

fitting
and
showing
Dairy
Cattle



JACK SPEARING

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Fitting and Showing Dairy Cattle

\$1.50

ABOUT THE AUTHOR

Robert D. Stewart, assistant secretary of the American Guernsey Cattle Club writes this about the author of Fitting and Showing Dairy Cattle . . .

In recognition of his years of faithful training and ever-dependable, courteous service, Jack has been very deservingly awarded the highest honor in North America for outstanding ability in fitting and showing fine dairy cattle. From his pen flow words of wisdom gathered through years of actual practice and experience.

Born and raised on a farm near Newton, Iowa — two miles from the nationally known Maytag Dairy Farm herd — Jack Spearing has had many years of valuable experience in fitting and showing fine registered dairy cattle. His first trip away from home was in a "show car" to Toronto, Canada, in 1933 where the Maytag herd exhibited two cars of cattle at the Royal Winter Fair. From that time on, Jack Spearing has worked with top specimens of the dairy breeds and has fitted and shown many blue ribbon winners at the National Shows in the United States and Canada.

He loves fine livestock, knows their needs and has the rare ability of providing for them what is needed when it is needed. If "Levity King" needed exercise in the cool of the evening, or "Marie" needed an extra feeding of hay before bedtime, he made certain that they got it. No effort, or extra hours of work for the benefit of the animals he fitted was too great for him. A twenty-hour day was no different from a ten-hour day if massaging an inflamed udder would reduce the swelling and maintain a strongly attached mammary system.

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(continued on ~~back flap~~)

ABOUT THE AUTHOR

(continued from ^{previous page}~~front flap~~)

Jack worked with the Maytag show herd each year from 1933 through 1940, being responsible for the fitting and assisting with the showing. During three different years, animals exhibited by Maytag and under Jack's care won five of the fifteen All-Americans annually selected in the United States and Canada.

From 1941 through 1944 he was herdsman for the nationally known Pine Manor Guernsey herd at Goshen, Indiana. He was also in charge of fitting and showing the Curtiss Candy Company Guernsey herd for four years. During his later years of service with Curtiss, Jack had general supervision of fitting and showing all their dairy breeds. In 1946 their Guernsey entries won both grand championships at the Dairy Cattle Congress and ten blue ribbons. In 1947 at the same show their Guernsey entries won five first prizes, grand champion cow and junior champion bull.

The highest recognition for fitting and showmanship came to Jack Spearing at the Dairy Cattle Congress in 1948 when he received the "Art" Klussendorf Trophy. This trophy is awarded to the outstanding herdsman and showman of the five dairy breeds during the entire show season.

Jack fitted and showed Afton's Golden Marie, grand champion at the 1948 National Guernsey Show, exhibited by Curtiss Candy Company Farms. At the same show their Guernsey entries, shown and fitted by him, won junior champion male and six blue ribbons. A few weeks later at the Royal Winter Fair he was awarded the Jack Fraser Trophy for outstanding showmanship where Curtiss Guernseys won 17 blue ribbons including grand, reserve grand, and reserve junior champion female, and junior and grand champion bull.

ROBERT D. STEWART
Assistant Secretary
American Guernsey Cattle Club

Fitting and Showing
Dairy Cattle

Fitting and Showing Dairy Cattle

By JACK SPEARING

*Winner of the Klussendorf and
Fraser Trophies, 1948*



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To Dlo Spearing

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Foreword

THE IMPORTANCE of the show ring as a factor contributing to the breeding of better dairy cattle cannot be overstressed. The animals winning top awards in the show ring generally are the result of good breeding practices combined with intelligent handling. The spirited competition among breeders for show ring honors thus encourages the development of better types of dairy cattle and the principles of good management.

No hard and fast rules can be set down to guarantee winning in the show ring, but certain basic principles exist and should be followed. Herein lies the value of this book, written by an experienced, successful and respected showman. Of greater importance, of course, the information in this book will help the reader carry out the basic purposes of the show ring — sound dairy animal practices and sensible herd management.

DELBERT H. KINGSTON
*Superintendent—Livestock Division
Curtiss Candy Company*

Preface

THE AUTHOR has observed from attending cattle shows and sales throughout the country that breeders often do not fit and display their cattle to the best advantage. The methods described in this book have been used for many years to fit a large number of blue ribbon and championship animals. By following these methods the reader may increase his skill in readying his dairy cattle for the show ring and the sale ring.

This book is dedicated especially to young breeders, to members of the 4-H Club and Future Farmers, and to the farmer-breeders, who want to show their cattle or consign them to a sale.

County agents, vocational agriculture teachers, and leaders of young rural people also may find this book helpful in teaching their groups how to correctly fit dairy cattle.

I would like to express my appreciation to the following persons whose advice and assistance aided materially in the preparation of this book:

To George Baur, Maurice Core, Dr. John Foley, Dr. Joe Heger, Dean Kingston, Myra Kingston, Roy Seitz,

and William Shenton for their help in taking the pictures used in this book. To Delbert Kingston, superintendent of the Curtiss Candy Company for supplying the pictures of individual animals owned by Curtiss Candy Company, and for the encouragement he gave me in writing this material.

To William Hitz, Rosebud Farm, Polk City, Iowa, for the use of his cattle in illustrating some of the steps in fitting cattle, and to Fred Idtse, secretary of the Purebred Dairy Cattle Association, for permission to use the Unified Score Card of the dairy breeds. To Harry Strohmeyer and John Carpenter, livestock photographers, for permission to use pictures taken by them.

To Arthur R. Porter, head of the Department of Dairy Husbandry at Iowa State College for his valuable suggestions, and to Marshall Townsend and Merritt Bailey of the Iowa State College Press for their assistance in preparation of the manuscript.

JACK SPEARING
June, 1952

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Selection of the Show Herd

THERE ARE MANY POINTS to consider when selecting animals for the show herd. Among these are: the type of individual animal; the age of the animal, so that it will fill its class to the best advantage; the sire and dam of the animal, for the purpose of filling out groups; and the stage of lactation of the cows.

This book is not intended to cover in detail the judging of cattle, but some of the more important things to look for in making your selections will be pointed out.

Unified Score Card

The unified score cards for the dairy cow and the bull are shown here through the courtesy of The Purebred Dairy Cattle Association. Anyone showing dairy cattle should familiarize himself with these cards so that he knows the stress placed upon the different parts of the animal and also what the desired conformation should be.

Throughout this book you will see pictured outstanding animals of the dairy breeds. These animals are representative of each individual class at the shows. They all have been winners or placed high in major shows throughout the United States and Canada. Every

UNIFIED DAIRY BULL SCORE CARD

Ideals of type and breed characteristics must be considered in the application of the terminology of this score card.

Based on Order of Observation		Perfect Score				
1. GENERAL APPEARANCE		30				
Attractive individuality, revealing vigor, masculinity with a harmonious blending and correlation of parts. Impressive style and attractive carriage with an active, well balanced walk.		20				
BREED CHARACTERISTICS (see reverse side)						
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 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.						
2. DAIRY CHARACTER		35				
Animation, angularity, general openness, and freedom from excess tissue.						
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				
Relatively large in proportion to size of animal, and deep at the flank, providing ample digestive capacity, strength and vigor.		10				
BARREL deep, strongly supported, ribs wide apart, and well sprung.						
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				

BREED CHARACTERISTICS

Each of the five member dairy breed registry organizations has approved the statement of the distinguishing characteristics of its breed, and has concurred in the evaluation of defects in registered cattle as printed below.

AYRSHIRE CHARACTERISTICS

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 bull in breeding condition should weigh about 1800 lbs.

HORNS—Inclining upward, medium size at base, refined, medium length and tapering toward tips.

GUERNSEY CHARACTERISTICS

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 bull in breeding condition should weigh about 1700 lbs.

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

JERSEY CHARACTERISTICS

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

SIZE—A mature bull in breeding condition should weigh about 1500 lbs.

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

BROWN SWISS CHARACTERISTICS

Strong and vigorous. Size and ruggedness with quality desired. Extreme refinement undesirable.

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—A mature bull in breeding condition should weigh about 1900 lbs.

HORNS—Inclining forward and slightly up. Medium size at base, medium length, tapering toward black tips.

HOLSTEIN CHARACTERISTICS

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 bull in breeding condition should weigh about 2000 lbs.

HORNS—Inclining forward, incurving, medium size at base, refined, medium length and tapering toward tips.

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.*

WRY FACE

Serious discrimination.

PARROT JAW

Serious discrimination.

SHOULDERS

Winged: 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.

TESTICLES

Bull with one testicle or with abnormal testicles: Disqualification.

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

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.

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Approved—The American Dairy Science Association, 1943

UNIFIED DAIRY COW SCORE CARD

Ideals of type and breed characteristics must be considered in the application of the terminology of this score card.

Based on Order of Observation		Perfect Score				
1. GENERAL APPEARANCE		30				
Attractive individuality, revealing vigor, femininity with a harmonious blending and correlation of parts. Impressive style and attractive carriage with a graceful walk.						
BREED CHARACTERISTICS (see reverse side)		12				
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 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.		10				
RUMP long, wide; top-line level from loin to and including tail head.						
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.						
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.		8				
FEET short and well rounded, with deep heel and level sole.						
2. DAIRY CHARACTER		20				
Animation, angularity, general openness, and freedom from excess tissue, giving due regard to period of lactation.						
NECK long and lean, blending smoothly into shoulders and brisket; clean-cut throat and dewlap.						
WITHERS well defined and wedge-shaped with the dorsal processes of the vertebrae rising slightly above the shoulder blades.		20				
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				
Relatively large in proportion to size of animal, providing ample digestive capacity, strength and vigor.		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				
A capacious, strongly attached, well carried udder of good quality, indicating heavy production and a long period of usefulness.						
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. Veins on udder numerous and clearly defined.		5				
TOTAL		100				

BREED CHARACTERISTICS

Each of the five member dairy breed registry organizations has approved the statement of the distinguishing characteristics of its breed, and has concurred in the evaluation of defects in registered cattle as printed below.

AYRSHIRE CHARACTERISTICS

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 1150 lbs.

HORNS—Inclining upward, small at base, refined, medium length and tapering toward tips.

BROWN SWISS CHARACTERISTICS

Strong and vigorous. Size and ruggedness with quality desired. Extreme refinement undesirable.

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—A mature cow in milk should weigh about 1400 lbs.

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

GUERNSEY CHARACTERISTICS

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 1100 lbs.

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

HOLSTEIN CHARACTERISTICS

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 1500 lbs.

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

JERSEY CHARACTERISTICS

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

SIZE—A mature cow in milk should weigh about 1100 lbs.

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

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.*

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: *Disqualification.*

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.*

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Approved—The American Dairy Science Association, 1943

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breeder would like to have animals of equal merit for his show herd, for he would be assured of a successful show season.

It is advisable to watch eligible calves and yearlings throughout the winter and spring months previous to the show season. Sometimes a calf that looks good for a while will go into a slump and not appear as good as before. This change should be noted and studied in selecting the animal. An individual may improve in type at a slow and constant rate, so that by show time she or he may be by far the outstanding animal. If such an animal is in the herd, it should certainly be included in the group being brought in for fitting, although at the time it may not be as good as another individual.

Age

It is often advantageous when selecting animals, to choose one which has the maximum age that a particular class allows — especially if there are two or more animals of equally desirable type. The older calf naturally should have more size and scale, and this often will be to its benefit. Although many judges will give the advantage to an older calf, a young individual that has outstanding type should not be discarded or left at home simply because there is an older one for the class.

The age limits at all the state and national shows and most local shows are on a uniform basis. The dividing line or date between each class is the same.

An exhibitor should check the age requirements in the premium list of each show which he plans to attend. You can get premium lists with full information by

writing to the secretary of the show or fair. Some of the smaller shows, and shows which are held during the winter or spring, may have different classifications.

These classes, as a rule, are as follows:

*Calf Class:** Born after July 1 of the year preceding the show.

Junior Yearling Class: Born from January 1 thru June 30 of the year preceding the show.

Senior Yearling Class: Born from July 1 thru December 31 the second year preceding the show.

Two-Year-Old Class: Born from July 1 of the third year prior to the show year thru June 30 of the second year prior to the show.

Three-Year-Old Class: Born a year earlier than the two-year-olds.

Four-Year-Old Class: Born a year earlier than the three-year-olds.

Five-Year-Old Class or Mature or Aged Cow Class: Born still another year earlier.

At some shows the *Four-Year-Old Cows* will show with the *Aged Cow Class*.

Bulls, Three-Year-Old and Over, will show in the *Aged Bull Class*.

In the female classes, yearling heifers must not be in milk, or they will be shown automatically in the two-year-old class, and, of course, be at a decided disadvantage. In the two-year-old class, there will be heifers that

* At some shows this class is divided into junior and senior calf classes.

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are not yet milking. They, too, will be showing at a disadvantage unless very close to calving and their udders without excess swelling. When selecting the females, you should choose animals that will be milking at the time of the show or springing very heavily. As noted on the score card, 30 points are given to the mammary development of the cow, and unless she is milking, the judge will not know to his satisfaction the type of udder the cow has. In most instances, cows that have been milking for 10 to 12 months or longer should not be chosen to go with the show herd. They will often be showing "stale." In other words, they will be carrying a little too much flesh over their shoulders and about their necks, so they will not have a refined dairy appearance.

Some of the leading showmen like to have the two-year-old heifers fresh two or three months before the show season starts. In that length of time the swelling will be worked out of the heifer's udder, and it will be showing its normal structure and quality. It is important that the texture of all udders be soft and pliable and not hard or meaty, which would be the case of an udder that is still showing swelling from calving.

In a two-year-old, the veining of the udder should be apparent and the skin should have the appearance of fineness and high quality. There should be no swelling to give the appearance of bulginess or weak attachments. In two or three months, the heifer will have regained her middle that was lost during calving. She will appear to have more capacity for feed. If she was a little fleshy at the time of calving, she should be milked

BULL CALF



Curtiss Candy Ned's Cheryl

1st Bull Calf, Reserve Jr. Champion, Dairy Cattle Congress, 1950; 1st Bull Calf, International Dairy Exposition, 1950.

This bull calf shows fine dairy characteristics about the head, neck, and hindquarters. Notice the breed type about the head and neck, straight topline, legs, and level rump.

