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Horace John Davis

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Home-Mixed Rations for Poultry

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AGRICULTURAL AND MECHANICAL COLLEGE
AGRICULTURAL EXPERIMENT STATIONS
C. T. DOWELL, Director

The profit or loss resulting from a poultry project is determined by the difference between the cost of production and the price obtained for the products when they are sold. Since feeding accounts for more than 50 per cent of the cost of producing poultry and eggs, it should be given due consideration in planning the production program.

Feeds Differ Widely in Cost and Value

Experienced poultrymen are well aware of the fact that mixed feeds and feed ingredients vary considerably in cost and in feeding value. Feeds may appear identical to the eye but may produce altogether different results when they are fed. The feed that is cheapest per 100 pounds may not produce one pound of gain or a dozen eggs as cheaply as another feed that costs considerably more per 100 pounds.

Home-Mixed Feeds Versus Commercial Feeds

A common question which causes much thought and discussion among poultrymen and feed dealers is the relative value of home-mixed and commercially-mixed feeds. Many poultrymen have used home-mixed feeds successfully for many years and prefer them to the commercial mixtures. On the other hand, many poultrymen have used commercial feeds successfully for many years and prefer them to home-mixed rations. Obviously there is a definite place for both home-mixed and commercially-mixed feeds in the poultry industry. If the poultryman is located where he can easily obtain the necessary feed ingredients, home-mixed rations can usually be prepared cheaper than commercially-mixed feeds can be purchased. In order to supply the poultryman with definite information on home-mixed feeds for poultry, several experiments have been conducted in which relatively simple home-mixed rations have been compared with commonly used commercial feeds. The results of these comparisons are summarized in Table 1. The feed ingredients used in the different rations are listed at the left of the table, and the amount of each ingredient used is indicated for the various rations. For example, Ration No. 9 is composed of 52 pounds of yellow corn meal, 26 pounds of wheat bran, 17 pounds of dehydrated shrimp meal, 5 pounds of dried milk, and 0.25 pounds of cod-liver oil. Other data regarding the cost and feeding value of the different mixtures are given directly below each ration. The cost figures given for the rations are based on retail feed prices in Baton Rouge, and not on wholesale or discount prices. The chicks used in these experiments were kept in confinement throughout the eight-week feeding trials.

The authors wish to acknowledge the assistance of Mr. Rudolph Badeaux and Mr. Rudolph Marcus in carrying on the routine work of the feeding trials.
### TABLE I. A COMPARISON OF SIMPLE HOME-MIXED RATIONS WITH COMMONLY USED COMMERCIAL RATIONS

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**Experiment 1** (12/28/39 to 2/21/40)
- Per cent mortality: 8.00
- Av. wt. per chick at 8 weeks (lbs.): 1.25
- Cost of feed per 100 pounds: $2.51
- Feed consumed per lb. of gain (lbs.): 3.45
- Feed cost per pound of gain (cents): 8.7

**Experiment 2** (3/12/40 to 5/7/40)
- Per cent mortality: 8.00
- Av. wt. per chick at 8 weeks (lbs.): 1.25
- Cost of feed per 100 pounds: $2.10
- Feed consumed per lb. of gain (lbs.): 3.35
- Feed cost per pound of gain (cents): 8.4

**Experiment 3** (6/14/40 to 8/9/40)
- Per cent mortality: 12.00
- Av. wt. per chick at 8 weeks (lbs.): 1.22
- Cost of feed per 100 pounds: $2.08
- Feed consumed per lb. of gain (lbs.): 3.65
- Feed cost per pound of gain (cents): 7.6

**Experiment 4** (10/6/40 to 12/1/40)
- Per cent mortality: 0.00
- Av. wt. per chick at 8 weeks (lbs.): 1.46
- Cost of feed per 100 pounds: $2.15
- Feed consumed per lb. of gain (lbs.): 3.13
- Feed cost per pound of gain (cents): 6.7

*These figures indicate the number of different commercial feeds used in computing the averages presented.
†The high mortality obtained in Experiment 3 could not be attributed to any one cause. This is a common occurrence in summer-hatched chicks.
‡The high mortality obtained on Rations 12 and 14 in Experiment 4 was due to cannibalism.
From a study of the results presented in Table 1 the following conclusions appear to be justified:

1. Simple home-mixed rations were mixed at a cheaper cost per 100 pounds than commercially-mixed feeds could be purchased.
2. Commercially-mixed feeds usually produced more rapid growth than simple home-mixed rations.
3. There was no significant difference in the mortality of the chicks which were fed the home-mixed and those which were fed the commercially-mixed rations.
4. The feed cost per pound of gain was cheaper with the home-mixed feeds than with the commercially-mixed feeds.

Some Precautions to Be Observed in Preparing Home-Mixed Rations

In preparing home-mixed feeds the poultryman should not make deliberate changes in the amount or kind of ingredients recommended. This is especially true of simple formulas. In the rations shown in Table 1 each ingredient serves a special purpose. Substitutions should not be made unless someone is consulted who is sufficiently familiar with the feeding value of ingredients to pass judgment intelligently on their interchangeability. Some poultrymen have attempted to replace milk in the chick ration with a cheaper protein feed. Such changes usually prove unsatisfactory and unprofitable.

The amount of fish oil a poultryman should use in a chick ration depends upon the richness of the oil in vitamin D. The manufacturers of better grades of fish oils include on the container specific information regarding the vitamin potency of the oil and the amount to be included in the poultry ration.

In buying ingredients for home-mixed rations careful consideration should be given to the kind and quality of the ingredients. The above rations specify yellow corn meal and not white corn meal. Rice bran is sometimes confused with rice bran and by-products. Pulverized oats should not be confused with ground oats and oat by-products. The above “by-products” feeds contain too much fiber to be used satisfactorily in poultry mashers.

Chick Rations May Be Used for Growing Stock and Mature Birds

The chick rations shown in Table 1 may be used satisfactorily for growing stock and mature birds by making certain changes in the methods of feeding. The mash rations should be fed just as they are shown above to chicks while they are in the brooder, or until they are eight or nine weeks of age. During the growing period (two to six months of age) it is desirable to keep the mash before the birds at all times and to feed grain in such a quantity that the birds will consume two parts of mash to one part of grain. For laying hens, enough grain should be fed so that the hens will consume about equal quantities of mash and grain. A feeding program of this nature will make it possible to use one mash mixture for all the chickens on the farm and thereby greatly simplify the problems of mixing feed. If this feeding program is followed, the grain may be corn, rice, or oats, or a mixture of such grains as can be obtained easily.