

# FARM AND RANCH BULLETIN

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## CHANGES IN THE TEXAS DAIRY INDUSTRY

Changes in the Texas dairy industry have occurred in three major areas: (1) production of milk on farms, (2) processing and distribution of milk, and (3) milk consumption patterns. The changes follow the general pattern of those throughout the Nation, reports Randall Stelly, Associate Professor in the Department of Agricultural Economics and Sociology at Texas A. & M. College.

Changes in milk production on the farm probably have been the most rapid. During the period 1950-59, the number of Texas farms reporting milk for sale decreased 54 percent, and the number of milk cows declined about 45 percent. The decrease in milk cow numbers was mostly offset by an increase in milk production per cow; consequently, total output has been fairly well maintained.

The increased rate of production per cow not only has practically offset the decline in milk cow numbers but also has resulted in a volume of milk greatly in excess of commercial demands for fluid use. In comparable Federal order markets in Texas, the proportion of producer milk deliveries in excess of Class I, or fluid, utilization advanced from 14 percent to 32 percent between 1956 and 1961.

Increased milk deliveries per farm have resulted from technological changes in milk production and handling on the farms (principally in bulk milk-handling equipment). In addition, per farm milk deliveries have risen from efforts of dairy farmers to increase efficiency of operation and decrease per unit production costs. The shift toward larger commercial op-

erations is expected to continue, as producers take further advantage of economies of scale in milk production. Today's medium-size dairy farm more than likely will be the small farm of the near future, according to Mr. Stelly.

A reduction in the use of milk on the farm and changes in production have resulted in an increased quantity of milk moving into commercial channels. During the past decade, the total volume of milk produced by Texas farmers remained fairly steady, while the amount marketed by producers advanced about one-fourth. A sharp decline occurred in the proportion of milk used on the farms where it was produced. Major changes occurred in the volume sold to plants as whole milk, which rose approximately 40 percent, and the volume marketed as farm-skimmed cream, which decreased 27 percent from 1951 to 1961.

Consumption patterns for dairy products also have changed substantially during the past several years. These changes generally have been in the direction of increased per capita consumption of frozen dairy products and cheese and decreased consumption of butter and fluid milk products. During 1951-61, the quantity of milk utilized in the manufacture of creamery butter in Texas declined 60 percent, while that used in ice cream and other frozen desserts rose 10 percent. The number of plants manufacturing creamery butter in the State showed a 50-percent reduction.

The demand for a number of dairy products — especially for some commodities with a high level of fat content — has decreased, de-

spite rising consumer incomes. In contrast, the use of dairy products which have a high proportion of solids-not-fat has risen. The principal reasons for these changes in demand have been increasing competition from foods made with low-priced vegetable oils and a desire on the part of consumers to restrict their consumption of certain fats. The decline in butter consumption has resulted primarily from the fact that consumers have the choice of a substitute retailing for significantly less than the cost of butter, according to Mr. Stelly.

There have been some rather definite changes in the consumption of fluid milk. One of these has been the shift in emphasis away from creamline milk and toward homogenized milk. Another has been a shift from home delivery to sales through retail stores. Moreover, per capita consumption of fluid skim milk has increased.

Mr. Stelly says that the problems facing the dairy industry are both social and economic. The fundamental question of the individual dairy farmer is how rapidly he should expand for maximum efficiency in use of labor and capital.

The declining use of butterfat in fluid products, resulting in lower prices to producers, presents another important problem. A pricing system that places less emphasis on butterfat and more emphasis on solids-not-fat could result in an improvement in the basis upon which milk producers are paid.

Processors and distributors must decide how rapidly to adopt technological innovations and production and marketing practices which will maintain or improve their competitive positions. The economic ills of the dairy industry stem from declining per capita milk consumption, as well as from overproduction, according to the specialist. The intense competition from other foods increases the need for the dairy industry to place more emphasis upon product promotion and consumer education.

