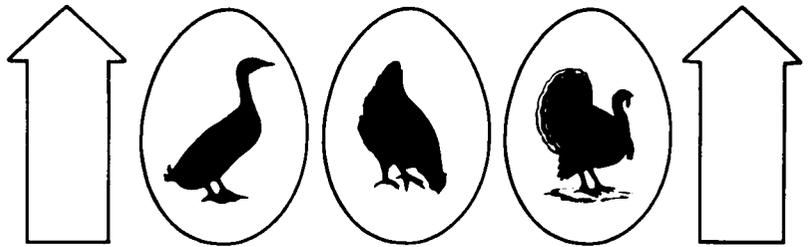


# Poultry Facts



## Feeding the Backyard Laying Flock

Feed consumed by the laying hen is used mainly for body maintenance. Nutrients in excess of those necessary for maintenance can be used for egg production. Research results of many investigators have been used to determine levels of nutrients needed to permit the laying hen to produce optimally. A poultry feed must supply the necessary protein, carbohydrates, fats, minerals, and vitamins in their proper proportion. A major cause of problems in small flocks can be related to improper nutrition. The laying hen of today has been genetically improved and as a consequence is unable to live and produce eggs efficiently on the same type of feeding regime that its ancestors were fed 30 years ago.

Feeds are composed of a variety of feedstuffs. This allows a nutrient deficiency of one feedstuff to be offset by the nutrients of another feedstuff. The palatability of feedstuffs must be considered in formulating rations for poultry. If chickens will not eat the feed, the palatability is suspect.

Diets for poultry vary depending upon their intended purpose. A feed designed for laying hens is not adequate for optimal growth in broilers, nor is a broiler feed proper for laying hens. Rations are manufactured in a feedmill as mash, pellets, or crumbles. Pelleted or crumbled feeds are generally used in meat production, seldom in egg production. Pelleting reduces feed wastage, reduces the presence of salmonella organisms, and minimizes selection of feed ingredients by the chicken.

Environmental temperature can alter feed intake by the hen. Cold temperatures of winter will increase feed consumption because of the hens' increased

need for energy to maintain body temperature. Warmer temperatures on the other hand will decrease energy needs and thus, feed intake, because less heat needs to be produced to maintain body temperature. Because of these changes in feed intake, it is important to insure that the hen is receiving adequate protein, vitamins, and minerals. It is best that a diet be fortified with more protein, vitamins, and minerals in the warmer summer months. Adequate calcium is extremely important in the summer. Calcium is needed for shell strength and bone formation. If inadequate calcium is in the diet, you may notice poorer shells, eggs without shells, or hens developing leg problems.

Laying mash should be at least 15 percent protein. Higher protein levels are of value during hot weather when feed consumption decreases. When pullets are coming into and reaching peak production, nutritional requirements are higher and it would be best if higher protein levels of 16 to 18 percent were fed. After the birds have peaked, the protein level can be decreased.

An *ALL-MASH FEEDING SYSTEM* is most often used for laying hens. Mash rations are commercially available at local feedmills and have been formulated to provide in proper amounts all the necessary nutrients for the hen. The laying mash fed to commercial-type egg birds should be free choice. If broiler-type breeders are used for production of eggs, a restrictive feeding program must be utilized to prevent obesity. If scratch grains are used, they should be fed in conjunction with a mash containing a higher level of protein than that required when an all-mash feed is used.

If a conventional *MASH-SCRATCH SYSTEM* is composed of 50 percent scratch grains, the mash should be 20 percent protein. If a greater portion of scratch grains is desirable, a higher protein mash is necessary. Whatever the ratio of mash to scratch, a minimum of 15 percent protein should be maintained.

<i>Mash to Scratch Used</i>	<i>Percent Protein in Mash</i>
1:1	20
1:2	25
1:3	30
1:4	35
1:5	40

**This assumes the average protein content of the scratch mixture at 10 percent.**

Home-grown grains can be used in a mash-scratch system when economically feasible. Scratch grains may include wheat, oats, barley, or buckwheat. Wheat is a good source of energy. It is high in carbohydrate and low in fiber. It has a relative value of about 95 percent that of corn. A wheat-based diet generally lacks the pigments which favor the yellow color found in yolks. Barley contains less energy than corn or wheat, and more energy than oats. If barley is fed as a scratch feed, it should not constitute more than 75 percent of the scratch feed. Barley is not as palatable as other feeds and needs to be introduced to the hen gradually. Oats are a good protein source but are a low-energy feedstuff. Heavy, thin-hulled oats have a better feed value than lightweight oats. The higher fiber content makes oats less palatable. Oats are generally not used in excess of 50 percent of the scratch grain mixture.

**Suggested Scratch Mixtures of Varying Energy Content**

	<i>High Energy</i>	<i>Medium Energy</i>	<i>Low Energy</i>
Barley . . . . .	1 part	2 parts	2 parts
Corn or Milo . . . . .	2 parts	1 part	—
Oats . . . . .	—	1 part	2 parts
Wheat . . . . .	1 part	—	—

A scratch mixture composed of at least two grains is usually best for the performance of the laying hen. It is usually fed in late afternoon. It may be scattered on top of the litter or placed in separate hoppers. Overfeeding of the scratch will lower the feed intake of the mash and thus decrease protein intake by the hens. The decreased protein intake can result in management problems and/or lower production.

Different environmental temperatures require different feed energy levels. The energy requirement of the hen is greatest during the winter, and rather than altering the amount of scratch fed, it is better to alter the type of grains in the scratch feed. During winter increase the amount of high-energy grains (corn, wheat, milo) in scratch feed. During summer, when energy intake needs to be decreased, use a scratch feed which utilizes primarily oats or barley.

The availability of oystershell and granite grit is desirable. The oystershell will ensure that the hens are receiving an adequate amount of calcium for the manufacture of good egg shells. The grit, while not necessary if an all-mash system is used, is necessary if a scratch feed is used. The grit will help to grind the whole grains and will result in better utilization of the feedstuff by the hen.

If your hens are on range or have access to the outside, it would be best to continue to feed a balanced ration. Little is to be gained and much lost when the hens are left to scavenge for feed and are unable to receive adequate nutrients.

The contents of an egg are the sole source of nutrients for the developing embryo. Thus, if you plan on taking eggs from your backyard flock and incubating them, the hens' diet needs to be considered. Ideally, a breeder diet would insure that the embryos will have sufficient nutrients to result in optimum hatchability. If you feel you need to have a fortified diet for your breeders, contact your state extension specialist for advice.

One of the most important and most often overlooked nutrients is WATER. It is imperative that clean water be available to the birds at all times. This may be difficult during the winter, when water can freeze, but every effort must be made to accommodate the hens so that production will not suffer.