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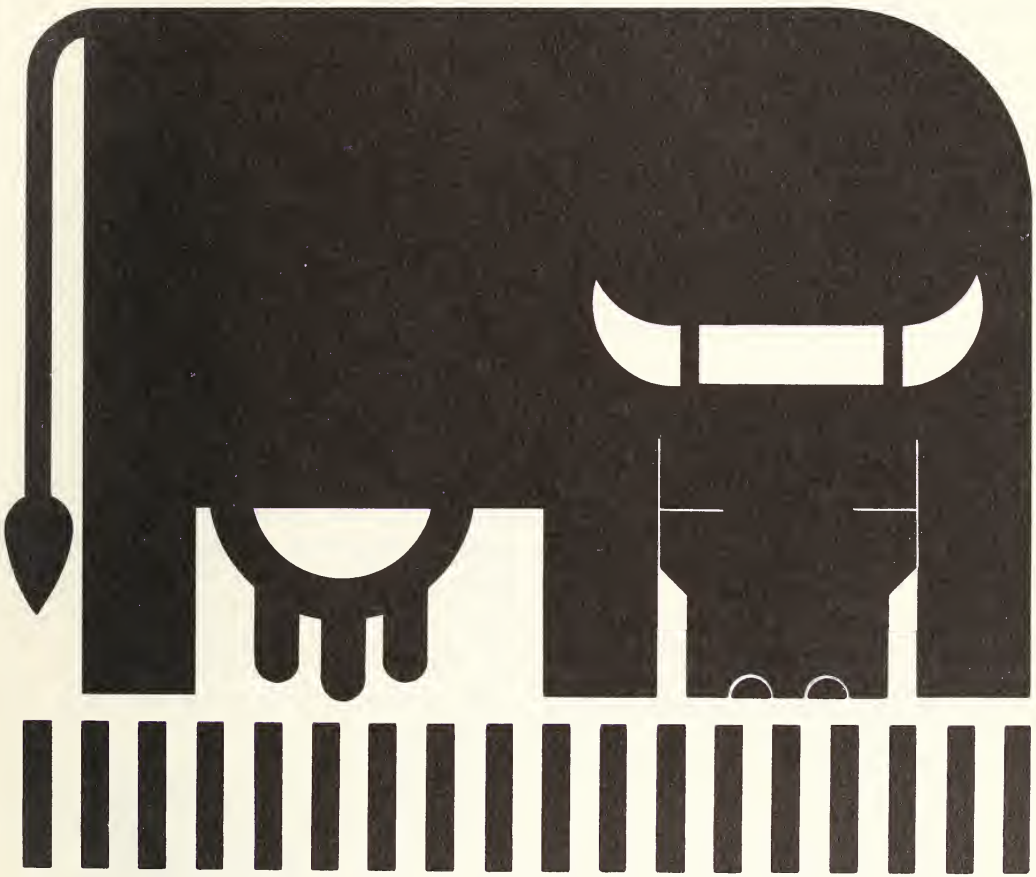
KEEPING A COW



UNITED STATES DEPARTMENT OF AGRICULTURE

LEAFLET NUMBER 536

PREPARED BY AGRICULTURAL RESEARCH SERVICE

KEEPING A COW

If you want to keep a cow, you must—

- Have enough pasture and hay.
- Be able to get the cow settled (bred) easily.
- Have a barn or shed where you can keep the cow.
- Have someone in your family who can feed, water, and milk the cow every day.
- Be able to use the milk. A cow, well fed and well cared for, gives enough milk to more than pay for her feed, even if you have to buy all of it. In the 10 months she is milking, she will give 800 to 1500 gallons of milk.

For 6 months of the year, a cow can get most of the feed she needs from 2 acres of good pasture.

For the rest of the year, a cow will eat 20 to 30 pounds of hay a day, or 1½ to 2½ tons. She also will eat 1 to 2 tons of grain mix.

Hay may cost as little as $40 a ton or as much as $80. Grain mix costs $90 to $130 a ton. Bedding takes 800 to 1,600 pounds of straw, sawdust, wood shavings, or cornstalks. The cost for feed and bedding for a year is $150 to $350.

BUYING A COW

Choose a dairy-type cow that fits your needs. Jerseys, Guernseys, and Ayrshires are often used for family cows because they are smaller and do not need as much feed as those of the larger breeds, such as Holstein-Friesian or Brown Swiss. They do not give as much milk, but their milk has more butterfat than milk of some of the other breeds.

Buy a cow that is sound and healthy, not too thin, easy to milk, gentle, and free of bad habits. You want a cow that is 4 or 5 years old and has had her second or third calf. She will be young enough to have years of milking ahead of her, and old enough to have shown how much milk she will give. You can buy this kind of cow for $400 to $600.

