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PRODUCTION COSTS OF LAYING FLOCKS IN TEXAS

Although Texas is a surplus egg producer for a short time each spring, approximately one-third of the total annual shell egg requirements is imported from other states, according to the Texas Agricultural Experiment Station. The growth in the State's population has increased the market demand at the same time that egg production has been changing from small sideline operations to specialized commercial enterprises.

The expanding egg market offers an opportunity for added income to Texas farmers. As output is stepped up, supplies now imported from other states will be replaced. Texas poultrymen must expand production at prices which will be competitive; therefore, they must be familiar with production costs before planning expansion programs.

In order to determine the production costs of a laying flock enterprise, the Texas Agricultural Experiment Station made a study of 14 commercial laying flocks. Detailed records were obtained from October 1, 1956, through September 30, 1957, on five market egg flocks, eight light-breed hatching egg flocks, and one heavy-breed hatching egg flock.

An analysis of the most profitable light-breed hatching egg flocks revealed that they generally had the following characteristics as compared with the least profitable flocks: (1) more days in production, (2) higher average price received per dozen eggs sold, (3) lower average cost per dozen eggs produced, (4) slightly higher egg output per hen, and (5) slightly less feed used per dozen eggs produced.

The number of layers in all of the flocks studied ranged from 250 to 2,886, with an average of 1,264. The producers and their families provided most of the labor for the poultry enterprises. Some producers hired extra labor for cleaning the houses, moving birds, or similar work; however, this cost was minor.

The total annual cost of the laying flock enterprise, excluding labor, averaged $6.12 per layer, or approximately 34 cents per dozen eggs produced. Feed expenses accounted for about 60 percent of the production costs and, together with flock depreciation, amounted to 85 percent of the total. Included in the feed costs were mash, pellets, grain, grit, and oyster shell.

Flock depreciation was calculated by determining the difference between (1) the estimated inventory value of the birds at the beginning of 1956, plus the value of layers added during the year, and (2) the inventory value at the end of September 1957, plus the value of birds sold during the year. Six percent interest on the average flock investment was added as a part of flock depreciation.

Feed costs varied between flocks, but the most noticeable difference was between the light-breed and the heavy-breed layers. Since the heavy birds consumed more feed, their annual feed cost averaged about 50 cents per layer higher than that for the light breeds.

However, the relatively high feed costs were mostly offset by the lower flock replacement costs. The higher sale value of cull hens — which was nearly twice that of light-breed culls

— kept replacement costs comparatively low for the heavy-breed flocks.

Miscellaneous cash costs included utilities, litter, medication, insecticides, repairs, and hired labor. These costs averaged only 42 cents per layer; depreciation and interest combined were approximately the same amount.

Depreciation on buildings and equipment was determined by dividing their estimated value by the estimated years of life of the particular items. Six percent interest was charged on the average investment in buildings and equipment.

In the light-breed flocks, the cost per dozen eggs produced was about 34 cents. The one heavy-breed flock in the study had an egg production cost of 47 cents per dozen as a result of the relatively low output.

According to the Texas Agricultural Experiment Station, the best way to reduce egg production costs is through practices that either increase feed efficiency or lower replacement costs. For example, a saving of only 5 percent in feed costs for the flocks studied would have reduced costs 1 cent per dozen eggs produced. Housing expense would have required a 40-percent decrease for an equal saving.

Dew Important Moisture Source

Dew may be an important source of moisture for plants in the Midwest, according to the United States Department of Agriculture. Tests in Ohio show that accumulation of dew can total as much as 10 inches of water annually. In some years it may furnish up to 20 percent of the total water supply for crops in the humid sections of the Midwest.

An appreciable amount of moisture which condenses as dew on plant leaves is absorbed directly by the plants. In addition, some of the dew goes down plant stalks into the ground, adding moisture to the soil.

Contrary to widely held belief, the Ohio studies show that dew can be an important source of moisture for growing plants. Plants often draw less than the usual amount of moisture from the soil in the morning when dew is being evaporated from the plant leaves. Consequently, dew absorbed through the leaves evidently supplies part of the plants' requirements at this time of the day.

In the tests, dew accounted for as much as 0.08 inch of water in a single day and at times provided a monthly water supply of 1 inch or more.

Caution on Feeding Fumigated Oats

In order to avoid possible losses in egg production, oats fumigated with ethylene dibromide must be aerated thoroughly before they are fed to laying hens, cautions the USDA. Grain retaining the odor of the fumigant should not be fed.

Limited tests indicate that large enough quantities of ethylene dibromide in oats fed to hens can reduce the size of the eggs laid. However, experimental data show that fumigated grain can be aerated so that no ill effects will result from feeding the treated grain.

USDA scientists say that there is no occasion for widespread concern about use of the commonly recommended fumigants or other insecticides when applied properly on stored grains. These treatments are necessary and serve a useful purpose in preventing contamination of grain and the tremendous damage and losses that otherwise would be caused by insects.

Artificial Chick

A temperature control device that simulates the heat-sensing ability of a baby chick has been developed to provide nearly ideal conditions for chicks under infrared brooder lamps, reports the United States Department of Agriculture.

The control device consists of a 4-inch black globe which loses heat by radiation, conduction, and convection in much the same manner that chicks lose body heat. Thus, a temperature change which would affect the chicks would also affect the control.

The globe's temperature is maintained by heat supplied continuously by an electrical resistance element inside the globe and intermittently by the infrared brooder lamps. As the chicks become older and require less external heat, more internal heat is supplied to the globe.

Because of the complicated nature of the artificial chick, it is best suited to large installations where one unit can control several infrared brooders.