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down to a condition that shows dairy character and quality. However, this must not be interpreted as meaning the heifer should be very thin.

Groups

The various groups such as *Get of Sire* and *Produce of Dam* should be kept in mind when selecting the animals for the show string, so that these groups can be filled. This may mean taking along an extra individual in some class in order to fill out a *Get of Sire* or a *Produce*. At most fairs, a *Get of Sire* consists of four animals by one sire with not more than two of them males. One of the group members must be two years of age or older if a junior get of sire class is listed.

Junior Get of Sire has the same qualifications, except that the animals must all be under two years of age and bred by the exhibitor.

The *Produce of Dam* is made up of two animals out of one cow. They may be either sex, and any age. Of course the more mature animals may be more desirable.

Another group, the *Dairy Herd*, consists of four cows which have freshened.

At the large shows, there may be additional classes for the *A. R. Get of Sire*, which consists of four females in milk which have met certain production requirements.

The *Best Three Females Bred by Exhibitor* may be of any age.

When choosing the groups one should strive for as much uniformity in type among the individuals as possible. This makes a more pleasing appearing group

and gives the impression that the bull or cow is reproducing a uniform group of offspring.

The *Best Udder Class* should be kept in mind. This class is judged on conformation of udder alone. A cow that has not been milking too long will make a better showing than one later in lactation. By that we mean she should be showing an udder that does not look stale and one that is milking evenly out of all quarters so that the udder will be balanced. The best udder cow should have been milking long enough so that there will be little or no swelling in the udder. At show time the udder should be showing its best conformation and type.

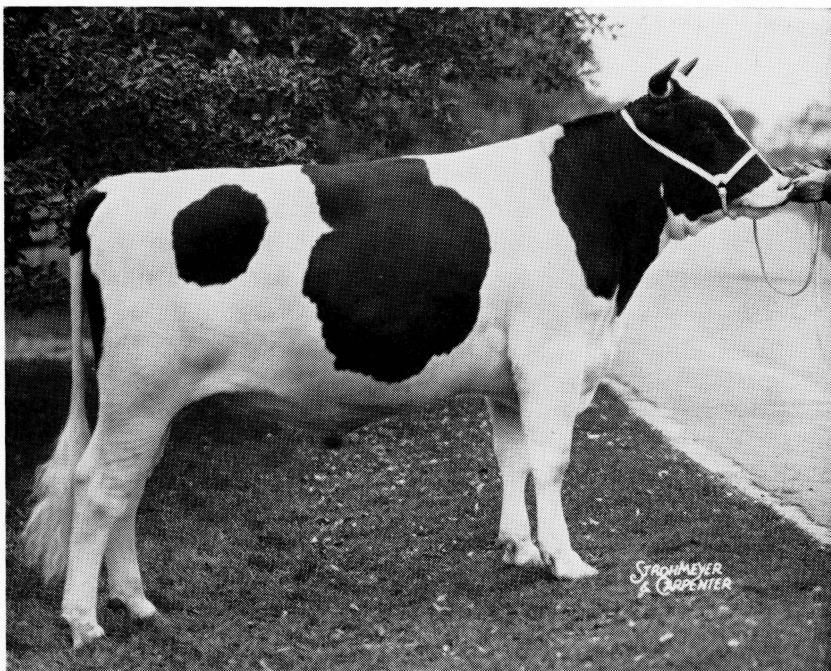
When selecting heifers, be sure to check for extra teats. Such teats should be removed not less than two months ahead of the show, and preferably when the calf is about six months of age. This will make a more pleasing appearing udder. If left on, extra teats will be bothersome when the heifer comes into milk, if they secrete or leak milk. This would develop an abnormal udder, practically disqualifying the heifer from future showing, and decreasing her sale value.

Steps in Fitting

AFTER ANIMALS have been selected for the show herd, the next step is fitting. An average of seven to eight weeks should be allowed for fitting cattle. Some may take more time than others. Very thin and shallow animals require more time to reach their peak, while an over-fat animal must have some of the surplus taken off, and this, too, takes time. When the show season starts in the first part of August, the animals should be brought in about the first part of June. When there are several shows to attend, the animals that are in the hands of capable herdsman will improve each week that they are on the road until the time that they are brought home. If this is because of the extra time, then it would seem that the eight-week period of fitting is none too long.

When there are several fairs to attend, or a circuit that covers a long period of time, see that the animals are not brought to their peak too soon. It is not practical to have them at their best condition before the fair, or at the time of the first fair if several shows are to be attended. The animals should be brought along so as to be in a condition of "doing well," becoming a bit better each week, until finally at the time of the big

JUNIOR YEARLING BULL



Curtiss Candy Invincible

2nd Junior Yearling Bull, International Dairy Exposition, 1950; Honorable Mention All-American Junior Yearling, 1950.

Here is a calf showing great depth of chest, ribs, and flank. He also has a strong topline and clean dairy hindquarters.

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show, they will be at their best. This will prevent much of the staleness and over-conditioning that we often see.

Quarters for Fitting

Almost any farm has places that are satisfactory for fitting show cattle — an elaborate setup is not needed. The animals should be kept in a place where they can be tied up, as at the show. When fitting a full string, open heifer sheds and machine sheds are good. For just a few, box stalls, horse stalls, or similar places where they may be tied will serve very well. Screening against flies is desirable, but not as essential as it used to be if you use the modern fly repellents and haul the manure away each day.

The animals' comfort is important, and proper ventilation of their quarters cannot be stressed too much. A number of windows or doors will help provide cross ventilation to remove the dead, hot air that collects in a barn where cattle are kept. Heifer and machine sheds entirely open on one side meet these requirements, but they are better if windows or sections in the opposite wall can be taken out for cross ventilation.

To help keep out the hot rays of the sun, burlap bags that have been ripped apart and dyed a dark color may be hung over the windows on the sunny side of the barn. At night, or when the sun no longer shines in these particular windows, the sacks should be removed for better ventilation. It may be necessary to close the building at times in case of cold wind or rain.

Tying

For tying the animals, leather halters are preferred over rope halters. Rope will often rub off the hair it

contacts, and if the rope gets wet during watering or feeding it will tighten up. This may result in a severe sore place on the animal's head, and a rope halter may get so tight that the animal cannot easily eat.

The tie rope on the leather halter should be made of about $\frac{3}{8}$ inch rope, some 5 to 6 feet long, and fastened to the wall about 22 inches up from the floor. The animal should be tied about 2-3 feet long, depending on the size of the animal and the height of the rail. Some animals may have to be tied two ways if they are

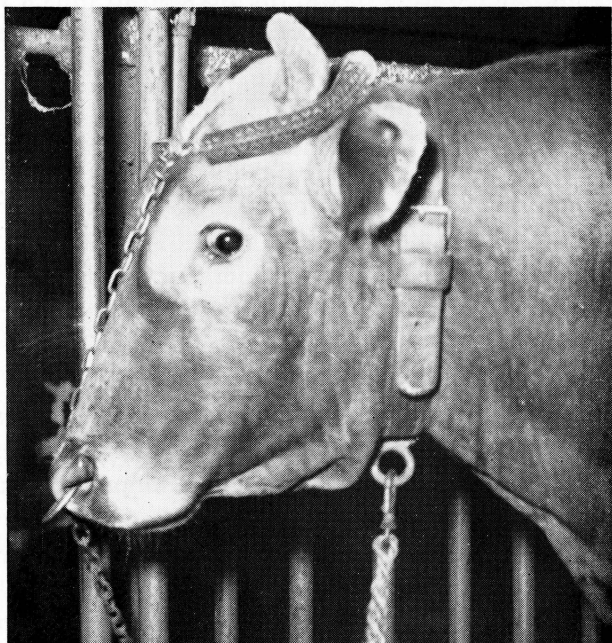


Fig. 2.1—Tying bulls. The chain runs up through the nose ring and fastens around the horns. An alternate method is described in the text. The rubber tube protects the head and horns from injury. Note also the strap around the neck.

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mean to the animals on either side of them, or steal feed from their neighbors.

Bull calves may be tied with halters, without tying them with their nose rings. This will also apply to junior and senior yearlings in many cases. However, all bulls should be tied with a neck strap also to prevent their getting loose to cause injury to other animals or perhaps to breed a heifer or cow in heat. Older bulls should be tied with strong neck straps and ropes in addition to tying by their rings. A satisfactory way of tying an older bull is to use the neck strap plus a rope 4-5 feet long with a 2-3 foot length of light chain on the end of the rope. This chain is run up through the bull's ring and snaps onto a ring that is on a horn strap that buckles around the horns. The rope is then tied to the wall or tie rail. Light chain is better than rope here because when it gets wet with water or feed it will not stiffen and chafe the bull's nose. Then too, it will not rot out and break in some emergency. This method of tying also helps prevent the bull from pulling the ring out of his nose, since most of the pull will be on the strap around his horns.

It is a good idea to have two rings in the noses of senior yearling and older bulls. In case one ring breaks, the other will still hold. A bull calf 8 months old, that is going to be shown, is old enough to have a ring put in his nose. Bulls will handle and eat better if the ring is put in at an early age.

Cows should be put in the show string at the same time as the bulls and heifers if their pasture and feeding conditions are not favorable. However, in the case of

SENIOR YEARLING BULL



Curtiss Candy Levity Peer

2nd 3-year-old, International Dairy Exposition, 1950; Undeafated Senior Yearling, all shows, 1948, including Wisconsin, Minnesota, Indiana, Kentucky, National Guernsey Show, Royal Winter Fair; Junior and Grand Champion, Kentucky, Royal Winter Fair; 1st Bull Calf, Illinois, Wisconsin, Minnesota, 1947.

Notice the scale and great length of body of this senior yearling bull. His clean, masculine head shows breed type, and his long fine neck is desired in a dairy bull. Observe the straight hind legs and clean thighs.

cows on test, they usually are being well fed with liberal amounts of hay in addition to the pasture. They probably are being kept in out of the sun during the hot part of the day, so they are just as well off in the milking string until about 2 or 3 weeks before leaving. However, if a cow is thin and out in the sun during the day, she probably would do better if brought in and given the much-needed attention of the showman.

Breaking to Lead

As the animals are being brought in and tied up, one generally finds that many of them need breaking to lead. This is especially true of the calves and yearlings. If these are tied up for three or four days before trying to lead them, they will learn more quickly. By this time they may have gotten over some of their nervousness and be tired of standing still and want exercise.

When animals are taken out for the lesson, they should have a strong show halter on, for they are better controlled by this type than by the tie halter. Generally, a show halter with an entire strap lead rather than one with a chain lead will get better results. However, there may be individuals that need a chain lead.

Taking the calf out often for frequent, short periods of time is better throughout the training period than for long sessions two or three days apart. The first few times out for a calf should be short, for it is apt to get stubborn and mad, and nothing will be accomplished. On more stubborn cases the leader should get several feet in front of the animal and use a series of quick, strong tugs (*not jerks*). The calf will get the idea and begin to move forward. Also, by turning in a small

circle it will be easier to get the animal to move. Much of this hard work can be avoided if the calf is broken to lead at an early age.

As the animal begins to lead easier, whether it be a calf or aged cow, it should begin to be trained to lead and stand properly. The head should be held up and alert — not too high on weak-backed animals. The animal should step ahead easily and not have to be pulled. It should stop easily and quickly with its feet squarely under it. The animal should be trained to walk with steps that are somewhat short, and to walk slowly and yet with spirit — head and ears up! Walking them slowly may be accomplished by holding the halter lead strap short with the left hand and slowing the animal down by pushing back with the right hand just above the shoulder joint. The patience and time spent here will be rewarded in the show ring.

Leading and training exercises the animal, which is important in fitting. It also helps develop straight hind legs and good shoulders. Exercise aids in circulating the blood and lymph, which in turn helps to maintain a good appetite and a healthy animal.

Turning Out at Night

During the warm summer nights it is a good practice to turn the animals into small lots, or paddocks, where there is turf but not an unlimited amount of grass. Too much grass is not wanted as it tends to cause some looseness of the bowels and the animals will not develop the wide deep middle that is desired.

Hay should be available for the animals during the night.

TWO-YEAR-OLD BULL



Curtiss Candy Signal Ned

Classified "Excellent;" 1st Junior Get, Dairy Cattle Congress, 1950; Grand Champion, Illinois, Iowa, 1946; Member, Undefeated Produce, 1947; Undefeated Grand Champion wherever shown, 1947; Grand Champion, Dairy Cattle Congress, Illinois, Indiana, Kentucky, Minnesota, Wisconsin, 1947.

This Brown Swiss bull is smooth over the shoulder and withers, has a good topline and a level rump. Also, is deep through the ribs and straight in the hind legs.

Turning out at night gives the animals a chance to exercise and to cool off. They should be divided as to size, of course, and to prevent injury, should not be crowded. The bulls may be turned in individual pens, if available. Females in heat should be kept in the barn. If they are out with the other animals, either they or another cow or heifer may be injured by the riding they will do. Also, the violent exercise will tend to take off some of their middles.

During hot weather, if the barn is cleaned after letting the animals out in the evening, it will cool out quicker. The animals will come in the next morning refreshed, into a cool barn that is not full of hot, stagnant air. This works especially well for the cows.

Blanketing

A good deal of judgment must be used in blanketing show animals during the summer. When the weather is warm, the cattle will be more comfortable without blankets if the flies are controlled by insecticides, screens, darkening of the quarters with sacks over the windows, and by keeping the manure picked up and hauled away. If the flies are troublesome a light blanket will add to the comfort of the animal.

Blankets are seldom necessary in the summer for hair conditioning if proper feeding and grooming methods are followed. However, if an animal has old dead hair to shed out, a blanket will help produce a glossy hair coat and pliable hide in less time.

In cooler weather the animals may have to be kept in at night, and blankets put on both day and night to

slow the growth of the long winter hair in some breeds and to keep the hair coat lying down smoothly. This does not apply as much to the Ayrshires as to the other breeds, as the growth of long hair is often encouraged in fitting Ayrshires. This long hair makes Ayrshires look deeper, and an experienced showman can do much in clipping the long hair to help make the animal look as near the ideal type as possible.

