

FATTENING POULTRY

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An Experiment to Determine the Most Economical Protein Supplement to be Used in Arizona for the Purpose of Finishing Out Broilers for Market

Since protein is essential to all life and is always the most expensive portion of a feed, the writer set out to investigate the various proteins used, and to note their relative worth.

Southern Arizona produces large quantities of cotton-seed meal and it makes excellent feed for some classes of stock. Is it a good poultry feed?

The large packers and commercial poultry feeders have long used the milk products, such as semi-solid and dried buttermilk in their fattening rations. If we purchase these milk products we not only have to pay the initial cost, but the freight from the east. Is it advisable to do this?

These questions and many others have frequently come in from all parts of the state and it is sincerely hoped that some of the interested parties will find answers to their questions here.

For the experiment the writer chose a metal fattening crate mounted on a truck, and known as a battery. This crate was composed of four tiers, each tier divided into four sections. The dimensions of each compartment being 16 inches high with a 30 by 18½ inch floor space. Each compartment was equipped with a dropping tray. Troughs were fixed to the outside of each tier for the purpose of supplying the feed.

As the white leghorn cockerels are by-products of the egg industry they were chosen, and five lots of ten birds each were selected. These birds averaged 1½ lbs. each, and the total weight of the individual lots was 15 lbs.

A general, or basal ration, was chosen for all, which consisted of 2 parts corn meal, 1 part shorts, and 1 part ground oats. To this was added the various proteins to narrow the nutritive ratio to 1:4.8. The proteins used were dried buttermilk, semi-solid buttermilk, meat scrap, and cotton-seed meal. One pen was fed the basal ration with no protein for a check. This pen will be referred to as the check pen.

In feeding fowls for market it is desirable to produce tender flesh, and for this reason the birds must be confined to close quarters where they

Pen	Cost of Lot	Cost of Feed	Price of Lot	Profit
Check Pen	\$3.75	\$.316	\$4.12	.06
Dry Buttermilk	3.75	.419	4.62	.45
Semi-solid Buttermilk	3.75	.665	4.93	.515
Meat Scrap	3.75	.256	4.37	.369
Cotton-seed Meal	3.75	.340	4.37	.285

*Period of experiment, 10 days.

will obtain as little exercise as possible. The feed must be palatable and easily digestible. They must consume a maximum amount of feed in order to make the best gains. So for these reason the birds were put in their respective quarters in the morning and given no feed—but plenty of water was allowed. At night they were fed ½ pint of feed batter to each 10 birds, and any feed remaining after 10 minutes was removed. The next morning the birds being hungry were given 1 pint of their respective feed. The feeding time was regular, being at 6 o'clock morning and evening. After the first two feedings the fowls were allowed all they would eat in 15 minutes for the remainder of the 10 day period. The feed was mixed with water to the consistency of thick porridge, being in a condition that would just run out of the feed bucket. The object of feeding moist feed is that more will be eaten for a short period; it puts on more tender flesh, and is more efficient.

Strict sanitation was observed in order that best results might be obtained. The crate was sprayed with a standard B.K. solution before use. After each feeding the dropping trays were cleaned and the feed troughs were washed to prevent souring, thus throwing the cockerels off feed.

Some poultrymen use a 15 day fattening period, but with the white leghorn cockerels it was decided that 10 days would be sufficient, for after the ninth day the birds develop such vices as feather pulling, and cannibalism is apt to start to such a degree that casualties are heavy.

At the end of the 10th day the fowls were marketed. During the period of experiment the cockerels in the check pen consumed 11½ lbs. of feed and gained 1½ lbs.; those receiving the dried buttermilk in their ration

ate 9¾ lbs. of feed and made a gain of 3½ lbs. The birds that were fed the semi-solid buttermilk in their ration devoured 11 lbs. of feed and made a gain of 4¾ lbs. The meat scrap pen consumed 8¾ lbs. of feed with a gain of 2½ lbs. Those receiving the cotton-seed meal ate 11½ lbs of feed, the same as those receiving no protein supplement, but they gained 2½ lbs., which is 1 lb. more than the check pen.

The relative economy of the various feeds will be given in the above table. This table does not attempt to show anything but the relative merit of the feeds chosen. The cost of labor and equipment are not deducted from the profit column.

As shown above, the proteins are most economical in order: semi-solid buttermilk, dry buttermilk, meat scrap and cotton-seed meal.

DUST VS. LIQUID SPRAYS

In a series of years of tests, and particularly true with the recent improvements in dust materials, the dusts have been found superior to the liquid sprays in vegetable insect control.

The dusts are easier to apply, the necessary equipment for treating any given area is much less expensive; one may obtain more complete covering of the treated plants; the material adheres better to the sleek foliage of plants such as cabbage; and of first importance, it is possible to cover a given area in less than one-fifth the time required for applying the liquid spray.

The cost of the dust materials is somewhat higher than the liquid spray. However, this expense is more than offset in the decreased cost of labor and time necessary in application of dust and in the less expensive spraying equipment required.