

# FARM AND RANCH BULLETIN

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## EAST TEXAS DAIRY FARMING

In east Texas, emphasis has shifted from cash crops to livestock, with dairying becoming the major enterprise on many farms, according to the Texas Agricultural Experiment Station.

Grade A milk production expanded rapidly as a result of high milk prices during and immediately after World War II. Because of these favorable prices, dairying was a profitable enterprise, although many herds included a large proportion of low-producing cows. As milk prices adjusted downward and production costs trended upward, the importance of high output per cow increased.

During 1954-59, the Texas Agricultural Experiment Station made a study to determine the costs and returns of producing milk, to find variations in costs and returns among different farms and among herds of various sizes, and to evaluate the effect of economic factors on dairying in east Texas.

Information on milk output and production requirements was obtained from about a hundred representative dairies in Camp, Franklin, Hopkins, Nacogdoches, Smith, Titus, Upshur, and Wood Counties. The most detailed data on the farms were obtained for the period 1954-57. The operations of all of the farms in the study were devoted primarily to the production of Grade A milk.

During the first 4 years of the study, the number of cows per farm increased, but the average number of acres per farm showed little change. The total average investment for dairying increased slightly more than \$5,000 between

1954 and 1957, but investment per cow declined from \$951 to \$938, mainly because more cows were kept on approximately the same acreage. The total average investment per cow was greater for the small herds than for herds of above-average size, reflecting, in part, the fewer number of cows per acre on the farms with small herds.

Although the majority of the dairies in east Texas are operated by farm families, the trend is toward larger herds and a more highly specialized business, according to the Texas Agricultural Experiment Station. Among the more important reasons given by farmers for increasing the number of cows per farm were (1) attaining greater efficiency in the use of equipment; (2) securing increased efficiency in the use of labor; (3) producing larger volumes of milk for sale and, thus, realizing higher gross incomes; and (4) obtaining the volume of milk needed to justify owning bulk tanks and related equipment.

When the study was initiated in 1954, all except two of the herds were predominantly Jersey. By the end of 1959, Holsteins comprised almost one-fourth of the milking herds.

The average annual milk output per cow greatly influenced production costs and, in turn, materially affected dairy profits. The average annual output per cow for all farms in the study was 5,168 pounds of milk in 1954 but increased each year to average 6,240 pounds by 1957. In the latter year, 10 percent of the herds produced less than 5,000 pounds of milk per cow annually, and a similar percentage of the herds pro-

duced 8,000 pounds or more per cow annually. High output per cow was not closely related to herd size.

The study shows that, at prices and costs prevailing during 1959, the revenue from a herd of 48 cows producing only 4,200 pounds of milk annually (the average of the low-producing herds) did not cover all production costs. Operators with such low-producing herds might meet cash operating expenses but would not be able to provide for the replacement of equipment and for improvements. Moreover, they worked for very low wages.

Revenue from a herd of 49 cows that produced 6,200 pounds of milk per cow (the average for the farms in the study) lacked 32 cents per hundredweight of milk paying for all costs of production. In other words, cows producing at the average level paid all operating costs and provided for interest on the dairy investment, as well as for upkeep and depreciation. However, the operator and his family received only about 70 cents per hour for the time spent in caring for the dairy.

Under price conditions in 1959, dollar returns from a herd of 52 cows averaging 8,700 pounds of milk annually paid all operating expenses and overhead costs and allowed a payment of \$1 per hour to the operator and his family for dairy work and an additional \$2,080 as a management wage to the operator.

### **Dairy Cows Do Not Need Daily Mineral-Vitamin Supplements**

Increasing numbers of Texas dairymen are feeding expensive mineral-vitamin supplements because they have been advised that this practice will improve milk production and the general health of dairy cows, according to A. M. Meekma, Dairy Specialist with the Texas Agricultural Extension Service.

The dairy specialist points out, however, that in four separate experiments at Cornell University, a complex mineral-vitamin mixture — similar in composition to many now being sold — failed to increase milk production, milk fat, weight gain, feed intake, or digestibility. Moreover, no improvement in the general health and appearance of the cows was evident.