Most blankets are made of duck or canvas material and wear for a long time. They should be brushed clean each day and washed when dirty. A lightweight blanket is preferred in warm weather. Burlap blankets, home-made or purchased, may be used for fitting at home and for traveling between shows. They are cool, keep the flies off, and the hair lying down. However, duck blankets make a more pleasing appearance, wear longer, and generally are more satisfactory. Certainly duck blankets should be used at the shows.

Lined blankets, or very heavy ones, are not necessary as they are much too heavy and hot. If for any reason you want additional warmth, you can use a "sweat blanket" underneath the duck blanket. The sweat blanket is a light cotton sheet blanket used underneath the show blanket while the animal is drying after being washed.

Many show men fasten the rear leg straps of the blanket by crossing them behind instead of running them between the legs. That is, the left strap goes behind the animal and hooks on right side, and the right strap is fastened on the left side. On cows, this will prevent chafing between the udder and legs. Also, it

will save time when you remove the blanket, as the two rear straps will not have to be unfastened and fastened again when putting the blanket back on the animal.

Washing

The cattle should be washed soon after they are brought into the show string. This will remove a lot of the dirt, grime, and discoloration from the hair, and will make the animals more attractive and easier to keep clean. Cattle also show signs of being refreshed after having a good bath — they eat better and rest better.

Use a good, lather-forming soap — a hard-water soap generally gives the best results. The animal should be thoroughly soaked with water, lathered well, and scrubbed — followed by a thorough rinsing to remove all the soap. If there are several animals to wash, you will save time by cutting the bars of soap into small pieces and putting them into a full bucket of water to soak for an hour or two before washing. Then the scrub brush may be simply dipped into the bucket and vigorously applied to the animal. Be careful not to squirt the water into the ears of the animal. The area between the udder and legs on the cows should be washed carefully, as this stains easily and will show if not clean.

This washing should be repeated every two weeks during the fitting period on the spotted and lighter-colored breeds. The Jersey people do not wash their cattle as often as others, if at all. They lather them with a suds of green soap and brush it out. However, during the past few years, some of the top showmen of the

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Jersey breed also have been washing their cattle, especially during the warm weather.

The switches and tails that are white should be washed daily, and if stained, should be rinsed with water to which a small amount of blueing has been added. To wash a tail, dip it into a bucket of water, then rub thoroughly with a bar of the hard-water soap. Lather the switch by vigorously sudsing and rubbing the switch between the hands, and then rinse the soap out, and follow by a rinsing with the water containing blueing.

Grooming

Brushing and a good grooming should be done daily. This will remove the dead hair that is being shed and will stimulate the skin, all of which will help to produce a coat that fairly shines from good health. Of course, feeding the animal will be very important in this respect too, but all these factors work together in helping to make the animal most presentable. A good way to brush is to first go over the animal thoroughly with a rubber currycomb, which will loosen and pull out the dead hair. Then briskly go back over with quick, short strokes using a stiffer brush, such as a rice root brush. Then go over with a soft hairbrush and follow with a cloth. This will leave the coat clean, and in a short time it will glisten after each brushing. A steel currycomb need not be used except to remove dried-on dirt or manure, and then, only with care.

Proper grooming, feeding, and keeping the animal out of the hot sun for a long enough fitting period will practically insure a beautiful coat of hair on the animal.

Feeding

THE IMPORTANCE of good feeding cannot be overemphasized. It may easily be the difference between winning and losing, provided the animal has the inherited ability to do so. There have been many instances where an animal could have placed higher if it had been in better condition, with more bloom, a smoother appearance, and a deeper middle that would indicate a larger feed capacity. On the other hand, there have been many animals that have been over conditioned, losing the refinement about their shoulders, head, and neck, and becoming too heavy in their hind quarters.

Ration

There are several highly satisfactory fitting rations on the market, produced by commercial companies. They are well balanced, fortified with minerals and vitamins, palatable, and save a considerable amount of time and labor in mixing.

Home-mixed rations also will produce excellent results if some thought and care are given to their mixing. Of course everyone who mixes his own ration for show cattle probably has found a ration that is a little different from the others and one that has given

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the best results for him. However, the rations of the leading showmen probably are somewhat similar, in being light, and not too high in protein or the heat producing carbohydrates.

The following is an example of a good ration for show cattle:

Oats (ground or preferably crimped)	150 pounds
Wheat bran	100 pounds
Corn (ground)	50 pounds
Linseed oil meal	50 pounds
Salt	4 pounds

The above ration, as well as the commercial mixtures, should give the desired results if carefully and prudently fed. In certain cases it may be desirable to alter these rations. Barley may be substituted for the corn quite readily. In extremely hot weather it may be advisable to reduce or entirely remove the amount of corn. This will have a more cooling effect on the animal. On the other hand, if an animal is in very poor condition and the time is short, it may be better to add more corn to its ration. A double handful of corn will be enough in most instances.

For cows that are in milk and on test, where it is desirable to hold up their milk production, a small amount of linseed oil meal may be added — say a single handful or two at each feeding, depending on the size and condition of the cow. This will raise the protein content to more nearly meet the demands of production. For rough coated animals, additional linseed oil meal

AGED BULL



Royal's Intrepid of Lee's Hill

Grand Champion, International Dairy Exposition, 1950; Junior and Reserve Grand Champion, Dairy Cattle Congress, 1948; 1st Senior Yearling, Indiana, Kentucky, 1948; 2nd Senior Yearling, Wisconsin, Minnesota, 1948; 3rd Senior Yearling, Illinois, 1948; Member, 1st Produce, Dairy Cattle Congress, 1948.

Here is an aged bull showing many of the points looked for in selecting the bulls for the show string. Notice his head, clean, long neck, very smooth shoulders, fine withers, and the long, deep ribs and straight hind legs.

should be given to promote a smooth, glistening coat of hair with lots of bloom.

It is doubtful if anyone except the person feeding the cattle, or the person in charge who observes them closely from time to time, can tell how much to feed a particular animal. Certainly no hard or fast rule can be set down in a book. For instance, yearling heifers may get from 0 to 8 pounds of grain per day, depending on their condition. The heifer getting 8 pounds per day probably will have to be cut down on grain as she approaches show shape, and leveled off on an amount that will keep her in the proper condition.

Pay particular attention to the animal while it is eating. If it is slow in cleaning up its feed or doesn't eat it all, cut down the feed heavily for the next several feedings, and then build back up slowly to the amount that the animal should get.

Generally speaking, Holsteins, Aryshires, and Brown Swiss carry more flesh than Jerseys and Guernseys. The experienced feeder can tell at a glance whether an animal is in the right condition. The beginner, by mentally comparing his animal with the ones of the same breed that have won at the state and national shows, can keep in mind some idea of the shape in which he should have his animal. It may also help to study the pictures of winners in the breed magazines.

Beet Pulp

Soaked beet pulp usually can be fed in liberal amounts as it does not tend to fatten the animal to any great extent. In some sections of the country, citrus

pulp will replace the beet pulp because of its availability. The nutritive content of the two is approximately equal.

The right amount of beet pulp for one feeding should be put into a basket or tub and enough water added to just barely cover the pulp. This should stand long enough to soak thoroughly; but not longer than from one feeding to the next, or it will sour — especially in warm weather. If a small amount of molasses is added to the water used to soak the beet pulp, it makes the feed more appetizing, and the cattle will eat better. Also, it may help produce more gloss to the coat.

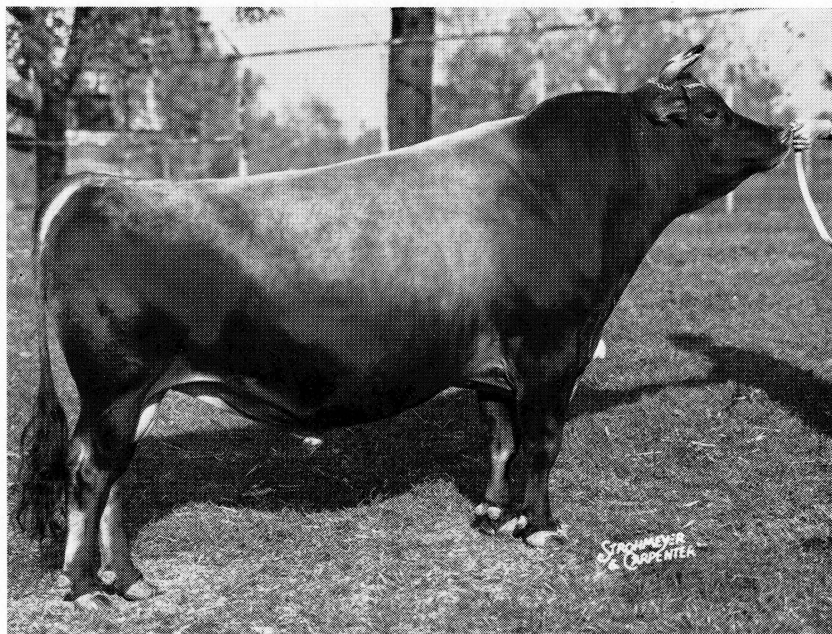
The amount you feed, of course, will depend on the size and age of the animal, and the amount of grain being fed. Senior calves, when fed in half-bushel buckets, may take about a half bucket of the soaked pulp. Yearling heifers may take from three-fourths to a full bucket. Cows can get from one-third to one-half of a bushel tub (they are getting more grain) depending on their size and appetite, while larger bulls may take from three-fourths to a full tub. The grain is mixed with the wet beet pulp at feeding time.

Beet pulp is a good appetizer and helps build a deeper body. Fairly large amounts can be fed without putting on a great deal of fat. In fact, you can carry along heifers or bulls that are on the verge of getting too fat with a small amount of the beet pulp and a little linseed oil meal.

Kind of Hay To Feed

You should choose the hay fed to the show herd with considerable care, for some kinds of hay are more

AGED BULL



Brampton Medallion Basil

Grand Champion, Illinois, Wisconsin, and International Dairy Show, 1951;
Three times champion at Royal Winter Fair, Toronto, Canada.

This bull shows a fine head with lots of breed character, sharp smooth withers, a very deep chest, and a long deep rib. Notice too his straight hind legs.

suitable than others. The hay should be palatable, have a good color and aroma, and should not be too coarse or improperly cured. It should be cut before it grows rank and coarse, and cured well — but put up before it dries out too much or weathers badly. A mixed hay, such as timothy with a little red clover and alsike, is highly desirable. Brome grass with a small amount of a legume, such as alfalfa, will work in many cases provided it has been cut early. It is important to cut the hay in the early bloom stage, for the cattle will eat it with relish — and more important — it will stay with them.

Feed alfalfa with caution, for it has a tendency to make the cattle somewhat loose. However, for milking cows a feed of alfalfa once a day or every other day will help keep up their milk production. A change of hay occasionally for any of the cattle will help stimulate their eating.

Frequency of Feeding

You can usually feed bulls and heifers their grain and beet pulp twice a day, and bring them along gaining as they should. You may have to feed some individuals that are quite thin three times a day for a while to get them into condition.

Cows that are on test will naturally have to be fed at the time they are milked, whether they are milked two or three times a day. Sometimes you should milk cows that are not on test three times a day also. This is done when the cow is milking heavily and you want to protect the udder from overdistension with its resulting harmful effects. Also, with cows that are not

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producing heavily, milking three times a day may help hold up their production, or increase it, in order to do a better job of bagging on show day.

Cattle should be watered after they have finished eating grain, and normally they may be allowed to have all they want. However, if allowed to, some animals will drink an excessive amount of water which will distend their stomachs, or cause pot bellies in the young animals. Too much water also will tend to make an animal loose and show signs of diarrhea.

Cows that you milk three times a day should be watered after each meal. Bulls and heifers that you feed twice a day and cows that are milked twice daily also should be watered three times a day. Feeding liberal amounts of good hay is quite important. Feed hay in liberal amounts after each watering, and the cattle will eat more if fed four or five times a day. You can feed slightly smaller amounts at each feeding, but the day's total feed consumption will be larger.

Foot Trimming

FOOT CONDITION has an important bearing on the usefulness of cattle. For example, poorly kept feet may harbor infections causing foot rot. When feet become too long they crack or break off, causing the animal to be lame. Bulls with long or sore feet may be unable to serve a cow. Lame cows will lose weight and decline in milk production. However here we are concerned mainly with the effect of untrimmed feet on the animal's type.

The condition of hocks too close together (cow hocked) can be corrected to a considerable extent by trimming the outside toes as closely as possible, or closer than the inside toes. This throws more of the weight on the outside of the foot and helps straighten the leg. When the toes on the hind feet are too long, their abnormal relationship with the ground will tend to make the hind leg crooked or sickle hocked and will cause the animal to go down on its pasterns. Because of the muscle attachments to the pin bones, a sloping rump also may result. Proper trimming will help greatly in straightening the hind legs and leveling the rump if these faults are caused by long toes. It is also believed

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that short, properly trimmed front feet will help keep the shoulders well laid in and smooth.

Watch the feet on young, growing calves and yearlings, and keep them trimmed at all times so that the legs will develop correctly. You should trim the feet of show animals at least three weeks before the show in order to avoid any temporary lameness that may result from accidentally cutting the feet, or tenderness from cutting them too closely.



Fig. 4.1—Trimming the bottom of the foot with the small hand chisel.



Fig. 4.2—Note how the operator is holding the hind leg up in position on the box to trim the bottom of the foot.

You'll need only a few tools to trim the feet on dairy cattle: a hammer, wood chisel, and another short chisel with a cross handle that will fit easily into the palm of the hand. Pruning shears with handles about two feet long also are an excellent tool to have, as they will quickly and easily cut off a lot of the hard shell from the bottom of the foot. If you keep your tools sharp, you'll save a lot of time and work in doing the trimming.

Stand the animal on a small, wooden platform three or four feet square, or on a piece of plywood resting on

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a solid floor. Make the platform large enough to accommodate either the front or back feet of the animal, whichever is being trimmed.

First, shorten the hoof to the desired length with the hammer and chisel, cutting straight down or perpendicularly to the ground, at the desired length of foot. Be careful not to cut too short or too deep and make the animal lame. Hoof shortening also can often be done easily with the pruning shears—placing the hooked part between the toes, and the cutting blade as far as possible around to the outside and bottom of the toe that is being trimmed. If you hold the handles fairly level with the ground you can take off the excess length and much excess growth from the bottom of the foot.



Fig. 4.3—Here the foot is being shortened with the hammer and wood chisel.

