check for possible causes of indigestion or poisoning. Examine for parasites.
Internal Parasites Many kinds of worms spread by eggs present in manure of infected animals which infects pastures and lots.	May cause scours, pneumonia, emaciation, anemia, rough hair coat, and poor growth.	Change to clean pastures or lots. Treatment by veterinarian.
Lice spread from infested animal, blankets, brushes, etc.	Rubbing and scratching, rough hair coat, show growth. Patches of hair rubbed off.	Clip back of infested animals. Rotenone spray or 1 1/2% dust. Repeat treatment in 2 weeks. Avoid reinfestation.

Common Diseases and Ailments of Young Dairy Cattle

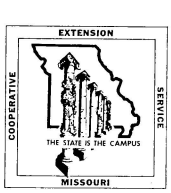
Name - Cause	Symptoms	What to Do.
Ring worm caused by a fungus from infected animal or equipment	Circular crusted or scabby hairless areas appear and increase in size. Usually on head, neck or shoulders.	Isolate infected animals. Avoid reinfection. Scrub infected areas with soap and water. When dry, paint with tincture of iodine or apply iodine ointment daily.
Grubs Larvae of the warble fly hatch from eggs laid on the feet and legs and penetrate body tissue, emerging on the back in early winter.	In late fall and early winter lumps appear on the backs of animals. Grubs are found under the skin.	Treat backs with Rotenone dust about January 15 and February 15. Use 1 part 5% rotenone powder to 2 parts dusting sulfur, using 3 oz. per animal.
Warts Caused by a Virus	Warts appear on head, neck and other parts of the body. Usually in summer and autumn	Isolate badly infected animals. Some warts may be removed by softening with daily applications of castor oil. Some may be clipped off with scissors. In severe cases vaccination may be necessary.
Shipping Fever (Hemorrhagic septicemia) An infectious respiratory disease. Cause not fully known. Follows exposure, stress, shipping, and handling	Depressed appearance, fever, rapid breathing, cough, discharge from nose and eyes. May be mild or severe.	Avoid severe stress. Consult veterinarian in advance of moving cattle. Vaccination may be recommended.

Common Diseases and Ailments of Young Dairy Cattle

Name - Cause	Symptoms	What to do
Pink Eye - Spread from infected cattle, often by insects.	Eyelids swell and water, later contain mucus and pus. Lining of lids become red. Evidence of pain, eyeball becomes cloudy, may cause temporary blindness. Animals lose weight.	Isolate infected animals. Use mild antiseptic washes. Control flies. Consult veterinarian for antibiotic treatment.
Bloat Usually from eating heavily on legume pasture such as ladino or red clover causing an accumulation of gas in the pauch which can not be eliminated.	The pauch fills with gas cuasing swelling on left side, accompanied by difficult breathing and distress. If not releived death may follow shortly.	Prevention: - Feed hay before turning on pasture and provide hay in the pasture. Limit the time on pasture at first. Treatment: Call the veterniarian. Keep the animal walking. Fasten a bridle, bit, or stick in the mouth. Promote belching. Insert a rubber tube into the rumen to let gas escape, or drench with 1/3 cup turpentine or kerosene with an equal part of cooking oil. As a last resort, puncture the rumen from the left flank at a point equidistant from the hip bone, the last rib, and the backbone. Use a trocar and cannula if available. In an emergency, a jack knife may be used.

Common Diseases and Ailments of Young Dairy Cattle

Name - Cause	Symptoms	What to do
Brucellosis (Bangs Disease) Caused by brucella abortus germ from infected cattle. May cause undulant fever in humans.	Causes abortions and other reproductive troubles.	No successful treatment. Control is to vaccinate calves at 4 to 8 months of age. Test herd regularly. Reactors to blood test must be sold for slaughter. Purchase only cattle that are tested and clean.
Tuberculosis caused by tubercle bacilli.	Usually no symptoms in young cattle. Causes emaciation in late stages. May cough.	No treatment or cure. Test regularly and sell any reactors. Purchase only tested and clean cattle.
Poisoning Paint Chemicals Fertilizers Insecticides	Symptoms vary depending on cause.	Prevent access to painted surfaces painted with lead paints, also old paint buckets, brushes etc. Fertilizers, fertilizer sacks, chemicals, insecticides are possible sources of trouble if animals can get to them. Consult your veterinarian.



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