Owning a Dairy Cow or Goat

H.P. Adams, F. Bodyfelt, and M. Gamroth

People who live in the suburbs and own a small acreage often choose dairy cattle or dairy goats as a way to harvest and use their forage. Milk production can reduce the family grocery bill. Goats, especially, help control brush and weeds and keep the area from becoming unsightly.

If you already own a cow or goat, you'll find information here about caring for your animal and using the milk she produces. If you are still choosing, remember that the capacity of individual dairy cows and goats to produce milk varies greatly.

Choosing and feeding animals

Buy animals from a producer who keeps production records. Choose an animal that has the desired level of production, or a calf or kid from a dam (female parent) that has an acceptable production record. In most cases, a long milk production period is more important for family use than very high production. An animal that does not produce much milk and that milks for only a short period after calving often costs more to keep than the value of the milk she produces.

Choose the most appropriate animal to meet family needs, using the pasture supply you have available. A big cow (such as a Holstein) eats much more than a smaller cow (such as a Jersey). A goat requires much less forage than any cow. To estimate forage needs, a milking animal eats about 3 percent of her body weight in air-dry feed (hay) every day. For example, a 1,000-pound cow needs 30 pounds of hay or pasture dry matter per day.

A well-fed animal produces more milk than one fed poorly. In addition to forage, a cow may need supplemental grain or purchased feed daily for highest milk production.

Often, when a family cow produces more milk than needed, you can decrease her production by reducing her grain ration. You may want to do this when you can't use the extra milk, but there are limits, of course, and you cannot stop production during your vacation.

There is much published material on feeding dairy animals. Consult your local OSU Extension agent, feed supplier, and others for advice on your specific situation.

Breeding

Breed cows or goats to calve (or kid) approximately every 12 months. You may breed them to your own or a neighbor's males, or you can be more sure of top quality by using an insemination service. Semen and insemination services are available through several businesses. Using their service ensures superior, disease-free semen, and eliminates the need to keep a male. Your local OSU Extension agent can give you contact information for the semen services in your area.

Using the milk

One problem in keeping a family cow or goat is that there is often more milk than the family can use. An option is to sell this surplus. There are provisions that allow owners of not more than three producing cows or nine producing goats or sheep to sell their surplus milk. Before planning to sell, however, contact:

Division of Food Safety
Oregon Department of Agriculture
635 Capitol Street N.E.
Salem, Oregon 97310
503-986-4720

To sell fluid milk, the producer must be licensed and must meet sanitation and structural requirements for the milking area and milk room to ensure high-quality, safe milk. Unless you can meet these requirements, you will have to find

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other ways to use surplus milk. A few suggestions follow.

Fluid milk

Fluid milk is the simplest and most obvious way to use surplus milk. All milk, even from your own cow or goat, should be pasteurized. Even if your cows or goats are tested and known to be free of brucellosis or tuberculosis, milk can be a dangerous medium for the transfer of other disease organisms such as *E. coli, Listeria, and Salmonella*.

Milk also can transfer diseases from one person to another, such as from the milker to the consumer. Typhoid fever, septic sore throat, paratyphoid fever, scarlet fever, and gastroenteritis can be transferred by milk. All of these organisms are readily destroyed by pasteurization.

You can buy small, commercial pasteurizers, or you can pasteurize milk in a double boiler by heating to 165°F, stirring the milk while heating. When the milk reaches 165°F, put the top of the double boiler in cold water and cool as quickly as possible. Store pasteurized milk in a refrigerator until used. Do not store or process milk in direct sunlight, since this causes an off-flavor and nutrient loss.

Cleanliness in all phases of milking and milk handling is important. Churns, separators, and milk handling equipment should be washed thoroughly and sanitized with chlorine (bleach) or iodophor (iodine) solution. These are available from most farm or dairy supply stores or mail order firms. Follow instructions on the container.

As with other household and farm chemicals, store sanitizer concentrates out of reach of children, and use the sanitizers only as directed.

Making butter at home

You can make high-quality butter from pasteurized sweet cream. Butter made from old cream or cream that has soured exhibits a strong off-flavor and does not keep well. Save the well-cooled cream skimmings for up to 3 days before churning. Churning uses mechanical means to aerate, dash, or agitate the cream until the tiny globules of milk fat in the cream adhere to each other and form butter granules.

The most common churn for making small quantities of butter is a 1-gallon glass churn equipped with wooden paddles. Fill the churn only one-third to one-half full. Churning incorporates air into the cream and causes it to increase in volume. After 30 to 40 minutes of churning, butter granules should form and liquid buttermilk separate out.

Butter granules form best when the cream is at 54 to 58°F in summer and 58 to 62°F in winter. Stop churning when the butter granules are approximately pea size. Remove the granules of butter from the buttermilk and wash them with water about the same temperature as the buttermilk or slightly cooler. Drain the water, and add salt at the rate of 1 tablespoon to each pound of butter. Then, work the butter with a paddle until the salt is evenly distributed and the last buttermilk is extracted.

Since goat cream does not separate from milk by itself, you'll need to use a cream separator to make goat butter.

Homemade yogurt

For 3-plus quarts of yogurt, prepare the yogurt base in a 4-quart saucepan or double boiler:

3 quarts fresh whole milk or nonfat milk
1½ cups nonfat dry milk or 1 can evaporated milk

Heat the yogurt base to 180°F and hold at that temperature for 10 to 15 minutes. This changes the properties of the milk protein and results in a firmer, more custard-like body and texture in the finished product.

Cool the heated milk to 110°F. Inoculate the tempered milk with approximately ½ cup plain commercial yogurt or your own yogurt starter. Pour into clean, sanitary jars or plastic cottage cheese cartons.

Set the yogurt containers on a tray in the oven for incubation at 110°F (permissible range is 100 to 115°F). Turn the oven on to the lowest temperature to help maintain the desired incubation temperature.

Continue checking the temperature every hour, turning the oven on or off to maintain a temperature as close to 110°F as possible. *Do not exceed 115°F* or the culture will be inactivated. Maintain a temperature of 100 to 110°F for 3 to 4 hours. When the yogurt base coagulates and reaches the consistency of commercial sour cream, refrigerate immediately.

Try to avoid excessive vibration of the yogurt base in the late stages of incubation and when

transferring to the refrigerator. This helps ensure a smoother, more custard-like consistency.

There are also good home-yogurt makers available that simplify the process.

Yogurt should keep for 1 to 2 weeks, depending on the degree of care exercised in making it. Use of well-cleaned, sanitized containers greatly aids shelf life.

Cheese

You can make a number of different types of cheeses at home. You can find many home cheese-making recipes on websites and in books available in most bookstores.

Animal feed

You can use excess milk for animal feeds. A few suggestions:

- *Calves or kids.* Milk is, of course, the natural food for calves or kids. It should be limited to 8 percent of the body weight of young calves or kids, to avoid digestive disturbances.
- *Pigs.* Skimmed milk, buttermilk, and whey are excellent feed.
- *Chickens.* Milk is an excellent feed supplement for chicks. However, it is somewhat laxative and may cause wet litter when birds are confined.
- *Miscellaneous.* You can feed milk to a variety of young animals such as puppies, lambs, foals, and kittens. If puppies develop diarrhea, stop feeding them milk until the stool is normal.

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