When as much has been taken off by these two methods as desired, pick up the foot and place it on a box, with the front part of the hoof and pastern resting on the box, and the bottom of the hoof exposed and facing backwards. The box should be about a foot square and of the same depth. Pare the sole down with the hand chisel until the foot will stand properly and evenly on the ground. A little more of the sole usually is taken off at the inside of the toe than at the outer edge, giving a slightly beveled appearance to the floor of the foot. Quite a bit may be taken off at the toe part, but be careful not to take too much, or the foot will bleed and become tender. Usually little needs to be taken off the heel, unless it is grown out abnormally long. Then some of the rough growth should be removed. Remove all excess growth of hoof or shell in between the toes, and round the end of the toes with a chisel instead of leaving it in a sharp point.

Fig. 4.4—Many use hoof nippers to shorten the edges of the hooves as is shown here.

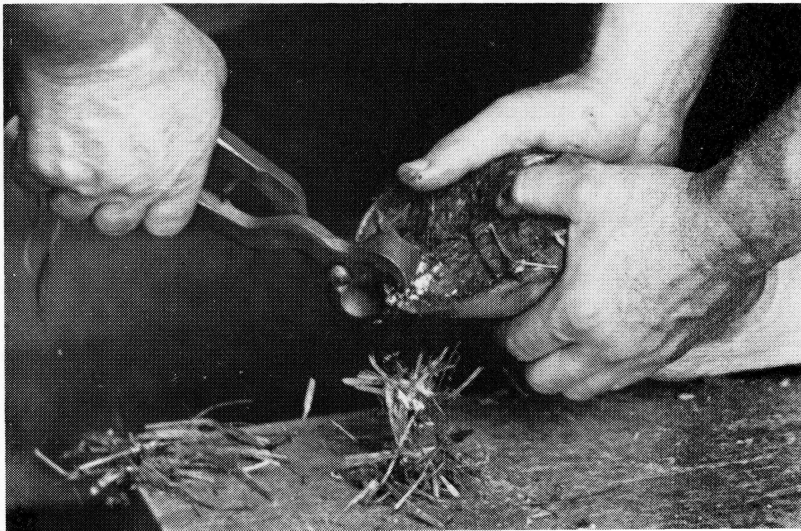




Fig. 4.5—This picture demonstrates using the pruning shears to shorten the toe and at the same time, taking some off the bottom of the foot.

When the animal's foot is picked up, an assistant should stand on the opposite side of the animal to keep it in place. If there isn't an assistant available, stand the animal against a wall. The animal can either be tied to the side of a stall or someone may hold her by the halter while trimming the feet.

The front feet can be picked up rather easily and put on the box, but the hind feet are more difficult to place. The operator should stand alongside the cow just in front of the hind leg, facing the rear of the cow.

By reaching over slowly and gently lifting up on the dewclaws or on the pastern, the hind foot usually can be placed on the box and held there while trimming off the bottom of the foot. The animal may kick and refuse to cooperate, but by exercising a good deal of patience the job usually can be done without too much effort. Show animals that are worked with a great deal usually will allow their feet to be picked up rather easily and an assistant may not be necessary.

After the feet have been trimmed, and before leaving for the show circuit, take a file and smooth out all the rough spots and ridges on the hoofs. This will make it easier to clean the feet on wash day at the show, and an assistant may not be necessary.

Clipping

THE PROPER clipping of dairy cattle gives a neater, more attractive, refined appearance, and is an attempt to approach the true type model as nearly as possible. Amazing changes can be brought about by a man who is skilled with the clippers. Much can be done to level out the rump, straighten topline and crooked hind legs, improve udder attachments, and refine shoulders and necks. Of course, these changes are in appearance only, but they make the difference in placings when the animals are close.

Clipping the Tail

It doesn't make much difference where you start clipping, but let's start with the tail. It seems to be most acceptable in clipping the tail to start about two inches above the top long hairs of the switch. This depends on the size of the animal — a little less on small calves and a little more on larger cows and bulls. Some may start higher or lower than this and it is perfectly acceptable. However, it should not be exaggerated too much either way.

Run the clipper up the tail and on the sides of the tailhead, gradually removing the clipper by the time



Fig. 5.1—The long hair is being removed from a high spot in order to make the rump level and straight.

the tailhead has joined the body proper. This will then make a gradual and smooth change from the clipped to the unclipped hair, instead of leaving an abrupt line. On the back of the tailhead where it curves forward to meet the topline, it is advisable to leave some hair in order to give the appearance of a longer, squarer rump. Whether or not hair is clipped from the top of the tailhead depends on whether it is high or low. Take it off if high, and leave it alone if it is low. On some animals, if the tailhead is clipped too completely, or in the form of a "V" with the point on top and towards the head, attention will be focused on all the faults in that area.

In this region there is often a high place on the rump caused by one or two vertebral spines that are

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longer than the rest. Clip the hair from the top of these bumps. Be careful to start clipping these bumps on the back side and not on top. If clipping is started where the hair is attached in front of the bump, it will make a depression in front of the bump, and the topline will be as rough as ever. Of course, leave the hair long in all low places to level out the line. Clip off the long hair on any other high place on the topline in order to make the topline as straight as possible.

Fig. 5.2—On this young cow the areas that have been clipped show up clearly. Note the line running from the point of the shoulder up to the withers where it gradually blends into the point of the withers. Notice also that some of the long hairs have not been completely clipped out of the "U" part of the neck. The tail has been clipped leaving a good switch and a few long hairs at the back of the tailhead to give a squarer appearance. However, all the hair has been closely clipped from the top of the tailhead in this instance to attempt to give a more nearly level appearance to the rump. The udder and area just in front of the udder on the abdominal wall inside the flank line have both been closely clipped showing a smooth attachment of the udder and a well veined area.



If the hind legs are a bit crooked they often can be made to appear straighter by clipping the back part of the hock. Don't begin too low here, or the effort will be wasted.

Clipping the Udder and Underline

Next in this region is the udder and underline. On heifer calves, yearlings, and bulls, do not clip the underline or belly — clipping only takes away depth of body! On cows that are of milking age, clipping on the belly should be limited to the area along the milk veins. Clip the milk veins and about four to six inches out on the



Fig. 5.3—This shows the hair that is left in the ears when clipping the Brown Swiss. Notice also the small holes in the ends of the horns where a wire horn trainer has been applied.

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side of the cow's body, and blend in smoothly. The belly floor immediately in front and to the side of the udder, inside the flank, should be clipped.

The sides of the udder should be clipped up to the body attachment, and the fore attachment should be clipped clean, too — provided the udder attachment is good. If the fore attachment is broken or loose, the hair at the attachment of the udder to the body should not be clipped clean, but left in and blended out smoothly. The rear udder should be clipped up to where it joins the body.

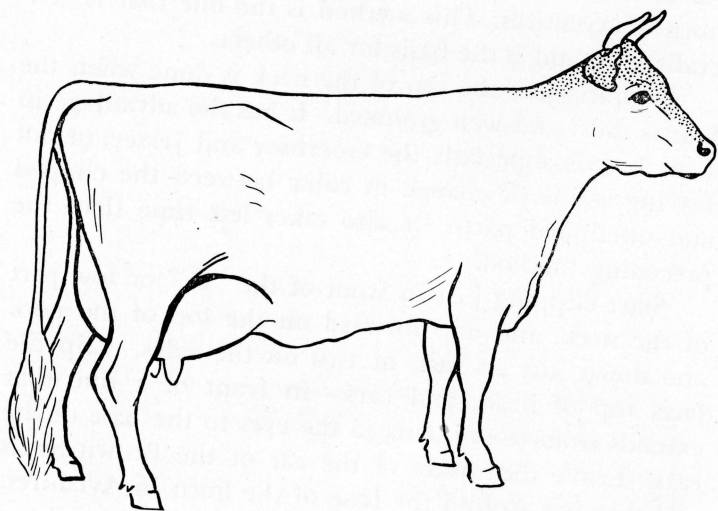
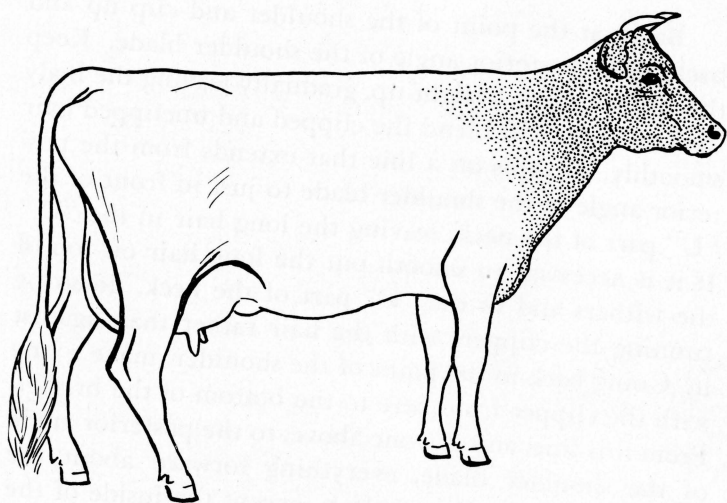
There are some variations among the breeds in clipping about the head and neck. For example, the long hair from the upper part of the inside of the ear is left in the Brown Swiss. Ayrshires are left with a small ring of hair around the base of the horn. Otherwise, the clipping is about the same for all breeds.

Clipping the Neck

On any of the breeds some men prefer to clip the entire neck, and others, just the top. Both methods are given here, starting first with the technique of clipping the entire neck.

Fig. 5.4 (Top right)—This drawing and the accompanying one illustrate vividly the difference in clipping the heads and necks of dairy cattle. The shaded areas are clipped. In this illustration notice how the line runs up from the brisket to the point of the shoulder and from there up and back to the top of the withers, where it blends in and runs forward to just in front of the "U" part of the neck.

Fig. 5.5—This drawing illustrates the method of clipping only the face, ears, poll, and top of the neck.



Begin at the point of the shoulder and clip up and back to the posterior angle of the shoulder blade. Keep the clipper going straight up, gradually leaving the body surface. This will blend the clipped and unclipped hair smoothly. Do this on a line that extends from the posterior angle of the shoulder blade to just in front of the "U" part of the neck, leaving the long hair in the "U." If it is necessary to smooth out the long hair on top of the withers and in the "U" part of the neck, do so by running the clippers with the hair rather than against it. Going back to the point of the shoulder, make a line with the clipper from here to the bottom of the brisket. From this line, and the one above, to the posterior angle of the shoulder blade, everything forward about the head and neck is clipped clean, except the inside of the ear of the Brown Swiss and the ring at the base of the horn of Ayrshires. This method is the one that is generally used and is the basis for all others.

Clipping just the top of the neck is done when the hair is short and well groomed. It has the advantage in some breeds, especially the Guernsey and Jersey, of not leaving a line or change in color between the clipped and unclipped parts. It also takes less time than the preceding method.

Start clipping just in front of the "U," or low part of the neck, and clip forward on the top of the neck and down just an inch or two on the sides. Clip the face, top of head, and ears—in front of a line that extends from the nostrils to the eyes to the base of the ears. Leave the inside of the ear of the Brown Swiss and the ring around the base of the horn in Ayrshires.



Fig. 5.6—Note carefully the ring of long hair that is left around the base of the horn on the Ayrshire breed.

In competition, the animal should be clipped just two to four days before show day. When making a circuit of shows it is often necessary to clip each week, although some animals can be clipped every other week.

Show animals should not be clipped all over, for in doing so the bloom and shine of the coat is lost and all the little rough spots of the animal's conformation show up greatly. Also, the extra depth of body that the long hair on the underline gives is lost.

Horn Training and Polishing

A SET OF HORNS that is trained and polished adds much to the appearance of quality and refinement in a dairy animal. Also when the horns are correctly trained by curving inward and forward, there is less danger of injury to other animals than if the horns are allowed to grow outward. The following discussion of horn training applies to all the dairy breed except the Ayrshire, which will be taken up separately.

Horn Trainers and Their Use

Horn trainers are of two general types — commercial and homemade. The commercial horn trainers have a loop or ring that is fitted over each horn and pulled together with as much tension as desired by adjusting the screw arrangements on the head piece. The entire trainer is held on the head by a strap that buckles around the base of the horn.

The homemade method involves running a hole through the horn about one-half inch from the tip. This hole can be made with a drill or with a red hot ice pick. If you use the ice pick you may have to reheat it several times, depending on the thickness of the horn. How-



Fig. 6.1—This picture shows the metal horn trainer in place to curve the horns forward and in.

ever, the ice pick has the advantage of stopping any flow of blood and it will not break like a thin, brittle drill may when the animal moves its head quickly.

A wire (baling wire or slightly smaller) is run through the holes and the ends of the wires twisted together. To get the proper tension on the wires use a nail, pliers, or other tool as a lever to twist the cross wires where they meet halfway between the ends of the horns. Lead weights of varying sizes can be put on the

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wires between the horns to bring the horns down if they are growing upward too much.

If horn trainers are needed, they should be put on calves at about 8 to 10 months of age when the horns will be long enough so that either the mechanical or wire trainers can be readily fitted on. The horns are easily and quickly pulled around in the desired direction, and the trainers will only have to be left on three to four weeks at the most. Be careful when tightening the trainers, for if they are too tight they will cause the animal unnecessary pain. Horns that are turned too quickly will have a sharp place at the turn that is not graceful and will be hard to smooth out when polishing at a later date.

Remove the trainers when you think that the horns are pulled around or down enough. However, they often have to be put on for a short time before the animal is 18 months old to give the horns a bit more curve.

Training Horns on Ayrshires

A different method is used to get the typical Ayrshire horns. When the horns are about four or five inches long, the calf is put in a stanchion and a metal cone fitted over the end of each horn and held in place by a setscrew. These cones have a hole at the top to which a small ($\frac{1}{4}$ inch) rope about 12 inches long can be tied. The other end of the rope is run through a hole in the end of a stick and tied. The stick should be about one inch thick and about fourteen inches long, with a hole in each end for the ropes leading to the metal cones. Then tie a sash cord to the center of the

stick and run the cord up to the ceiling and through a pulley which is nearly directly above the animal's head. The sash cord next is run either backward or forward through another pulley, and down. Weights which may vary from 2 to 6 pounds are tied to this end of the rope.