### **Survival Ration From Wheat**

A compact, long-keeping emergency ration made from whole wheat has been developed and tested by United States Department of Agriculture scientists. The ration was developed for stockpiling in fallout shelters.

The product — which is in the form of wafers — has an estimated shelf life of 5 years or longer. The rations are made from whole-grain wheat that has been parboiled, dried, puffed, and then crumbled and made into cooky-sized wafers.

According to the USDA, the wafers pack a large amount of food value into a small space. In addition, they can be served quickly and easily, and the plentiful supplies of wheat make the ration practical for stockpiling.

The wafers can be eaten plain or with other foods, such as milk, peanut butter, bouillon, and spaghetti. The latter two items and seasoned toppings can be stored in dried form and mixed with water before heating and serving.

Each wheat wafer contains 84 calories. In fallout shelter tests, 12 wafers daily furnished slightly more than one-half of the energy requirements and about one-third of the protein in a 2,000-calorie per day diet. Milk and peanut butter supplied the remainder of the protein. Although this fare does not meet all of the requirements for a balanced diet, human survival and health would not be affected during an estimated shelter stay of 2 weeks.

### **New Honey Harvesting Method**

The United States Department of Agriculture has announced a new and improved procedure for repelling bees from combs while honey is being harvested. The method, which uses propionic anhydride, is more efficient than procedures which beekeepers have used for over 30 years. Moreover, this volatile chemical presents no residue problem.

The new method involves placing an absorbent pad, impregnated with propionic anhydride, in a special fume chamber. This chamber is then fitted over a section of the hive called the super, from which honey is harvested by beekeepers. Air forced with a bellows into the fume

chamber drives the bees into other supers or into the brood chamber below the supers.

When propionic anhydride is used, bees become gentle and easy to work with and are repelled from sealed honey supers in 1 or 2 minutes. There is no change in the honey flavor or odor when the chemical is used.

According to the USDA, the new honey harvesting method should result in savings to beekeepers. In addition, the procedure may encourage expansion within the industry, which will provide increased numbers of honeybees for pollinating agricultural crops.

### Bermuda Grasses Compared

Texas cattlemen have been inquiring as to which Bermuda grass is best for improved pastures. According to George McBee, Pasture Specialist with the Texas Agricultural Extension Service, Coastal Bermuda grass ranks at the top of the list of several available varieties. This hardy hybrid generally is adapted to all sections of the State below 3,500 feet in elevation. However, supplemental irrigation is necessary in areas of low rainfall.

Midland Bermuda grass, a cross between Coastal and a cold-resistant strain of common Bermuda grass grown in Indiana, generally is slightly less productive than Coastal Bermuda. On the other hand, its added cold resistance makes it well suited for the Lubbock area and northward.

Suwannee Bermuda grass — also a hybrid — is similar to Coastal. Georgia tests reveal that Suwannee is more drought-resistant when grown on deep sands, but it is less tolerant of heavy grazing and, under Texas conditions, is less desirable than Coastal Bermuda grass.

Other Bermuda grass varieties, such as hybrid Selection No. 3 and Greenfield, are not presently recommended for Texas. Although it has produced higher yields than Coastal Bermuda in some instances, Selection No. 3 is low in palatability and is not readily grazed by cattle.

NK-37, a seeded variety of Bermuda grass developed in Arizona, has given generally good results during the first growing season. However, the variety showed a high degree of sus-

ceptibility to leaf spot disease, which often becomes severe by midsummer.

### Snake Control



Snakes — often a concern of suburbanites, as well as rural people — can be controlled through various practices, according to E. A. Cancienne, Entomologist with the Louisiana Agricultural Extension Service. The building of subdivisions in previously wooded areas has created a snake problem for many people.

Although snake repellents are now on the market, many of them contain materials that are toxic to human beings and pets. Consequently, the repellents should be investigated thoroughly before being applied to play areas. Moreover, the cost of treating large areas with these repellents is almost prohibitive, according to Mr. Cancienne.