### **New Southern Cream Pea**

Champion is a new bush-type southern cream pea with a few short runners. According to the Texas Agricultural Experiment

Station, Champion is equal in yield to other cream pea varieties and is a superior canning and freezing type. The new pea not only gives a good concentrated yield but also provides an extended season in areas where peas are picked regularly for fresh market.

Pods of the new southern cream pea are concentrated in the top of the plant and are free of foliage. They are long, moderately thick, and tapered at the distal end. The individual peas are large in the green shell stage and, for a cream type, are relatively large in the dry stage. The dry seeds are slightly wrinkled and free of cracking.

The pod set of Champion peas is concentrated, with approximately 50 percent of the peas reaching suitable green shell stage at one time. The variety has an average shell out of 52 percent at optimum green shell stage. The dry seeds are short, kidney-shaped, and creamy white in color and average 180 to the ounce. Champion peas do not shatter in the field and can be combine-harvested satisfactorily, with a minimum loss from cracking.

The Champion variety has average tolerance to southern pea insects and diseases. Where diseases or insects are a problem, plants should be dusted or sprayed with approved fungicides or insecticides. The new type has been equal, or superior, to other cream peas at several Texas locations and is especially well adapted to the Lower Rio Grande Valley.

### **Permanent Pasture — A Top Crop**

Permanent pasture is no longer a second-choice crop in Texas, according to Shannon E. Carpenter, Area Dairy Specialist with the Texas Agricultural Extension Service. Only a few years ago, much of the permanent pasture was on land which was worn out from continuous row cropping. Today, desirable pasturage is the cheapest source of feed nutrients.

Good soil is the basis for good pastures, and since there are only approximately 10 acres of land for every person in America, the land must be used wisely. In Texas, many acres have been converted to pastureland through the use of power equipment and chemicals to remove brush.



Mr. Carpenter says that the most economical way to harvest pasture is by permitting animals to graze it. Adequate grazing should be provided throughout the year; however, it is difficult to maintain the correct amount of pasture for the satisfactory growth of animals the year round.

Good planning and favorable weather are needed in order to furnish grazing the entire year, and temporary pastures usually will be required to supplement permanent forage crops, according to the dairy specialist. The two major enemies of permanent pasture are weeds and insufficient moisture. Planning of grazing will help to maintain pastures later in the fall.

### Sweet Potato Irrigation Profitable

The irrigation of sweet potatoes — a comparatively new practice in Louisiana — results in more and better potatoes, according to Louisiana State University specialists. Unless soil moisture is adequate for the plants, many practices, such as seed selection and choice of proper varieties, are of limited value.

The method of irrigation used has virtually no effect on sweet potato growth as long as a continuous supply of soil moisture is available. A sprinkler system will provide an accurate and uniform application of water, and furrow irrigation is very satisfactory on level land.

In very dry seasons, there is a marked yield response of sweet potatoes to supplemental moisture, as well as an improvement in quality. Irrigation is good insurance for sweet potato growers, according to the Louisiana specialists.

Studies have shown that a long drought period occurring about 40 days after transplanting sweet potatoes causes substantial reductions in yields. Drought occurring after five or six roots have set on the plants is not as serious as it is in other stages of growth, provided rain is received later to mature the crop.

When irrigation is used, sweet potatoes can be planted as soon as they are ready to set in the fields. The potatoes have a lower dry matter content under irrigated conditions.

In tests conducted at the LSU Agricultural Experiment Station at Chase, supple-

mental irrigation, applied as needed, produced an average increase of 154 bushels of marketable sweet potatoes per acre over nonirrigated plots. The irrigated plots yielded 23 bushels more for each acre-inch of irrigation water used. During a dry season, irrigated potatoes produced 315 bushels per acre, compared with 167 bushels per acre for nonirrigated plots.

### Production Practice Costly to Turkey Growers



Although turkey growers often dub, crop, notch, or pinion the wings of turkey poults to prevent flying, data and personal observations by Federal inspectors in processing plants indicate that this practice may be rather costly to producers, says R. D. Wenger of the Agricultural Marketing Service.