These trainers are left on for about three or four weeks, or until the horns are curved outward and upward. Then, as the horn makes its natural growth out and around, there will be on the end of it the part that curves upwards and backwards, giving the Ayrshire its characteristic set of horns.

Preparing Horns for Polishing

Before the animals leave home for the fairs, work the horns for any of the breeds down until they are fine and smooth. This may involve shortening the horns that have become too long and coarse on some of the animals. This can be done by cutting the horns off with a pair of hoof nippers. Then use a half-round, curved, quick cutting beaver file. This file is flat on one side and half-round on the other, with long, curving teeth. It does a fast job of taking off the horn and leaves a much smoother surface than the ordinary wood rasp which is so often used.

Go over the horns thoroughly with this file, removing all the old, dried shell. If the horn is too thick, much of it should be removed. This will add to the quality appearance of the animal's head. Here again, especially in the younger animals, be careful not to go too deeply, or the horn will crack, or tear and bleed, leaving a sore spot. This is very easily done, especially on the back



Fig. 6.2—The horn trainer in place on an Ayrshire calf. Here the metal cones are shown on the end of the horn and the ropes from these to the cross stick. The rope going up from this stick runs up to the ceiling through a pulley and back behind the animal (or in front and down through another pulley) and a weight is attached to this end of the rope.

part of the horn. The front part of the horn should be filed out as well as possible to give more of a curve to the horn. If it has a tendency to go up too high, take more off the top part of the horn than the bottom, and vice versa. Of course all horns are different, and by

prudent use of the file much can be done to give the animal a more attractive set of horns typical of its breed.

On young animals the horns are soft and have little lines or grains down in the horn, running parallel to the length of the horns. Do not attempt to remove these with a file. A scraper will smooth them out satisfactorily, although they cannot be entirely removed.

After as much as possible has been removed from the horn with a file, it should be smoothed out with a steel scraper. A satisfactory scraper can be made from a sheet of steel about 3 x 5 inches and about 1/16 of an inch thick, with square, sharp edges. Scraping irons also may be purchased in most hardware stores. Hold the scraper in the hand so that the edge or corners are against the horn and use quick, firm strokes to get a smooth finish.

This is about all that needs be done to the horns before the animal arrives at the fair, because the horns probably will be scratched in transit.

After arriving at the fair or show, go over the horns again lightly with the scraper and then with a piece of fine emery cloth, followed by a rubbing with steel wool to get the horns perfectly smooth.

Polishing

After washing the animal, the horns should be polished — this will generally be the evening before the show. There are many polishes on the market that will work well. Most of these are metal polishes. A satisfactory polish can be made by mixing Tripoli powder with sweet oil to the consistency of a smooth paste. Best results can be obtained when the horns are first gone



Fig. 6.3—The horns are being pulled in by the wire and down by the lead weights that are threaded on the wire and held in place by the twisting of the wire.

over with glycerine, and polished and rubbed dry with a clean, soft cloth. Then the polish of Tripoli powder and sweet oil can be rubbed on the horns and polished to a high finish with another soft cloth.

A high finish is hard to achieve. The horns must be clean and smooth, and vigorous rubbing and polishing is required. However, this gives a glistening appearance to the horn that will last for several days. Additional lustre can be achieved by going over the horns with a cloth to which a few drops of furniture polish have been added, just before going into the show ring.

Going to the Fair

THIS CHAPTER is devoted to some of the miscellaneous but very important items concerned with showing the cattle.

Health Papers

Be sure to observe the health regulations and rules at the fair in which you are going to be showing. These can be obtained from the premium lists sent out by each fair, upon request. The animals to be exhibited should be tested for T.B. and Bang's Disease — and health papers should be furnished, as requested.

Registration papers for the animals to be exhibited should accompany the animals to the fair.

Before leaving for the fairs, the animals should be vaccinated for shipping fever by the local veterinarian. This is very important and will protect the health and life of the animals.

Transportation

If you truck your animals to the fair, try to get a truck in which the animal can be protected from drafts by having the front end closed. In cool weather the truck should have a canvas top and the sides enclosed. When transporting the animals in cool weather, it is advisable to have them well blanketed. The truck should

be well bedded and the animals tied in. The cattle can face either the front end of the truck, or stand crossways. However, if placed crossways, be sure that the animals are not too long or they will rub all the hair from their tails and pinbones.

Loading and unloading the animals should be done carefully, with loading chutes of the proper height. There should not be any cracks between the chute and the truck where the animal is apt to slip a foot in and scrape the hide off, severely sprain or even break a leg. Also, when loading to or unloading from a truck, be sure the emergency brake is pulled on the truck.

When transporting large numbers of animals a considerable distance, it is often wise to use a boxcar and ship by train. If you're shipping in hot weather, use wooden cars where the boards run lengthwise — so that several boards can be taken out about two feet from the floor at the back of the animals, and one or two boards taken out in front of the animals about three feet from the floor. This will allow for ventilation and help keep the animals cool. The boards should be replaced, of course, during cooler weather. Here, too, some of the longer animals may have to stand lengthwise in the car so that they will ride more comfortably and be easier to work around.

It is often advisable to use partitions about 5 feet long and $4\frac{1}{2}$ feet high between the bulls and cows, giving each one a separate stall. It helps to have stalls about 5 or 6 feet wide, in which two yearling heifers or three calves may be tied. Stalls $3\frac{1}{2}$ or 4 feet wide for the larger cows are ample in size. Stalls 3 feet wide

HEIFER CALF



Curtiss Candy Oriole

1st Heifer Calf, Dairy Cattle Congress, International, 1950; Member, 1st Junior Get of Sire, Dairy Cattle Congress, International Dairy Exposition, 1950.

This heifer calf has lots of style, a fine clean head that shows alertness and strength. Notice her smooth shoulders, long body and long level rump.

for the two and three-year-old cows generally are large enough. The uprights in the partitions should be of strong 2 x 6 lumber and well anchored both top and bottom with blocks, so they will not shift or break in transit.

Strong gates should be securely fastened across the doors of the cars so there will be no possibility of any animal getting out of the boxcar.

Decks can be built of the desired length and width about six feet from the floor of the car so that feed, hay, bunks for the men, and all show equipment can be stored, leaving more room for the cattle.

Some arrangement should be made for carrying water. This is sometimes done with barrels in which blocks of wood have been placed to keep the water from splashing. A better arrangement is to have steel tanks that are covered, or fuel tanks to which a faucet has been attached for convenience in drawing water at feeding time. Tanks may often be placed on the deck or on a small but sturdy framework and securely fastened to the inside wall of the boxcar.

Bedding

While the cattle are being exhibited at the fair, they should be well bedded at all times. Straw which has been covered with wood shavings makes a good bed. Apply the shavings on the top of the straw so they will sift down through. This type of bedding seems to hold together better and absorb more moisture. Keep a generous supply of this bedding underneath the animals, and keep the line of the bedding straight and neat. This will add to the attractiveness of the exhibit.

Neatness

Try to keep your exhibit, both cattle and equipment, as attractive as possible. Manure should be kept picked up at all times and the animals kept very clean, with their switches washed daily and well brushed out. The aisles should be swept frequently, and the feed, bales of hay, and straw should be neatly stacked in the feed aisle, if there is one present at the fair. All show trunks and equipment including forks, brooms, and feed buckets, should be painted neatly, kept clean, and arranged in an orderly manner. (Separate forks should be used for the manure and the hay, in order to cut down the spread of disease.) Blankets that are used on the cattle should be brushed each day to remove the manure and dirt, and washed whenever necessary.

For the information of the people who are interested in your particular breed of cattle, put name cards giving the name of the animal, birth date, sire and dam, and records of the dam and owner's name and address above each animal.

The Day Before the Show

THE ANIMALS should be washed thoroughly as covered in detail previously. Thoroughly soak the animals down with hose and water, and if there is as much water pressure as there generally is at a fair, most of the dirt can be removed by this first soaking. Also, at this time the feet and the dewclaws should be thoroughly cleaned of manure and dirt. During the washing, the animal can be tied with a neck strap and rope to prevent damage to the leather tie halters.

While the animal is out being washed, it is a good time for the attendant in the barn to clean out thoroughly the wet stuff under the bedding and to add an abundance of clean fresh bedding that will last through show day.

Jersey breeders generally do not give their cattle an over-all washing. However, during the hot part of the show season, some of the Jersey showmen will wash their cattle completely. Practically all of the Jersey people suds their cattle down with green soap lather in their stalls, instead of taking the animals out to the wash rack and washing them as do the others. When the lather is dry, they thoroughly brush it out. This removes a lot of the dirt and will help clean the hide. However, the

conventional washing has gained in popularity in this breed in the past few years.

After the animals have been returned to the barn they should be covered with a clean cotton blanket or what is commonly called a "sweat blanket." This is covered with their regular, clean show blanket. When the animal is dry, the sweat blanket may be removed, leaving just the show blanket. This will prevent the animal from getting too warm.

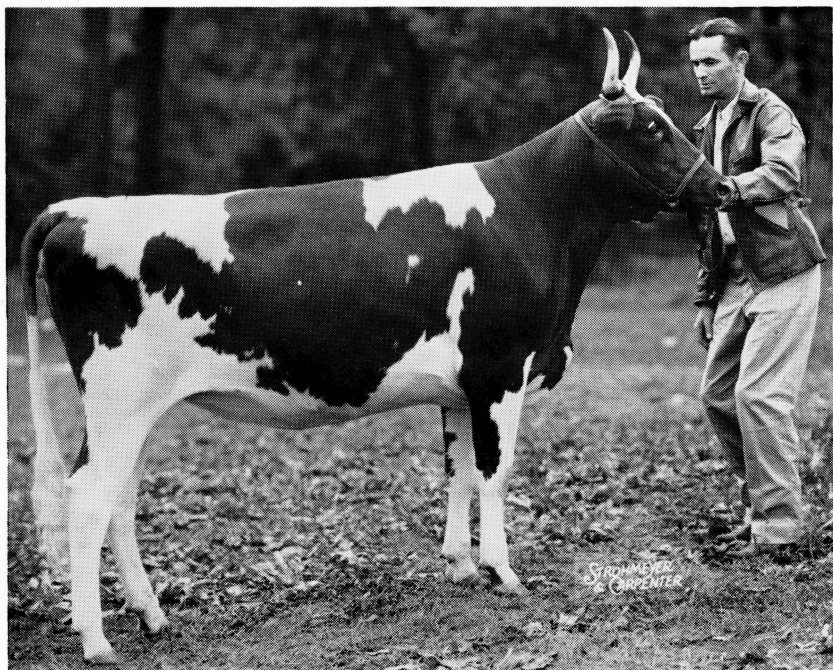
In warm weather the show blanket may be left off until the animal is dry and the sweat blanket removed. Then the show blanket is put on. However, if the weather is quite warm, the show blanket may be omitted entirely, leaving the animal unblanketed after being dried with the sweat blanket. This will occur more often with the cows than with the heifers and bulls, since the producing cow will release more body heat and will be more uncomfortable during hot weather than the bulls and heifers.

Later in the day or in the early evening, go over the horns of the animals thoroughly, as outlined in the preceding chapter.

Where Guernseys and Jerseys wear horn chains and locks, these pieces should be polished and fitted on. The little brass locks can be purchased from most stock supply houses, and should be kept polished as they add to the quality and appearance of the animal's head.

After being washed, except for polishing the horns, the animals should be disturbed as little as possible. Of course, all of the manure must be kept picked up and the animals kept immaculate.

JUNIOR YEARLING HEIFER



Maplecrest Lady Lena

1st Junior Yearling, Wisconsin, Texas, Dairy Cattle Congress, 1947; 1st 2-year-old, National Ayrshire Show, 1948; 13106 Milk 512 Fat 365 days 3X 2 years.

This heifer shows a strong fine feminine head and a long refined neck. She is very smooth and sharp over the withers, has a long body and a straight set of hind legs.

Feeding and Watering

They should be fed at their regular feeding time, but in this case, the night before show day, their feed generally should be reduced somewhat to help insure a keen appetite for the following day.

A little salt, varying from a teaspoonful to a tablespoonful, depending upon the size of the animal, usually should be added to this feed to make sure the animals will be thirsty enough to drink water the following day. During hot weather, this may not be necessary.

Heifers and bulls that are to be shown the following morning should receive only about half the water they normally drink. However, if they are not to be shown until the following afternoon, they probably can have about what they wish, although they should not be allowed to drink an excessive amount.

Cows can be given the normal amount of water the evening before show day, except when the weather is very cold and they are to be shown the following morning, in which case they should be limited to about three-fourths of the amount they normally would drink.

If the cows are going to be shown in the afternoon, they should have a normal amount of water the evening before, and if the weather is hot, they should have nearly their normal amount of water in the morning. This is both for their comfort and to help them udder up properly.

After the cattle have had their water, give them a generous supply of a good mixed hay, or a fine quality timothy hay. This kind of hay will stay with them better and give the animal middle, whereas alfalfa hay

tends to be a little laxative and does not give the animal the middle that is desired. If their hay is fed late in the afternoon, probably another small feeding should be given to the animals late at night.

Bagging

Cows that are in milk may be bagged for showing the following day. At many fairs there is a milk-out rule whereby the animal has to be milked not earlier than a certain hour, say, four o'clock the afternoon before the show. This will, of course, put a maximum on the time that a cow can be bagged. The amount of time that is required to bag a cow depends upon the amount of milk she is giving and the capacity and the conformation of her udder. The time may vary from five or six hours on up.

Bagging is the process of leaving the milk in the udder to distend it and show its conformation. Of course, a capacious udder is desirable. Quarters that are light may have to be bagged a little longer than the rest of the quarters. The udder should not be allowed to become too tight as this not only will make the cow very uncomfortable and restless, but may tend to make the teats strut out to the sides or in different directions and will tend to show any weakness of fore-attachments.

Over-bagging may be injurious to the udder by weakening the attachments. If the udder is not perfectly healthy, a serious flare-up of mastitis may result. Too many udders are over-bagged. It's a good idea to determine before show day the length of time that milk should remain in the udder in order for the udder to show its best type and conformation. This time should

be used for the bagging of the cow on show day. To do this, you must estimate about what time the cow will be in the show ring and milk her out the required number of hours prior to this time.