A cow that you buy for $500 is worth about $250 when you sell her 5 years later.

Look for a cow that gives 4 to 6 gallons of milk a day 2 or 3 months after calving. One that gives about 3 gallons a day 8 to 10 months after calving will probably be all right.

If the cow is in milk, watch as she is milked. Better still, milk her yourself a few times. Look for clots, flakes, strings, or blood in the milk.

To do this, draw several streams of the first milk from each teat on a black cloth stretched over a cup.

Unless you can use or sell a large amount of milk, do not pay the high price usually asked for a cow that gives a large amount of milk and do not pay the extra cost of a purebred or registered cow.

Look at the cow's udder. You do not want a cow that has lumps or hard flesh in her udder or has small teats. Even if she has a large udder, she may not give much milk. Do not buy a cow with a large, firm udder that doesn't get smaller after milking.

Do not buy a cow that kicks. If she wears a yoke, muzzle, or nosepiece, she may have bad habits, such as breaking through fences or self-sucking.

Do not buy a diseased cow. You might catch the disease from handling the cow or from the cow's milk.

Will It Pay You?

It will pay you to keep a cow if the cost of the milk and butter your family needs is more than $1.05 cents a day.

If you buy a cow for	$500
And sell her in 5 years for	250
Cost for 5 years is	250
Cost for 1 year is	50
Interest on $300 costs you	35
Breeding charge is	15
Cow eats 1 ton grain mix	165
And 2 tons hay	120
And uses ½ ton bedding straw	20
Which adds up to	405
But you sell her calf for	20
So, keeping a cow 1 year costs	$385

. . . or $1.05 cents a day.

Ask for a health certificate signed by a veterinarian. The certificate must say the cow was tested for tuberculosis, brucellosis (Bang's disease or infectious abortion), and leptospirosis within 30 days before the time you buy. You do not want a cow that has any of these diseases. If the cow is dry or less than 3 years old and has not calved, do not buy her unless she is with calf.

CARING FOR A COW

When you are near your cow, be gentle and quiet. Keep the fences around her pasture in good shape so you don't have to chase her. If your fence has four barbed wires, is tightly stretched, and is fastened to good posts, it will keep your cow in.

Summer Feeding

You need 2 acres of good pasture to feed your cow. Good pasture is young and juicy. On it, a cow can get enough to eat in an hour or so, several times a day. A pasture of alfalfa and ladino clover mixed with grasses like orchardgrass and brome does well during the summer, but has to be reseeded every 3 to 5 years. Permanent pasture of bluegrass or a mixture of grasses may not be enough. You may have to feed some hay or green feed.

Your vegetable garden can give a little summer feed. Cows will eat pea vines, sweet cornstalks, cabbage leaves, and sweetpotato vines.

Winter Feeding

When the pasture is gone, feed your cow green hay or green feed and cottonseed or soybean meal and

grain. If your cow is a Jersey or Guernsey, she needs 20 pounds of hay a day, and a pound of grain mix for each two quarts of milk she gives. Larger breeds need more feed.

You can buy grain mix ready to feed or you can mix it yourself. Mix ground corn or crimped oats with cottonseed or soybean meal. A grain mix made of 250 pounds of corn and 100 pounds of soybean meal or one made of 200 pounds of corn, 100 pounds of oats, and 100 pounds of soybean meal will do. A quart of either of these grain mixes weighs about 1½ pounds. Feed the grain mix at milking time.

You can feed more of the hay and less of the grain, if the hay is much cheaper. But, for every 6½ pounds of grain mix you take away from your cow's feed, you have to add 10 pounds of hay or green feed.

Watch how fat or how thin your cow gets. This is very important. If she gets too fat, you are feeding too much grain mix. If she is too thin, she needs more grain mix. The more feed she gets, the more milk she gives.

Put a block of iodized salt in a shady place, or add 1 pound of loose salt to each 100 pounds of grain or meal.

Water your cow at least twice a day in winter and more often in summer.

Housing

Your cow needs a sunny, comfortable barn or stable. You can leave her untied in a box stall about 10 feet square, or you can keep her in a smaller space and hold her with a stanchion, chain, rope, or strap.

A box stall allows your cow more freedom but it takes about three times as much bedding as the smaller space.

If you use a stanchion to hold your cow, you need a manger in front, extending past the stall, and a gutter for droppings behind the cow. You need 4 or 5 feet of space behind the gutter to make it easy for the cow to get into the stall, and so that you can clean it.

With a stanchion, fix the sides of the stable to keep out drafts when it gets cold. You don't have to do this if you keep your cow in a box stall. If your winters are not too cold, the box stall can be open on the south side, as long as the other sides are tight. Your cow will like the winter sunshine in her stall. If the stall is closed up tight, you need a window that you can open on the side the winter wind doesn't hit.