Wing clipping may have some merit in helping to control the flock on the range or to prevent bashing into the pens, but it may result in the loss of several hundred dollars to the grower when the birds are sold for processing. Cropping leads to downgrading at the processing plant, and resultant losses usually are borne by producers, since processors normally buy turkeys on an inspected and graded basis.

Federal inspectors point out that many of the turkey wings never completely heal after cropping; consequently, a chronic inflammatory lesion develops on the wing stub. These lesions often become infected with various staphylococcus bacteria. When consumed in foods, some of these bacteria can produce food poisoning in human beings.

Turkeys that have had one of their wings cropped do not have proper balance control and may get bruised severely when they jump down from roosts. In addition, wing cropping may be a contributing cause of breast blisters.

### Select Small Motors Carefully

There are many types and sizes of small electric motors available, points out Henry O'Neal, Agricultural Engineer with the Texas Agricultural Extension Service. If properly

chosen for the work to be done, an electric motor will give years of trouble-free service. On the other hand, errors in selection can result in large repair bills.

When choosing a motor, one should know the horsepower requirements and electric service available, as well as the operating voltage. A ½-horsepower or larger motor should be connected to a 220-volt circuit; smaller-size motors can be operated on 110 volts. A change in the wiring will permit some motors to be connected to either 110 or 220 volts.

Various types of equipment require different amounts of power for starting. A small fan, an emery wheel, or a bench saw is easy to start, while an air compressor or a deep well piston pump requires more power. Such equipment uses two to four times as much power for starting as is needed for its operation.

In order to meet these varying conditions, manufacturers make different types of motors, explains Mr. O'Neal. Motors which require only a small amount of power for starting cost less than others. However, if the motor is selected on the basis of price alone, the buyer may not get the one best suited for a particular job.

### **Petroleum Agriculture Mulch**

Research was conducted at the Agricultural Experiment Substation at Spur, Texas, during 1962 to determine the effect of petroleum agriculture mulch on moisture and temperature of the soil, seedling emergence, and cotton yield. The liquid mulch material is derived from petroleum and is applied as a spray. Compared with emergence on the check plots, seedling emergence was increased 118, 123, and 230 percent, respectively, on plots which were treated with 60, 125, and 170 gallons of the mulch per acre.

The petroleum mulch was applied to the drill rows at the time of planting. A plateau lister planter was used to open old beds, which were relatively dry because of a lack of pre-season rainfall. Seed planting and application of the mulch were done simultaneously at a speed of 3 miles per hour. Western Stormproof acid-delinted cottonseed were planted at a rate

of 33 pounds per acre and at a depth of 2 inches. The soil was firmed by packer wheels.

Seedling emergence was accelerated 2 to 3 days when petroleum material was applied as a mulch. Emergence was substantially greater 10 days after planting for all plots receiving petroleum mulch treatments than for untreated check plots. No significant differences were noted in lint yields for any of the treatments.

The application of 170 gallons of petroleum emulsion per acre may be the most effective mulch rate. Germination was faster with this rate of treatment and a higher percentage of seedling emergence was evidenced than with the other treatments. This fact is related to the ability of the heavier film to hold soil moisture at a higher level and for a longer time.

The biggest disadvantage of the petroleum mulch is its application, because of the complicated equipment needed and the relatively large volume of material required to make a satisfactory mulch. Cleaning of the equipment also presents some difficulty.

### **Triband Weed Control for Cotton**

A promising new method of applying herbicides or other weed-control treatments in cotton fields has been developed at Stoneville, Mississippi, reports the U. S. Department of Agriculture. The new method, called triband weed control, involves precision placement of herbicides or other treatments in three bands along a row of cotton. The triband area consists of the shoulder on either side of the drill row and the drill row itself. Various herbicidal, flame, and cultural treatments can be adapted to the triband method.

Successful application of triband weed-control treatments could substantially reduce the costs of cultivating cotton. USDA scientists are making further studies of the method before recommending it to cotton growers for field use.

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An insect repellent, commonly called deet, has been developed by the U. S. Department of Agriculture. When applied to exposed skin areas, deet repels such pests as mosquitoes, ticks, chiggers, fleas, and biting flies.