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Dairy Guidelines

COOPERATIVE EXTENSION SERVICE, V.P.I., BLACKSBURG, VIRGINIA

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CARE OF MILK ON THE FAMILY FARM

(A reference for homemakers) VIRGINIA POLYTECHNIC INSTITUTE
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Introduction

The 1964 agriculture census reports that 36,692 farmers in Virginia own milk cows. Of these, 10,597 sell whole milk, 2,573 sell farm-separated cream, and 711 sell milk directly to stores and consumers. The remaining farms (22,811), we assume, are non-commercial dairy farms.

The common practice on most of these non-commercial dairy farms is to have only 1 or 2 cows to supply milk for family needs. In cases where only one cow is owned, it is customary to have her bred for spring freshening so she may utilize abundant spring pastures to supply enough milk for both her calf and the family. Where 2 or more cows are kept, they are often bred to freshen at different times to provide a more uniform supply of milk throughout the year.

Regardless of the number of cows kept, the owner is faced with an over supply of milk at certain times of the year, and too little at other times. Excess milk, produced during the flush season, is often fed to farm livestock. This milk could be home processed and stored in a number of ways to meet family needs when the milk supply is short.

Although milk is nature's most nearly perfect food, it is extremely bulky, containing about 87% water. If milk were to be stored "as is" it would require considerable storage space to supply a family's needs for any length of time. Concentrated forms of milk, such as cream, ice cream, butter, and various types of cheeses, require less storage space, and provide much of the same nutrition found in fresh whole milk. They also add variety to the family's meals at little extra cost and with a small amount of extra labor. All these products are easy to make with materials and utensils commonly found in the home.

Control of Milk Quality

High-quality dairy products, that store for a long time without spoilage, can only be made from high-quality milk. The term "quality" in milk pertains to 3 factors: (1) wholesomeness, (2) flavor, and (3) keeping quality.

Wholesomeness - Milk for human consumption must come from animals known to be free from infectious diseases such as T.B. and brucellosis. Farm families should purchase animals certified free from these diseases. Also, they should have their cows tested periodically by their veterinarian to be certain the animals remain free from infection. Mastitis is an infection in the udder caused by any one of a number of different microorganisms, some of which cause disease in man. Abnormal milk obtained from swollen, inflamed, or obviously infected udders should be discarded. In such cases, the dairyman should call his veterinarian to diagnose and prescribe proper treatment. As an added precaution, it is recommended the home milk supply be pasteurized to destroy any disease-producing organisms that may contaminate milk. V.P.I. Circular 482, "How Safe Is Your Milk Supply," describes 2 simple methods for pasteurizing in the home.

Flavor - Normal milk has a bland, slightly sweet flavor, and any slight abnormal tastes and odors are easily detected in milk and products made from it. The most common off-flavors originate from feed the cow eats. Flavors from pungent feeds such as strong silage, wild onion, garlic, ragweed, and honeysuckle appear in milk quite soon after they are consumed by the cow. Silage should be withheld from cows at least 4 hours prior to milking. When noxious weeds are abundant in pastures, cows should not be allowed to graze for 6 to 7 hours prior to milking.

Rancid flavors, which sometimes impart a bitter taste, appear spontaneously in milk from certain individual cows during fall and winter, particularly if these cows have been milking for 5 or more months. Pasteurization of milk immediately after it is taken from the cow will prevent the development of this off-flavor. (See V.P.I. Circular 692, "What Causes Bitter Flavor in Milk and Cream.")

Keeping Quality - Milk is as good a food for microorganisms as it is for humans. Under favorable conditions, bacteria, yeasts, and molds thrive in milk and are responsible for its rapid spoilage. Proper sanitation and rapid cooling will prevent contamination and restrict growth of microorganisms in milk.

Proper sanitation includes washing cows' udders, milking with clean, dry hands, and using clean, sanitized utensils and milk containers. Cooling milk rapidly to and maintaining at temperatures below 50°F., will prevent rapid growth of most microorganisms and lengthen storage life of the milk.

Pasteurization destroys 90 to 95% of the microorganisms that cause spoilage in raw milk. It also inactivates the natural enzymes responsible for the development of certain off-flavors in stored dairy products. The freshness of milk or cream will be maintained, and 2 or more days' supply of sweet milk or cream can be accumulated to acquire sufficient volume for processing.

Making Dairy Products in the Home

Prior to development of today's modern dairy industry, dairy products were made in the home for consumption and for sale to local consumers. The same type of operation is practiced today by many rural families who have home-produced milk. Today's homemaker, however, has the advantage of refrigeration. The home refrigerator and freezer provide additional means for storing surplus milk that has been manufactured into other dairy foods. In addition, today's homemakers need not rely on "hit-or-miss" recipes handed down within families. Much research in the area of dairy technology is available, describing specific methods known to be best suited for making dairy foods. The following, some of which are U.S.D.A. publications, are available from the Department of Dairy Science, V.P.I., Blacksburg, Virginia.

1. Store Milk Products at Home (Series 501) - A brief discussion of methods for storing butter, cream, ice cream, cream cheese, and aged cheeses.
2. Making Cream Cheese and Other Soft Cheeses at Home (Series 453) - Describes methods for making cream cheese, neufchatel cheese, and farm cheese; includes recipes for using these cheeses in spreads.
3. Making Cottage Cheese in the Home (Series 503) - Describes simple methods for making Schmierkase and popcorn-type cottage cheese.
4. An American Type Cheese - How to make it at home (U.S.D.A. Farmers Bulletin 2075) Describes the method for processing a yellow, aged cheese similar to American or cheddar.
5. Making and Storing Farm Butter for Home Use (U.S.D.A. Farmers Bulletin 1979) - Describes methods for home processing sweet and sour cream butter.
6. Homemade Cultured Milk Products (Series 504) - Describes methods for making cultured buttermilk, cultured cream, and yogurt in the home.
7. Homemade Frozen Dairy Desserts (Series 502) - Includes recipes and methods of freezing ice cream, ice milk, sherbets, and ices in the home refrigerator or in a dasher freezer.
8. Wholesome Milk for Health (Series 625) - A publication of particular value to 4-H members having dairy projects. It includes information pertaining to clean methods of producing and handling milk. Included also are suggested topics for dairy demonstrations.
9. Recipes for Cottage Cheese Dishes (V.P.I. Bulletin 249) - A 38-page collection of recipes on the use of cottage cheese in appetizers, sandwiches, salads and salad dressings, main dishes, and desserts.
10. Milk Drinks (V.P.I. Circular 618) - Includes 24 recipes for flavored milk drinks.