Bedding helps make your cow comfortable and clean and it takes up the liquid manure. You can use wheat or oat straw, cornstalks, shavings, or sawdust. Clean out manure and dirty bedding every day during the winter.

Breeding

Ask your county agricultural agent about how to get your cow settled. Artificial breeding costs $10 to $20.

Cows need a 4- to 8-week rest or dry period before they calve. Most dairymen breed cows in the second to fourth month after calving. Since it takes a cow 9 months to drop a calf, this gives her a calf every 11 to 13 months.

Most cows that are not with calf come into heat every 18 to 22 days. You have to know when your cow is in heat, because this is the time that she can be bred. When she is in heat,

she is jumpy and bothered, bawls a lot, and stands to be mounted. Heat lasts 10 to 24 hours. If you can get a bull, use him on the day you see she is in heat. If you use artificial breeding, she can wait until the next day, but she may not settle.

Almost one out of three cows does not settle the first time. If your cow doesn't settle, breed her again at the next heat.

The Dry Cow

Write down the day when your cow is bred. Then you will know when to dry her off. She will drop her calf about 283 days after she settles. She may calve as much as 10 days before or 10 days after the day she is due.

If your cow is in good shape and is well fed, dry her off about 7 months after she settles. She needs about 60 days of rest before she drops her calf. If she has not been giving much milk, she needs less rest. If she is thin, she needs more rest.

Your cow will dry off if you stop milking her. If she is giving more than 2½ gallons of milk a day, give her less feed and milk her only once a day until she gives less than 2½ gallons. If she is already giving less than 2½ gallons, you can stop milking right away.

Her udder may swell with milk, but if the udder is normal the swelling will slowly go down.

While your cow is dry, she needs protein and minerals, especially calcium (lime) and phosphorous. Legumes such as alfalfa or lespedeza pasture and hay will give her protein and lime. Wheat bran, cottonseed meal, and soybean meal will give her both phosphorus and protein. Green grass or other green forage helps your cow to use calcium. A dry cow on good pasture will get everything she needs.

In the winter, good legume hay and a grain mix that has wheat bran, cottonseed meal, or soybean meal will give her the minerals she needs.

The Fresh Cow

Several days before the calf is due, move your cow to the place where you want her to drop her calf.

During cold weather, she needs a good-sized box stall with plenty of bedding. Clean and disinfect the stall and put clean, dry bedding in it.

In warm weather, a small grassy pasture close to the barn makes a good calving place. Clean up any trash or manure.

As the time comes for the cow to drop her calf, the cow's udder swells with milk. Flesh around the tail bones "loosens" or falls away. The vulva swells and grows much larger. When you see these signs, be careful not to upset the cow. Look at her several times a day.

Probably she will drop her calf without any help. Watch her closely, though, and help her if she needs it. If she has hard labor for more than 3 or 4 hours without dropping the calf, get a veterinarian as quickly as you can to help her.

Your cow may lose weight for 3 to 6 weeks after calving. This is because she can't eat enough food to keep up her weight and to make milk. So that she won't get too thin, she needs to be fatter than usual when she calves, but not too fat. Watch her udder. If it gets badly swollen, feed her less grain.

You can sell the calf or keep a heifer calf for future milking. A week-old calf of a dairy breed sells for $30 to $50, the amount depending on size. A fattened calf 2 or 3 months old should bring more. If your family does not need all the milk your fresh cow gives, you can feed the rest to the calf.

CARING FOR THE CALF

If the calf doesn't start breathing as soon as it is born, wipe out its mouth and nose. Try to make it breath by pressing in on its chest, then letting up, and doing this over and over.

As soon as the calf is born, cut the cord about 1 inch from its belly and squeeze out the few drops of blood. Paint the cut with iodine or dust it with sulfa, antibiotic, or boric acid powder.

The cow will usually begin to lick the calf right away. This helps dry the calf and helps its breathing and blood circulation. In very cold weather or when the cow doesn't lick the calf, rub and dry it with a dry cloth or clean feed sack.

If the cow's teats and udder are dirty, wash them with soap and water; dry them before the calf nurses. Keep the stall clean and well bedded while the cow and calf are in it.

Most calves will stand and try to nurse within 1 hour after birth. Help calves too weak to nurse.

The calf needs colostrum—the first milk—from its mother. Colostrum contains antibodies, substances that protect the calf from infection. It also provides protein, vitamins—especially vitamin A, which the calf needs at this time—and laxative material.

Take the calf from its mother when it is 12 to 18 hours old.

To teach it to drink from a bucket, let the calf suck your fingers. Slowly lower its head into the bucket of warm milk. After it has had several swallows, withdraw your fingers gradually. You may have to do this several times.