Although complete eradication of snakes is practically impossible, buildings can be made snakeproof by repairing cracks or holes in the foundation or floors and making all doors and screens fit as tightly as possible. Since rattlesnakes cannot climb vertical walls or dig under structures, they can be excluded relatively easily from buildings.

Removal of food and cover necessary to the existence of snakes will discourage them from inhabiting an area. In addition, clean premises will discourage rats and mice — the principal food of snakes.

A snake in a rodent burrow can be eliminated quickly by applying 1 or 2 ounces of calcium cyanide dust deep into the hole. The material should be dropped with a long-handled spoon, and the hole should be sealed with dirt.

### Check Roofing for Rust Signs

Galvanized roofing on all farm buildings should be checked each year for signs of rust, says W. S. Allen, Agricultural Engineer with the Texas Agricultural Extension Service. Delays in painting rusty roofs add to the cost when

the job is finally done, since more paint is needed for rusty roofs than for those with little or no rust. Extra labor is required to brush off loose rust particles before roofs are repainted. Moreover, rusty roofs may also need repairs.

Mr. Allen points out that a primer paint which will adhere to the zinc surface should be selected. Paints containing 80 percent metallic zinc dust and 20 percent zinc oxide in an oil vehicle have long proved successful both as a prime coat and as a finish coat.

Serviceable primers for galvanized steel are also available. Among these are formulas with other pigments than zinc dust and zinc oxide. According to Mr. Allen, the paint manufacturer's recommendations should always be checked to make certain the primer selected is intended for use over galvanized steel. If a color different from the prime coat is used, the finish coat must be compatible with the primer coat.

Before being painted, new galvanized roofing, guttering, and downspouts should be washed thoroughly with a detergent and rinsed with clear water. Then the primer coat should be applied.

Mr. Allen says that the use of the proper paint for a particular job is the best assurance of an attractive, economical, and long-lasting paint job.

## Poultry Manure for Soil Improvement

Although it has been used as a fertilizer for many years, poultry manure has been used on a commercial basis only recently. As a result of the increasing size of poultry operations and, thus, a larger supply of poultry manure, there has been greater interest in the use of manure as a commercial product, reports the Texas Agricultural Extension Service.

Based on prices and plant nutrients of inorganic fertilizer materials, studies indicate that poultry manure is worth about \$6 to \$8 per ton. On this basis, almost \$5 million worth of poultry manure is produced annually as a by-product of the Texas poultry industry. Commonly used litters — such as wood shavings, cane pulp, and other organic materials — add substantially to

the value of poultry manure because they improve the friability, structure, and organic content of the soil.

Poultry manure may be applied to the soil in either a processed or an unprocessed form. Processing usually consists of drying the material to a moisture content of approximately 10 to 12 percent for satisfactory packaging and storing. The dried material generally is ground or shredded.

Before applying poultry manure to soils, both the fertility needs of the soils and the chemical composition of the manure should be determined.



## Recent Research Results

★ Forage yields of irrigated sweet Sudan grass were increased when nitrogen was applied at rates of 200 pounds and 400 pounds per acre, points out the Texas Agricultural Experiment Station. However, the amount of additional forage produced at the 400-pound rate was small and uneconomical as compared with that produced at the 200-pound rate. As the nitrogen application increased, the percentage of the protein in the forage also rose.

★ Since spring-sown small grains are not well adapted to the Texas High Plains, good yields can be obtained only in favorable years or with intensive irrigation, according to the Texas Agricultural Experiment Station. The Lee variety has given the best performance of spring wheats tested; Alamo, Mustang, and Cimarron appear to be the better adapted oat varieties for spring seeding. The better adapted true-spring barley varieties of Arivat, Otis, and Beecher have produced larger yields than Cordova, the highest yielding intermediate-winter variety.

★ The yellow corn hybrids Texas 28, Texas 30, and Harper 3 showed a wide range of adaptation under both irrigated and dry-land conditions, ranking at or near the top in each of 16 individual tests during 1960, according to the Texas Agricultural Experiment Station. In addition, Pfister 485 produced high yields under irrigation. Asgrow 105W was the highest yielding white corn hybrid.