Cotton Harvesting on the Texas High Plains

The Texas Agricultural Experiment Station and Texas Technological College recently reported the following major findings of a case study of seven farms on the High Plains of the State for the 1957 cotton harvest.

- Handsnapping cotton, followed by machine clean-up, was more profitable than a single machine stripping for three out of seven farms. On these three farms, the additional income from the higher quality cotton or higher yields, or both, more than paid for the additional cost of handsnapping.
- A single machine stripping operation after frost was more profitable on the other four farms. In two of these situations, the quality of handsnapped cotton may have been lowered more, as a result of damp weather during harvest, than that of machine-stripped cotton harvested during dry weather. In another instance, the hand harvesting was performed later than the machine stripping.

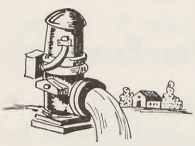
The report indicated that the results on these seven cotton farms were too inconclusive for definite recommendations. Future studies may result in a better understanding of the different features which influence the profitability of various harvesting methods.

Seed Treatments Improve Sesame Stands

The use of disease-controlling seed treatments can contribute to better stands of sesame, reports the United States Department of Agriculture. Studies by Dr. Charles A. Thomas of the USDA's Agricultural Research Center at Beltsville, Maryland, show that seed treatments can result in a significant reduction of bacterial leaf spot, blight, damping off, and other diseases.

Sesame, an oil-seed crop, is valuable both for its whole seed — which is used by bakers and confectioners — and as a source of high-quality food oil. Since World War II, the United States has imported from 9 million to 24 million pounds of sesame seed annually, or about 90 percent of the total national consumption. Improvement of sesame through research can help to provide American farmers with a larger share of this market and would offer a profitable alternative crop to farmers operating under acreage restrictions on basic crops, according to the Department of Agriculture.

Make Best Use of Water Resources



Both proper timing of irrigation and maintenance of soil fertility are necessary to make the best use of the limited water resources available for crop production in the semi-arid High Plains regions of the Southwest. These basic requirements were established in studies conducted by the United States Department of Agriculture during the 1956-58 growing seasons at Bushland, Texas.

Hybrid grain sorghum — more than 2 million acres of which are grown under irrigation on the Texas High Plains — was used as the test crop. Greatest production efficiency resulted —

- When at least 20 to 22 inches of soil moisture was available during the growing season.
- When soil moisture was adequate during the boot and soft-dough stages of sorghum grain development.
- When soil fertility was maintained at a high level by using up to 240 pounds of nitrogen and 30 pounds of phosphorus per acre.

Other USDA experiments showed that yields were lowered when less than 20 inches of soil moisture was available during a season. The reduction was caused by unfavorable distribution of rainfall that was not supplemented by sufficient irrigation.

Efficient use of irrigation water, which is needed for proper growth of all crops in southwestern High Plains areas, is becoming increasingly necessary. The number of irrigation wells in the Texas High Plains rose from only 8,000 in 1948 to nearly 46,000 in 1958.

The studies also demonstrated the relationship of soil fertility maintenance to efficient water use. In 1957, on one plot where nitrogen was deficient, only 255 pounds of grain were produced per acre-inch of water, compared with 355 pounds on another plot where nitrogen fertilizer was available. In 1958, grain production through the use of nitrogen was 316 pounds per acre-inch of water, compared with 164 pounds without nitrogen.

Are Vegetables Ready for Freezing?

A simple new test for enzyme activity is helping food packers save time and money by controlling the quality of frozen vegetables. The test, developed by a scientist with the United States Department of Agriculture, is made with chemically treated paper discs, which show by a change in color whether the vegetables have been properly blanched and are ready for freezing.

The new test for enzyme activity is accurate and is easy to use routinely in food-processing operations. In addition, it eliminates the time-consuming laboratory analyses previously required.

Management Hints for Farm Fish Ponds

Fertilization is the best way to keep submerged pond weeds under control in the eastern part of Texas; however, chemical control usually is necessary in other areas of the State, points out E. H. Cooper, Extension Wildlife Conservation Specialist with the Texas Agricultural Extension Service.

Control measures should be taken only when plants are spreading extensively, since a small amount of plant growth in shallow areas around the margins of the pond is not harmful. Sodium arsenite will control most submerged aquatic plants except chara; copper sulfate will control algae and chara. Spring and summer are the only times when control methods are really effective.

Fertilizer will increase the microscopic plant and animal life in the pond and will provide food for water insects and other organisms on which fish feed. Recommended fertilizers are 16-20-0, 4-12-4, and 5-10-5. Barnyard manure, cottonseed meal, or soybean meal also may be used.

Chemicals for aquatic plant control are not harmful to fish or livestock if applied properly and in the recommended amounts. Ponds should be treated with chemicals at approximately 2-week intervals, covering about one-third of the weedy area each treatment. This method will allow plants to decompose in smaller masses, thereby reducing the hazard of oxygen loss to fish.

If an unidentified plant in the fish pond is causing trouble, a pressed, dried sample of the plant should be taken to the county agricultural agent.

The total tonnage of fertilizer sold in Texas during the last half of 1958 was 4.2 percent more than in the corresponding period a year earlier and was 20 percent above the tonnage sold during the last half of 1953. Dr. J. F. Fudge, State Chemist, reports that the trend toward the use of higher-analysis fertilizers continued at a rapid pace.

Studies at the Oklahoma Agricultural Experiment Station indicate that influenza and bronchopneumonia are the leading killers of spring-farrowed pigs. Other major causes of death are a blocked opening between the stomach and small intestine and infectious diseases which enter the animal's body through its navel or through skin abrasions at the joints.

The FARM AND RANCH BULLETIN is prepared in the Research Department under the direction of J. Z. Rowe, Agricultural Economist.