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Feed is the largest single item in the cost of keeping chickens. Therefore, it should receive utmost consideration. There is no one best poultry feed or feeding method. The feed or feeding method that best utilizes the home-grown or locally available feeds, and that enables the hens to lay at a reasonable rate should be used. This will, of course, vary on different farms; consequently, it is often necessary to formulate feeding systems to meet individual requirements. This may easily be done by following one of the approved methods given in this publication.

Grains suitable for poultry feeds are relatively low in protein, and they must be supplemented with feeds high in protein if a balanced ration is to be fed. Almost all feeds high in protein are obtainable only in ground form. Therefore, chickens are fed part of their ration in a ground or mash form, and the remainder as whole or cracked grain. For best results, the mash is left before the hens in open hoppers at all times, and the grain is fed in limited amounts once or twice daily.

# Grain Ration

There is little variation in the feeding value of grains; therefore, farmers may use almost any single grain or combination of grains to form that part of the ration. Whole corn is most commonly used, but various combinations of corn, wheat, oats, barley, milo, and kaffir are also satisfactory.

## Mash Ration

The mash used in the ration, or at least a part of it, must usually be purchased, since the protein-supplement feeds cannot be economically produced on many farms. The three methods that may be used in obtaining the mash are given here separately.

Ready-prepared laying mash. All poultry feed manufacturers mix laying mash in a form ready for use. They handle one or more brands which contain, as near as the manufacturer can determine, the correct amounts of the various ingredients. For a very small flock, a ready-prepared laying mash manufactured by a reliable concern is often the best form in which to buy the laying mash, even though it is usually a little more expensive than home-mixed mash.

Mixed protein supplements. Since corn meal usually makes up about 50 per cent of any laying mash, it is more economical for a farmer to buy a mixture of protein supplement and mix with his own corn meal than to

purchase a ready-mixed laying mash. The mixed protein supplements containing either 26 or 32 per cent protein are available through feed dealers. Each one hundred pounds of 26-per cent supplement is mixed with 100 pounds of corn meal to make 200 pounds of laying mash; the 32-per cent supplement is mixed with corn meal according to the recommendations of the manufacturer. During warm weather laying mash cannot be kept more than 2 months without being damaged considerably by weevils and feed worms. Since a flock of 35 hens will consume only about 100 pounds of laying mash in one month, any farmer who has less than 35 hens and who makes his own laying mash with supplement will find that it becomes old and damaged before the 200 pounds can be used.

Home-mixed laying mash. In some communities various protein and other feed ingredients are available through local feed dealers. Where this service is available, farmers can make their own laying mash by using what ground grains they have and purchasing small quantities of one or two ingredients that are high in protein. This is usually the most economical way of obtaining laying mash, and it should be considered where 500 or more pounds of laying mash is used every 2 months. For flocks of less than 100 hens, the cost of ingredients in the proper amounts is usually so high that other methods of obtaining laying mash are more economical.

# Liquid Milk

Buttermilk and skim milk are two of the very best sources of protein for chickens, and when they are available in sufficient quantities, farmers do not need to feed a laying mash. If hens are given all the buttermilk or skim milk they will drink and all the corn they will eat, they will be getting a well balanced ration. Every 25 hens will drink approximately one gallon of milk per day. For further information regarding this method of feeding hens and a comparison between this and other methods, write for Alabama Agricultural Experiment Station Circular No. 66.

## Formulas for Laying Mash

The following is the most common and one of the most satisfactory home-mixed laying mash farmulas known. The ingredients are usually available and can be mixed in 500-pound units without the use of scales.

#### Farm Laying Mash

Corn meal	200	pounds
Wheat bran or ground oats	100	pounds
Wheat shorts	100	pounds
Cottonseed meal, peanut meal, or		
soybean meal	50	pounds
Meat scraps, fish meal, or high grade		
tankage	50	pounds

For farmers or commercial poultrymen who have rather large flocks and who can afford to devote more time and effort to obtaining a better balanced mash, the following formula is recommended:

## Commercial Laying Mash

* * * *	Corn meal Wheat shorts Wheat bran Ground oats Meat and bone meal Dried buttermilk Fish meal Peanut meal Soybean meal Alfalfa leaf meal Oyster shell (fine) Bone meal	13 13 13 8 3 2 2 5 1 1	pounds pound
	Total	T00	pounds

During the fall and winter months when the birds are confined to the house, it is advisable to add cod liver oil to the mash in amounts recommended by the manufacturer. If skim milk or buttermilk is regularly available in quantities of four gallons per day for each 100 hens, the feeds marked \* may be omitted from the formula and an equal amount of corn meal substituted. Bright green hay should be fed in racks daily during the winter when succulent green feed is not available.

## Daily Feeding Schedule

The scratch grain is scattered in the litter or fed in the troughs each evening at the rate of 10° to 12 pounds per 100 hens. If it is not completely consumed by one hour after daylight of the following day, the amount is reduced to the extent that it will be consumed within that period of time, As far as possible, birds should be fed according to their appetities rather than by measure. The dry mash should be accessible in open hoppers continuously. If green feed or moist mash is fed, it is given at noon. Clean water, grit, and oyster shell should be available at all times.