The udder may be balanced somewhat by milking a little out of the heavier quarters, but be careful not to unbalance the udder by taking out too much milk. An udder will be smoother if it is allowed to fill naturally than if an attempt is made to balance or loosen it by removing milk just before going into the ring.

Morning of Show Day

On show day the animals should have their regular feeding of grain, beet pulp, and hay. The bulls, heifers, and cows that are to be shown during the morning should not be watered at feeding time the morning of show day. At many fairs the cows are not shown until the afternoon. In this event they should have about half of their ordinary requirements of water, and if the weather is quite warm, may be allowed nearly their normal amount.

Any bulls or heifers that will not be shown until the afternoon may be given just a little water at feeding time so that they will not be too restless during the morning. This will take care of the morning feeding.

Probably the next step in getting ready for the show day's activities is to wash the tails and switches on all the animals and remove any manure spots that have accumulated during the night. Other than this, it should not be necessary to brush the animals very much at this time. All of the halters and brushes and supplies

that will be necessary for the day should be assembled in a convenient place.

Filling

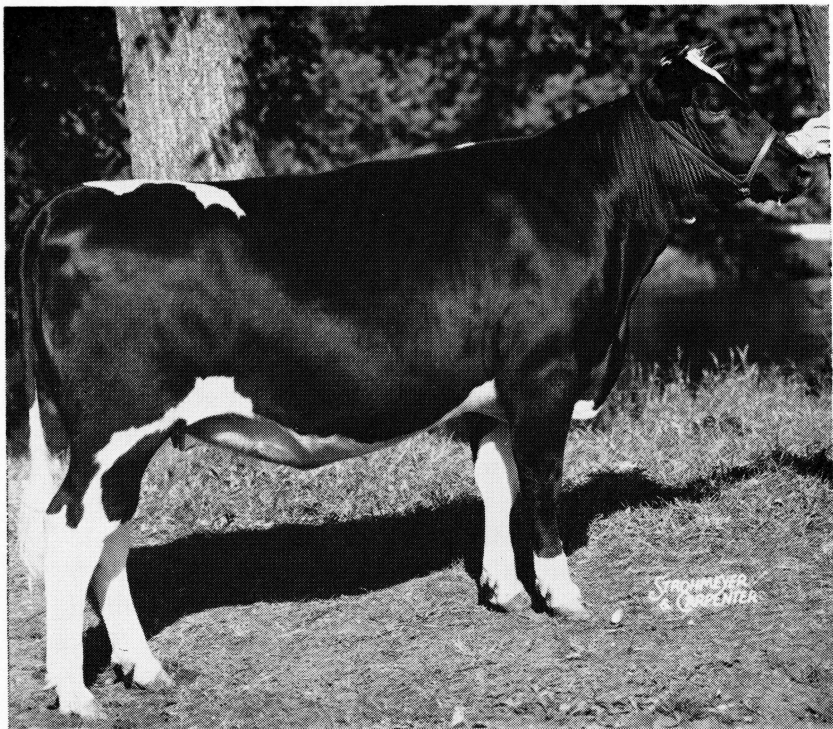
About an hour before the animal is due to go into the ring, it should be filled. This is done to deepen the body and give a greater spring of rib, showing a larger feed capacity.

The usual procedure is to water the animal, giving it in most cases as much as it wants. However, the animal should not be allowed to have a great excess of water, for if the water is cold it may cause stomach ache and diarrhea. On cool days, or if the water is extremely cold, take the chill from the water. Otherwise the animal's hair may stand on end and it will walk into the ring with a humped or roached back.

When giving the animal water for filling, enough water should be on hand for this particular animal so that as soon as one bucket becomes about empty, it can be refilled from another bucket without delay. If the animal quits drinking while waiting for more water, it often will not start again, and the animal will not fill as much as is desired.

After the animal has been watered, the fill should be finished with soaked beet pulp. It may be desirable to mix in a handful or so of grain on top of the beet pulp so that the animal will eat it with a little more relish. The animal should be given a good fill, and when the hollow triangular space below the loin and above the flank on the left side has started to fill and round out, the animal probably has had about enough.

SENIOR YEARLING HEIFER



Curtiss Candy Lad's Sunshine

1st Senior Yearling, Junior Champion, Dairy Cattle Congress, 1948; 2nd Senior Yearling, Illinois, Minnesota, Indiana, Kentucky, 1948; 15735 Milk 551.1 Fat 365 days 3X 2 years 3 months.

This heifer shows great strength and capacity as exhibited by the deep chest and great depth of rib and flank. She also has a strong feminine head.

Some experience is necessary in judging just when an animal has had the correct amount of fill.

Generally, animals that are low in the loin and back can have a large fill as this will tend to straighten out the topline. However, the animals should be watched and the filling discontinued if their backs start to roach. If the animal is weak behind the shoulders it should not be filled as much as another animal, as the filling will exaggerate the weakness.

Final Preparations

If the animal has been watered and fed correctly the night before and the morning of show day, there generally will be no difficulty in getting a good fill on the animal. After the animal has been filled, it should be brushed down, using a soft brush. Stiff brushes may cause welts on some tender-skinned animals, and this is certainly to be avoided this day. This brushing should not take place while the animal is filling as it may interfere with the animal eating, often causing the animal to quit eating.

In low spots on the topline one can run a comb through the hair in the opposite direction to which the hair lies. This will cause it to stand up somewhat and will make the topline appear straighter. Sometimes a dampened bar of soap is rubbed on these spots and then combed backwards to the direction of the hair. This leaves the hair very stiff and it will stand up for a longer time to help keep the top straight.

Hair on top of high spots, of course, has been removed with clippers. Sometimes it can be cut shorter

just before going into the ring by using a pair of curved scissors. These are particularly helpful on bumps or high vertebral spines in the area of the rump.

After brushing, the animal should be gone over with an oiled cloth, which is simply a soft cloth which has been dampened with a very thin or fine oil. This should be rubbed over the animal lightly to bring a little more gloss to the coat. However, it should not be applied to any parts that are white. The ears should be cleaned out well with a cloth, and the horns, if desired, given a light application of the fine oil or furniture polish to get additional lustre. The switch should be brushed out thoroughly with a stiff brush and then fluffed up by brushing up from the bottom against the hair in the switch. It is not necessary to use combs in switches. Their careless use over a long period of time may cause much of the hair of the switch to be pulled out and it will become quite thin.

The animals should then be backed out of their stalls into the aisle and the feet cleaned. If a cow is lying on either side of the animal being backed out, the cow should be gotten up so that there will not be any danger of her udder being stepped on.

The show halter on the animal should be neat, well fitting, and made of thin, fine leather with straps not more than an inch wide with three-fourths of an inch preferable. For most animals the lead strap should be entirely of leather. However, there may be an occasional animal that requires a chain lead strap.

The halter should be fitted so that the nose piece

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is approximately half-way between the nostril and the eyes, not any lower, as this tends to unbalance the head.

Bull calves and yearling bulls can be led with halters with the end of the lead strap tied into or just run through the bull ring and doubled back. This will give two means of handling the bull, by the halter and by the ring. Bulls two years old and older should be shown with either a lead strap in their ring or be shown by a bull staff.

Showing in the Ring

IF EVERYTHING has been properly performed up to this point, the animal should now be ready to go into the show ring looking its best. The final preparations or finishing touches should be completed so that the showman and his animal can be in the ring promptly.

Upon entering the ring the animals usually are led slowly in a clockwise direction unless directed to do otherwise by the judge or clerk. The leader should begin to show his animal immediately upon entering the ring and continue to do so until leaving the ring.

Some showmen often will walk backwards when showing their animals, holding the lead strap in their left hand. In this way the leader can watch his animal very closely and keep its back up or whatever it needs. Other leaders walk in a forward direction holding their animals lead strap very shortly in their right hand. The animal can be better controlled if the leader keeps a short hold on the lead strap both while the animal is walking and standing than if a long hold is used.

When moving around the ring the animal should be walked slowly, with short steps. This may be done by holding the lead strap short in the left hand and by pushing back on the point of the animal's left shoulder

with the right hand. The animal should carry its head well up and look alert. However, if the head is carried too high on some animals it may give the appearance of shortening the neck and this is to be avoided.

When the judge asks for the animals to stand still, they should be stopped with the front feet higher than the back ones if possible, even though this necessitates turning the animal around. This rarely should have to be done.

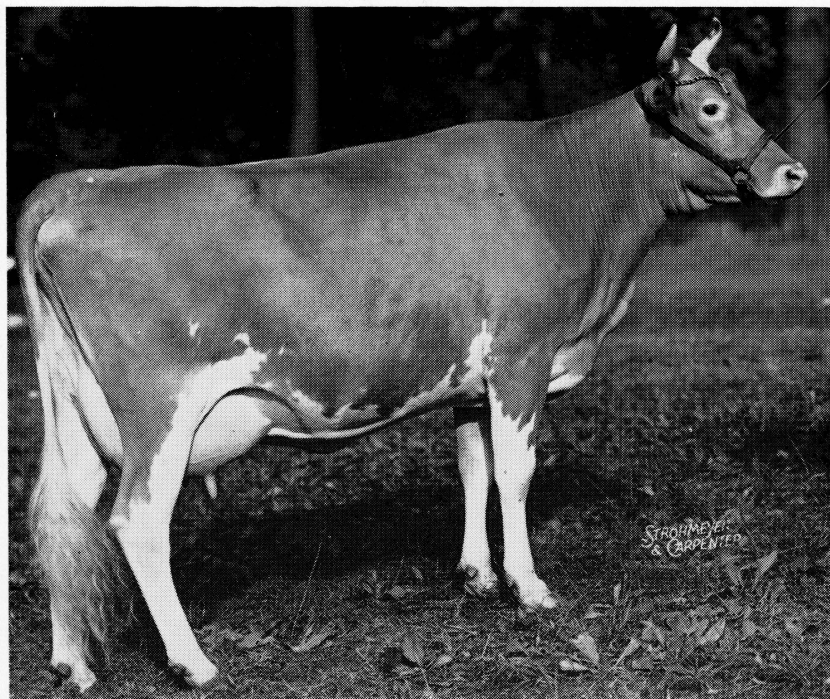
When the animals are stopped, their front feet should be practically even with one another and directly under their bodies. For bulls and heifers the hind foot nearest the judge should be slightly back of the opposite foot. Care should be taken that the hind feet are not placed back too far, giving the animals a stretched appearance which will make them look shallower than they normally are, or weak in the loin.

On cows, the hind feet are reversed — that is, the hind foot nearest the judge is slightly in front of the opposite hind foot so that it nearly covers the hind teat. Make sure that the animal is standing with a straight topline, and if it is humped the animal should be pinched on the high spot to straighten it out.

If your cow has a light quarter that cannot be corrected by proper bagging, have the hind foot on the side of the light quarter standing slightly ahead of the other hind foot when the cow is being viewed from behind by the judge.

Rumps often can be straightened or leveled by pinching the animal in the back about at a level with the hookbones.

TWO-YEAR-OLD HEIFER

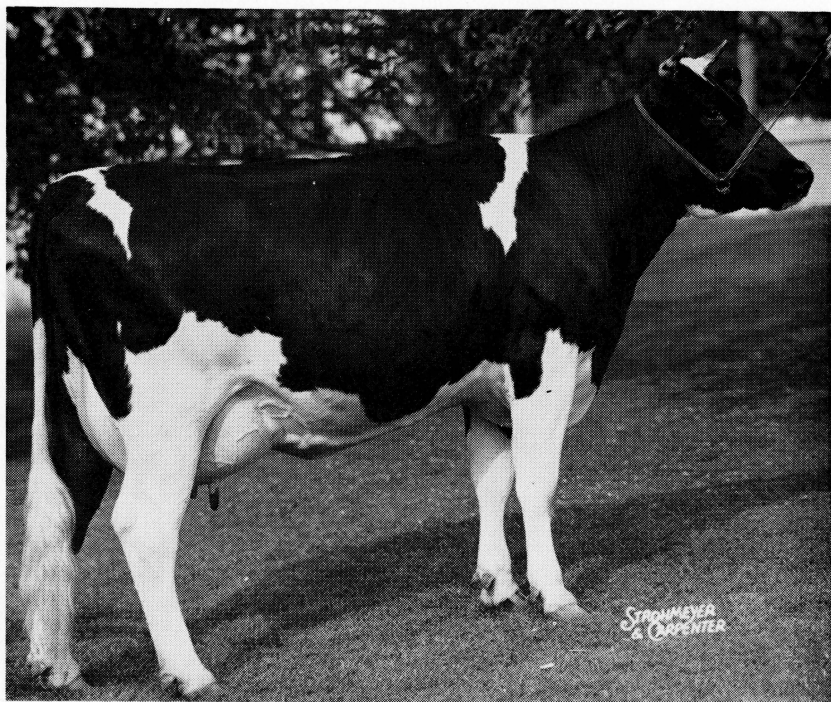


Curtiss Candy Levity Destiny

Unbeaten at 2 years; 1st 2-year-old, Illinois, Wisconsin, Minnesota, Indiana, Kentucky, Texas, Dairy Cattle Congress, 1947; 1st Junior Yearling, Illinois, 1946; 2nd Junior Yearling, Iowa, 1946; 1st 3-year-old, Northern Illinois Guernsey Breeder's Association Parish Show, Wisconsin, Minnesota, Toronto, 1948; 2nd 3-year-old, Indiana, 1948; 3rd 3-year-old, National Guernsey Show, Kentucky, 1948; 11345-524-Jr. 2; 12858-601-Sr. 4; On test, 4652 Milk 202 Fat, 6 years 81 days.

Here is a fine two-year-old. Notice her head that shows great breed type and femininity and alertness. Observe the smooth shoulders, fullness in the heart girth, deep chest and body and long rump. Her udder is level on the floor and well attached both fore and rear.

THREE-YEAR-OLD HEIFER



Curtiss Candy Madcap Ann

Classified Excellent; 18585 Milk 783.9 Fat 365 days 3X 2 years 6 months.

This three-year-old Holstein heifer has a strong clean feminine head and a long dairy-like neck. She is sharp over the withers and has a long body. Her udder attachments are wide behind, smooth and well forward in front. Notice the veining of the udder and that the udder is well held up and level on the floor.

If the back is low, the front and hind feet should be moved a little closer together and the animal raised in the back by gently pushing on the point of the shoulder with the right hand. Check to see that the tailhead is down in the proper position and not raised up away from the body.