A calf needs to be fed only twice a day. A small, weak calf may need three feedings for the first week.

Feed 1 gallon of milk each day to a Holstein or other large calf and 3 quarts a day to a Jersey-sized calf.

Feed the calf at the same times every day. Watch the feed carefully for the first 20 days. It is better to underfeed the calf than to overfeed it. A young calf's digestion is easily upset. After it is 20 days old, a strong, healthy calf can be fed more.

After the calf is 5 to 7 days old and has a good start on colostrum and whole milk, it will grow well on many kinds of cow feeds.

The simplest feed is limited amounts of whole milk. Feed the milk at about body temperature (90° to 100° F). Feed about 1 pint of milk for each 10 pounds the calf weighs. Feed a little more after 3 weeks. With the milk, give the calf a grain mix it likes or a calf starter that you buy. Try to get it to eat this dry feed as soon as you can. Don't feed milk after the calf is 4 to 6 weeks old. Your county agricultural agent can help you choose the best feed.

Feed with a clean, washed bucket. Otherwise, the calf may get scours or some other sickness. If the calf gets sick, feed it half as much milk for one

or two feedings. Add water to the milk you feed so that you will be feeding the same amount of liquid each time. After each feeding, wash and scald the bucket, or rinse it with a chlorine solution. Then put it on a rack to drain and dry.

Keep a calf pen clean, well bedded, and dry. Take out any hay, grain, or silage not eaten each day.

MILKING

Good milking takes a lot of skill. Anyone can learn to be a good milker.

To be a good milker—

- Use your whole hand, not the thumb and first finger.
- Milk fast, without stopping.
- Keep your hands clean and dry.
- Do not pull hard and down, or jerk on the teats.
- Do not grab or hit the udder.
- Do not talk loud or shout when you are around your cow. If you hit or kick your cow, she will not let down all her milk.

Milk your cow twice a day. Before you milk, clean the dirt off the udder and flanks—it might drop into the milk pail. Wash any dirty parts. Always wipe the udder and flanks of the cow with a clean, damp cloth before you milk. Draw the milk quickly and be as gentle as possible with the cow. Keep your fingernails short. Do not put milk tubes or straws into the teats.

A cow does not have to be milked at the same time every day, nor does she have to be milked by the same person each time. But she does have to be fed at the same time every day. She will learn quickly to be quiet during milking if you feed her grain mix at milking time.

CARING FOR THE MILK

As soon as you draw the milk, strain it through a clean cloth. Strainer cloths that you use once and throw away are best. If you use a cloth over again, wash and boil it after each use. A milk strainer that uses throwaway strainer pads does not cost much.

Although fresh strained milk tastes good, it may have germs in it. It is best to pasteurize raw milk. You can do this by heating it to 142° F and holding it at that temperature for 30 minutes, or by heating it to 161° and holding it for 15 seconds. You can buy a floating thermometer to use for this purpose. Do not let the milk boil, because this will change the taste.

After you pasteurize the milk, cool it as fast as possible to 50° F or lower. Keep it cool until you are ready to use it.

Whole milk that you don't need can be used for making butter. Keep milk in a deep pan until the cream rises to the top. This takes about 24 hours. Skim off the cream for churning. You can use the skim milk on the table, or you can use it for cooking, for making cottage cheese, or for feeding to a calf. Your extension home economist can show you many uses for skim milk.

Wash out all milk pans and buckets in cold water right after you use them. As soon as you can, wash them in hot water with soap or a dairy washing powder from the feed store. Scrub them with a brush. Rinse with hot water, then scald them with boiling water.

Keep the washed pans and buckets in a clean, airy place, uncovered. Use seamless milk pails so there will be no cracks in which milk can stick.

MAKING BUTTER

You can make good butter at home from sweet or slightly sour cream. If you use cream that is too sour, the butter will have a strong flavor and will not keep well.

You will probably want to churn every 3 or 4 days.

Probably the best kind of churn for making small amounts of butter is a 1-gallon glass churn that has wooden paddles. Fill the churn only one-third to one-half full because the cream will foam up. Butter should form after you churn 30 to 40 minutes.

Butter forms best when the cream is at a temperature of 54° to 58° F in summer and 58° to 64° in winter.

Stop churning when the butter flakes are about the size of grains of corn. Remove the butter from the buttermilk and wash it with water about as cold as the buttermilk or a little colder. Drain the water off, add 1 level tablespoon of salt to each pound of butter, then work the butter with a paddle until the salt is worked through it.

This leaflet gives basic information about keeping one cow for milk. It has been prepared especially for families in Appalachia, a region that includes all of West Virginia and parts of Alabama, Georgia, Kentucky, Maryland, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. The information, however, can be used almost everywhere in the United States.

Many of the suggestions in this leaflet are not suited to raising a dairy herd.

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