After the animal has been standing in one position for a while, it may sag or "fall apart." To overcome this and to get the animal back in position, move it ahead a step. This will pull the animal together again. Do this, of course, before the judge gets up to the animal so the animal will be in the best possible position and pose while being examined by the judge.

The judge usually examines the animals as they move in a circle in a clockwise direction. Then he will have the animals stopped and stood while he examines each one individually. The animal should be well posed for this inspection to show itself to the best advantage. Just as the judge steps back for a last minute look, the animal should be led ahead slowly for a few steps. This, of course, is assuming that the animal has been trained to lead and handle perfectly. Otherwise, the value of this move will be nullified.

After the judge has lined the animals up abreast in the order that he intends to place them, he usually makes a trip up and down the line to give his placing a last minute inspection. Just before he gets to your animal, back the animal quickly and pull it back into position to straighten out the animal or "pull it together" again.

It is advisable to watch both the judge and the ani-

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mal in order to have the animal in its best position whenever the judge is looking at it.

Naturally, the showman of dairy cattle should be dressed neatly, and in white clothes, if possible. He should be courteous to the judge and to the ring attendants, and should display the proper sportsmanship and cooperation at all times.

The following is a plan for a uniform score card for judging junior fitting and showmanship contests, suggested by the Purebred Dairy Cattle Association:

	Points
Appearance of Animal	40
Condition	13
Grooming	10
Clipping	10
Cleanliness	7
Appearance of Exhibitor	10
Showing Animal in the Ring	50
Leading	15
Posing	15
Recognition of animal's faults and showing to overcome them	10
Poise and alertness	10

Explanation of Score Card

- | | |
|---|----|
| A. Appearance of Animal | 40 |
| 1. Condition and thriftiness, being neither
too fat or too thin. | 13 |
| 2. Grooming | 10 |
| (a) Hair well groomed and the hide soft
and pliable. | |
| (b) Hoofs trimmed and shaped to enable
animal to walk and stand naturally. | |
| (c) Horns (if present) scraped and
polished. | |

3. Clipping 10
 - (a) Clipping preferably 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 7
 - (a) Hair and switch clean and if possible free of stains.

Oil should not be used in excess.
 - (b) Hide and ears free of dirt, and legs and feet clean.
- B. Appearance of Exhibitor 10
 1. Clothes and person, neat and clean, white costume preferred.
- C. Showing Animal in 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 rope with the right hand quite close to the halter with the rope neatly, but naturally (not necessarily coiled) gathered in one or both hands.
 - (b) Animal should lead readily and respond quickly.
 - (c) Halter of right type, fitting properly and correctly put on.
 - (d) As the judge works 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.

- (e) Hold the lead strap quite close to the halter as this insures a more secure control of an animal.
- (f) Lead slowly with animal's head held high enough for impressive style, attractive carriage and graceful walk. (Leading too slowly is not desirable.)

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 legs 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 legs 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 preferably should be backed out of line when judge requests that her placing be changed.
- (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 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. Recognition of Animal's Faults and Showing to Overcome Them. 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 and show her or his heifer for awhile.
4. Pose and Alertness 10
 - (a) Keep an eye on your animal and beware of the position of the judge at all times. Do not be distracted by persons and things outside of 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 sportsman-like at all times.
 - (e) Keep showing until the entire class has been placed and the judge has given his reasons.

Total—100

Care of Cow and Calf

IN THIS CHAPTER we will discuss briefly the care of the cow that is going to calve, and the raising of her calf until time for it to freshen (if a heifer) or until it is of serviceable age, if a bull calf. Of course many of the points that already have been discussed also apply to the care of the cow and the raising of the calf.

Drying Off the Cow

The cow due to calve should be turned dry approximately six to eight weeks before calving time. Turning a cow dry is done so that the cow may be able to build up her reserve of minerals such as calcium, phosphorus, and potassium; and nutrients such as fat and proteins, which have been drained from her body by the previous lactation and the growth of the fetus that she is carrying.

The drying up time varies from cow to cow. Milking can be stopped immediately on some cows — if they are milking only a small amount and their udder is in a healthy condition, they may dry satisfactorily without further milking. The cow's udders should be checked closely several times a day during the drying up period for signs of any disease or mastitis. If the udder becomes tight from the accumulation of milk, the cow should be milked out completely dry to prevent damage to the udder attachments.

On the other hand, some highly producing cows are very difficult to dry up. It may be advisable to milk such cows straight through from one freshening to another, rather than risk the damage that may result from cutting down their feed too drastically or from skipping the milkings that would be necessary to turn them dry.

Ordinarily, when a cow is to be dried, the grain ration should be reduced and the cow milked just once a day for a few days, and then every other day, until milking becomes necessary only to relieve the pressure on the udder and prevent mastitis.

Feeding the Dry Cow

When the cow is dry, she should be fed well so that she will be in good condition at the time of freshening, but she should not be allowed to become overly fat. Cows that are too fat may have a more difficult time at calving, with a weaker calf. A cow that is fed too heavily, especially a heifer, will often have excessive inflammation in the udder that could have been avoided had she not been so fat or fed on such a heavy ration.

Ordinarily the regular fitting rations, either commercial or home mixed, will satisfactorily condition a cow for calving and her next lactation period. But often it is advisable to completely eliminate the corn from the rations of a cow or heifer that shows excess swelling in the udder. She should have plenty high quality legume hay to take care of the increased demands on her body from the calf.

Soaked beet pulp, if available, should be included in the cow's feed just before calving. If possible, beet

pulp should be fed all during the dry period. If this is a little inconvenient or expensive, it may be withheld until three or four days before calving, when its addition to the ration will help keep the cow's digestive tract open and normal. Constipation is especially to be avoided at this time. Many feeders believe that the feeding of silage should be discontinued for a few days previous to calving and a few days after calving — when it may be again added to the ration.

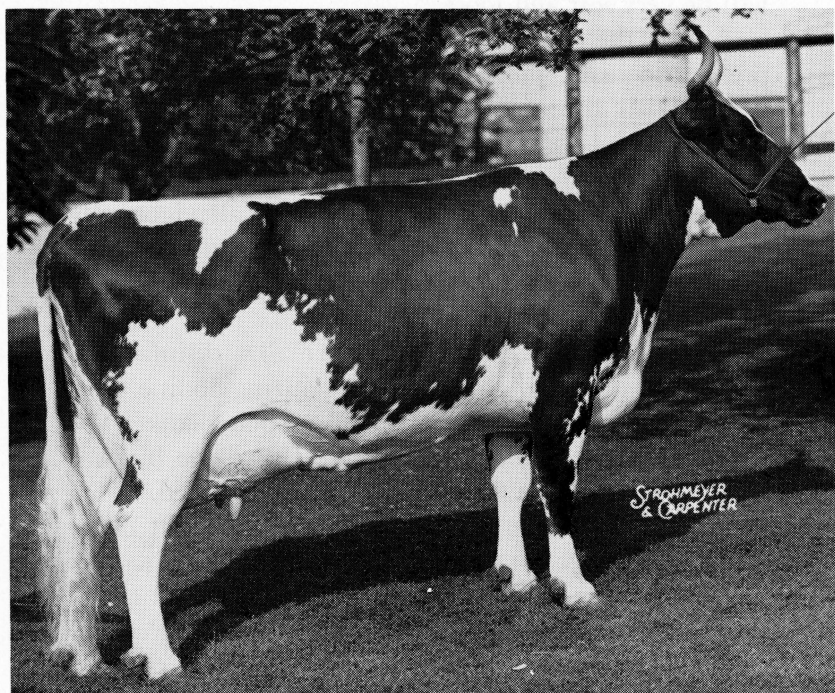
The pregnant cow should have plenty of exercise each day all through her gestation period, especially during the last few weeks. During her dry or fitting period she should not be kept confined to a box stall or stanchion, but turned out daily, weather permitting, to exercise. Cold weather is not sufficient reason for keeping her in the barn unless there are icy lots where the cow might slip, or a very cold rain.

A few days prior to calving time, place the cow in a clean, well-bedded box stall, so that she will be accustomed to the change and not fret about strange surroundings. The stall should be free from drafts, especially in the winter.

Care at Calving

As the cow approaches calving time watch her carefully for indications that calving is soon to occur. Shortly before calving she will begin to bag up, and there will be a decided loosening and sinking of the ligaments that extend from the tailhead to the pinbones. These ligaments, one on either side, normally are very taut and feel nearly as hard as a bone. However, a few hours before calving, they will loosen and sink down

FOUR-YEAR-OLD HEIFER



Springlea Gay Lass

Senior and Grand Champion, Illinois, Wisconsin, Indiana, 1946; Best Udder, Illinois, 1946; Senior and Grand Champion, Texas, Wisconsin, Dairy Cattle Congress, 1947; 1st Aged Cow, Dairy Cattle Congress, 1948; Reserve Champion, National Ayrshire Show, 1948; 9323 Milk 379 Fat 305 days 2X 2 years; 14802 Milk 573 Fat 365 days 3X 4 years; 17651 Milk 699 Fat 365 days 3X 6 years.

Notice the great length of this cow. She has a long body and a long level rump. Her udder is long from front to rear and the rear attachment is high and wide and the fore attachment is smooth and is well forward. Observe the straight hind legs, deep full chest and the strong clean head.

so that a depression can be seen, and when palpated will be very soft and loose.

When the cow is calving an attendant should be present to assist the cow, if necessary, or to call the veterinarian if any complications arise. Also, as soon as the calf is born, the attendant should remove the membranes or mucus from around the nostrils so that the calf will not suffocate, and slap the calf vigorously on its sides or hold it up by its hind legs to expel any fluid from its nostrils or trachea. This frequently has to be done to start the calf breathing.

After the calf is breathing normally, disinfect its navel with tincture of iodine by pouring iodine over the navel until it is well saturated. Then blanket the cow unless it is a hot summer day. Leave the blanket on until a few hours after the cow has cleaned. This helps the cow conserve body heat, and she will clean easier with fewer complications following calving.

Generally if a cow has not cleaned within six hours after the time she has calved, you may expect trouble. If she still retains her placenta the day following calving, a veterinarian should be called.

As soon as the cow has calved, she should be given a warm, sloppy bran mash, to which a teaspoonful of salt has been added. This mash can be made in a half-bushel bucket, using about two pounds of bran and filling the remainder of the bucket with warm water. While the cow is eating this mash, drag the calf into a position where it can nurse. It is not able to stand at this time, so it will have to be supported by elevating its shoulders somewhat in order for it to reach the teat.

If the cow is an easy milker, the calf should be permitted to nurse for a minute or two. The calf should not have too much milk at this time, but it is a good idea to get a little warm milk in its stomach, both for the nourishment and the antibodies and vitamin A found in the colostrum milk.

The surplus colostrum milk that the cow produces the first few days after calving and before the milk is saved for human consumption, can be mixed in with the milk that is fed other and older calves. It will do them no harm, and it is high in nourishment and certainly should not be wasted.

It is often advisable to milk cows before they calve. This may be done in first-calf heifers if their udder is making up too large with an excess amount of swelling. This pre-milking may tend to cut down on the amount of swelling and may prevent the udder attachments from breaking away from the body. Also, the heifer will be trained to the milking process at a time when her udder is not as tender as it is after calving.

Cows that freshen with swelling in the udder should have the udder massaged three or four times a day. This massaging should be done from the bottom of the udder upward, and a salve or a balm may be used to lubricate the skin while rubbing.

An older cow whose udder is getting excessively large before calving, or one that has had recent history of mastitis, may be pre-milked in order to avoid injury to the udder. This pre-milking may start anywhere from two weeks to a day before calving time, and often the cow will be giving quite a large amount of milk per

day by the time she has calved. These cows and heifers, of course, should be milked out completely at each milking. The calves that are born to these pre-milked cows apparently need no special attention.

Cows that have been pre-milked ordinarily can be milked out in a normal manner after calving. Cows that have not been pre-milked should not be completely milked out for the first few milkings. Enough milk should be taken out to relieve the pressure on the udder, and then an increasing amount taken out with each milking, so that the cow is being completely milked out dry in three days. This is to help prevent the cow from coming down with milk fever. Of course, if the cow has a diseased udder, it should be milked out completely at all times.

It is recommended that the cow have warm bran mash after calving. The first few feeds should be composed only of bran and oats mixed with soaked beet pulp. The bran and oats combined should not be more than a pound for the first regular feeding, then about a pound and a half for the next two or three feeds. Then the fitting ration can begin to be substituted for the bran and oats mixture. It is often advisable to feed it for the first two weeks.

First-calf heifers and smaller cows probably will be getting from $3\frac{1}{2}$ to $4\frac{1}{2}$ pounds of grain per day at the end of two weeks, while larger and older cows will receive correspondingly more grain. First-calf heifers should be fed very lightly for some time after calving, the amount fed being determined by their appetite and the swelling in their udder. Then if the cow is appar-

ently doing well and has a good appetite the regular milking ration can be started and substituted for the fitting ration — if the cow is at home in the milking string and not in the show circuit. If everything is normal, she can be brought to full feed in four to five weeks.

Care of the Calf

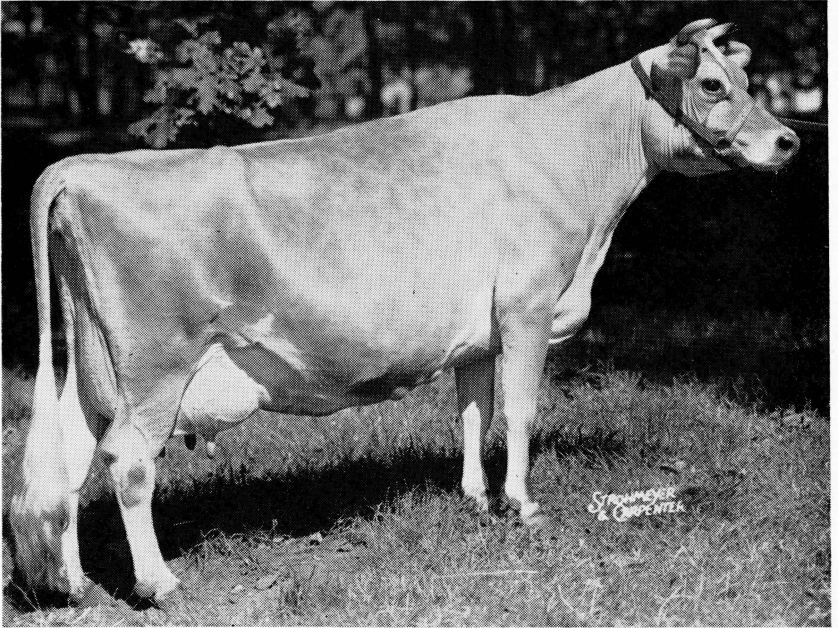
It is advisable to feed vitamin pills to calves for the first three or four weeks, or until they are eating a substantial amount of grain. This probably will be at the end of the first month or six weeks. For the first month, calves should receive 15,000 International Units (or U.S.P. units) of vitamin A daily as well as 300 units of vitamin D per 100 pounds body weight daily.¹ After the first month a well-balanced ration will furnish the essential vitamins.

Calves should be left with their mothers and allowed to nurse at will for at least three days, and perhaps as much as a week. The condition of the calf's bowels should be noticed, and if they are becoming loose, the calf should be removed from its mother and hand feeding should begin.

If the calf does have diarrhea, it should be separated from the rest of the calves so as not to spread the disease. This calf should be put in a warm, dry, well-protected place, with a small blanket on it to conserve the body heat unless the weather is quite warm. The amount of milk fed to the calf should be reduced to about one-half the normal amount. Rebuilding to the normal amount

¹ "Raising Dairy Calves," Bulletin, P. 106, Agricultural Experiment Station—Agricultural Extension Service, Iowa State College, Ames, Iowa

AGED COW



Curtiss Candy Sultana

Grand Champion, Wisconsin State Fair, 1951.

This fine cow shows many of the things that are looked for in cows of any breed. Notice her head that shows such femininity and breed character. Her fine dairy-like neck blends well into her body and the withers are sharp. She is deep in the heart girth and has a very long, deep rib and body. Observe her flat level rump that is so desired. Notice how well attached her udder is both front and rear—how far forward it extends and that it is level on the floor.

of milk again should be started when the calf has recovered from the scours.

Regardless of whether the scours is a result of bacterial infection or from a digestive upset, medication should begin at once. The treatment will vary, depending upon whether or not it is from an upset stomach or bacterial causes. Young calves with the scours soon lose their strength and may be stunted or may not recover from the attack. It is best to have a veterinarian furnish the medicine, since he will know what to prescribe.

If the cow develops symptoms of milk fever, the calf should be moved to another stall immediately, so that if the cow falls down she will not injure the calf.

Nurse Cows

Some people have successfully raised calves with nurse cows. In doing this, select a cow which has freshened recently, and which will take additional calves. Two, three, or even four calves may be put on this cow if she has a healthy udder and an ample amount of milk. The calves are put on the nurse cow when three or four days of age, or when they are removed from their own mother. They may be turned to her just at feeding time or left with her continually, whichever is the more satisfactory method. This way the calves take a little milk at a time, and their stomachs are not over-loaded. At an early age they will begin to eat hay and grain with their "mother," and then can be fed separately out of their own box.

Watch the nurse cow closely, for if she is a heavy

milker, the drain on her body by the continual secretion of milk may cause her to lose a good deal of flesh. Also, it will be difficult to observe her heat periods. It is best not to use a cow for nursing for more than three months if the calves are left with her all the time.

Feeding by Pails

When feeding calves by hand it is advisable to use nipple pails. The first few feedings of milk should be limited to $1\frac{1}{2}$ to 2 pounds of milk per feeding, depending upon the size and breed of calf. The amount of milk given the calf may be gradually increased to a maximum of not more than 10 pounds of whole milk per day. The milk should be fed at body temperature, and the temperature of the milk should not vary from one feeding to another.

The calf pails should be cleaned thoroughly after each feeding by washing and rinsing in a chlorine solution, then turned upside down to dry. The nipples should be left in a chlorine solution between feedings.

Calves can be weaned from milk at $2\frac{1}{2}$ to 3 months of age. At this age they should be eating grain and hay well enough to supply their body needs. Calves that are fed milk in too great a quantity, or over too great a length of time, may develop a coarseness about their throat and neck that is not desirable.

Stalls for Calves

Small calves, when taken from their mothers, should be put into either individual calf stalls about 4 by 5 feet in size or into small tie stalls. Tie stalls with a solid partition between each calf are about 26 to 30 inches

wide, and the calves are tied in these with a strap around their necks and a very light chain up to the front of the stall. This chain is attached to the wall approximately 2 feet from the floor. Several of these tie stalls may be put into a box stall in the form of a section that can be readily removed whenever necessary to move the calves to another stall or other quarters. In using this method, the calves can be let loose in the large box stalls for several hours each day to get their exercise, and tied up again in the evening at feeding time. They should be left tied all night until cleaning out time the next morning.

Keeping the calves in their separate stalls is advisable for several reasons: First, it is important that they be prevented from sucking each other after having their milk fed to them, as the sucking may ruin a quarter. By separate feeding from their individual feed buckets or boxes, you can tell how much each calf is eating. Also, the texture of the manure can be noted and any digestive upset or scours can be quickly detected and treatment begun. The calves also are somewhat segregated in case of an outbreak of scours.

In either the individual box stalls or the tie stalls a small feed box for the grain and a small manger for the hay should be provided so that the calves will begin eating both hay and grain at the earliest possible date.

While fresh air is very important, small calves should be raised in quarters that are free from drafts especially in the late fall, winter, or early spring. The ideal setup is to have a separate barn for the calves where the temperature and ventilation can be carefully controlled.

If they are in a box stall in the barn it may be necessary to put plywood or burlap sacks around the box stall to keep the draft from striking the calves and to keep the temperature from varying quickly one way or another.

Cleanliness cannot be overemphasized in working with calves. It is very important that all the manure and wet straw be removed daily and that the stalls be kept well bedded.

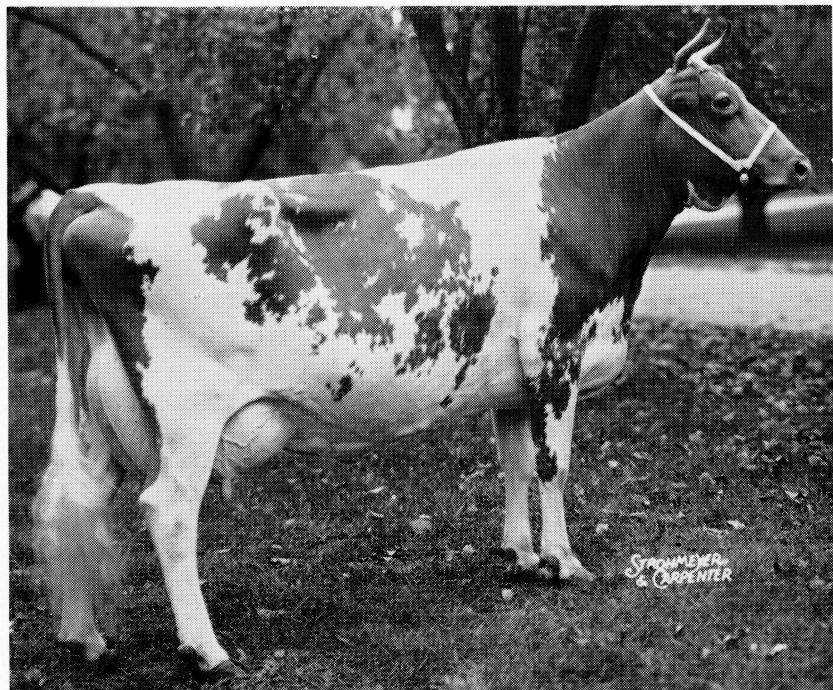
Calves of all ages should have exercise each day, and in the winter it may be necessary to turn the little calves loose into a large stall or pen inside the barn where they can play around for a while. This will help develop stronger, straighter legs and improve the general circulation and tone of the body.

In the summer the smaller calves up to three to four months can be turned outdoors for a while each morning for their exercise and sunshine. They should not be left out all day, but brought back into the barn where it will be cool and shady.

Older calves may be turned out for exercise during the winter too, the length of time depending upon the weather. If it is raining or very cold, they should be kept inside. During the summer, the older calves can be left out day and night and they should have a shed or pen where they can run in and out at will. The paddock that they run into should be large and furnish pasture and shade.

Feeding Calves

Calves of this age need shade and plenty of water and pasture that will furnish green feed with all its minerals and vitamins. However, these calves should



Afton's Golden Marie

Classified "Excellent;" Senior and Grand Champion, 1st Best Udder, National Guernsey Show, International, 1950; Undefeated Grand Champion wherever shown in 1948, including Northern Illinois Parish Show, Wisconsin, Minnesota, Indiana, Kentucky, National Guernsey Show, Royal Winter Fair; Winner, Best Udder, National Guernsey Show, 1948; Senior and Grand Champion, Missouri, Iowa, Nebraska, Oklahoma, Kansas, 1947; 9911 Milk 577 Fat, GG; 10938 Milk 596 Fat 305 days Jr. 4; 14417 Milk 785 Fat 6 years; 15661 Milk 819 Fat 7 Years.

This *aged cow* exemplifies points to be remembered in selecting show cows of any breed. Notice her alertness and style. Notice the breed character about her fine feminine head and neck. Her neck and shoulders blend together smoothly and she is smooth and well filled out behind the shoulders. Her chest is deep and wide and she carries a good deep rib. The topline is straight and the rump is long, level, and wide. Notice the udder with its high, wide attachment, levelness on the bottom, and the long forward attachment. The veining on the udder and abdominal floor is prominent. She has a strong straight set of legs.

have hay before them at all times. They are too young to rely on just pasture and grain, and the hay is absolutely necessary for them to develop properly.

Baby calves should be encouraged to eat grain and hay as early as possible. By the time they are weaned they will be eating well, so that when they are taken off milk they will not receive a severe set back but will keep right on growing and gaining.

The corn in the ration for the baby calves should be shelled or very coarsely cracked. Oats may be fed whole or crushed. Finely ground feeds are not desired.

Because growing calves require more protein than adults, the calf should have a ration fairly high in protein content. Some commercial calf rations have about the right protein content. Or additional protein may be furnished in the form of calf pellets, calf starters, or linseed oil meal. For the first months of the calf's life, the protein content should be around 18 per cent. With calves that are over 6 or 7 months of age, the protein content may be lowered. Calves should be fed enough grain so that they will keep growing rapidly, but they should not become overly fat, because this may leave a thickness about the neck that will be difficult to remove, and fatty tissue in the udder of heifers may interfere with the proper development of the mammary tissue.

Feeding beet pulp to calves is to be recommended. Naturally the amount to be fed will depend upon the size of the calf. For little calves, a very small, single handful of soaked beet pulp at each feeding will be enough, and for larger calves, up to a double handful is

probably sufficient. However, dry beet pulp may be mixed into the grain ration. This seems to work very well and eliminates the need for soaking the beet pulp at each feeding. About 25 to 50 pounds of beet pulp added to the above mentioned calf ration will be in the right proportion.

A good calf ration is:

- 100 pounds oats (whole or crimped, or very coarsely ground)
- 100 pounds wheat bran
- 100 pounds corn, cracked
- 50 pounds linseed oil meal
- 4 pounds salt
- 4 pounds mineral, such as steamed bone meal

In addition to the above ration, feeding calf pellets or calf starters at the rate that is recommended, generally one pound a day, will give the calf the extra protein and minerals that are needed for the best growth.

These pellets, or calf starters, are a commercial feed prepared by some of the feed companies. They are high in protein — about 20 per cent — and fortified with vitamins and minerals. When the calf is quite young, they will make up a relatively high percentage of the total amount of feed that the calf will get. This will bring the total per cent of the protein up to the desired level.

For the first year of the calf's life, it should be fed grain and plenty of hay. A fresh supply of water should be available at all times. Ordinarily a calf will not drink too much water, but there will be an occasional calf that

will have to be watched and have its water supply limited.

When the calf is about six months of age or so, the extra teats should be removed. If the calf is to be calf-hood vaccinated for Bang's (*Brucella Abortus*), six months is about the right time for this.

The feet on growing calves should be trimmed before they grow too long, as long feet may tend to develop crooked legs on the fast-growing, soft bones of the calves. Also, horn training should be started when the calf is old enough for horn trainers. If the calf is to be dehorned, this should be done with caustic sticks when the calf is a few days old.

Care of Yearlings

Heifers that are 12 to 15 months of age and over, or yearling heifers, can be allowed to more or less rough it. That is, in the winter time they may be put in large sheds with other heifers of the same size, and fed silage and a small amount of grain. They should have hay before them in the racks at all times. The amount of grain fed depends upon their condition. Again we would like them in a good growing condition, not too thin or too fat. Two to four pounds of grain per heifer per day will generally suffice.

These pens of heifers must be watched closely, for there may be one mean one that will prevent the others from eating, or one very timid one that will not get up to the manger to get her share. In either case, such a heifer should be put in another pen of heifers more like her own disposition. Or the heifer may be put in the barn in a box stall or stanchion. Try to have heifers of

the same size and disposition together so that they will all get the right amount to eat.

During the summer you can put these heifers out on pasture, and if the pasture is very good they will need no other feed. However, if the pasture is crowded or not growing amply, put hay racks in the pasture and keep them filled with hay.

This hay need not be of high quality, for when on pasture, animals seem to eat a rather coarse type of hay just as well. Naturally, these heifers out on pasture should be checked each day on their general health, and whether or not they are in heat. The salt and water supply should be watched to make sure that there is an ample amount on hand.

When the heifer is about 17 months of age, if well grown, she is old enough to breed. Generally, better conception will be had if bred at this age, than if allowed to get several months older. After the heifer is bred, it is advisable to examine her for pregnancy about 45-60 days after breeding, to make sure she is in calf.

Yearling heifers that are pregnant will need no extra feed or extra attention until they are about six weeks to a month before calving. At this time they should be brought up to the maternity barn or wherever the cows are put to calve. This will give time to start feeding a little more grain, if necessary, in order to keep the heifer in a nice condition and not let her get too thin from the demands of the calf on her body. Also, the heifer will be getting more used to the additional handling and be quieter and less nervous at the time of calving.

As she approaches calving, her udder can be observed and pre-milking may be begun.