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## Feeding

## Turkey Breeders

The possession, maintenance and care of a turkey breeder flock require the investment of considerable capital. However, a good return of such investments can be obtained if the flock has an inherent capacity to produce a large number of fertile eggs, is managed properly, blood tested, properly lighted and fed an adequate diet. In selecting a strain or type of turkey, the producer should select one that has been developed on the basis of egg production, hatchability and fertility records.

# Feeding Turkey Breeders

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**T**HE TURKEY BREEDER should receive a well-balanced feed for at least 3 to 4 weeks before the onset of egg production. Its extreme sensitivity to fortification of diets with vitamins and minerals and the storage of these in the developing yolks necessitates this process. Excessive medication should also be avoided as there are a number of drugs that have depressing effects on fertility and hatchability of turkey eggs. Medication should never be given turkey breeders unless recommended by a qualified serviceman or veterinarian. Poor fertility and low hatchability during the latter part of the turkey laying season are still considered to be serious problems. They can be caused by the genetics of the bird, the diet, mismanagement or a combination of these. This pamphlet will deal only with the provision of the appropriate diet.

## Energy or Carbohydrate Sources

The Texas Station shows that it is possible to increase the efficiency of feed utilization by adding a level of 2.5 percent fat to the diet of the turkey breeder hen. This also prevents the birds from rapidly losing body weight after the onset of egg production. However, the addition of fat to the diet is dictated more by economics than by actual nutrition. Corn and sorghum grains can be easily interchanged, depending on price. Barley can also be used as part of the grain source. The purpose of these grain sources in the turkey breeder diet is to furnish energy. The turkey breeder diet should be formulated to contain 900-950 Calories of productive energy per pound. Very few vitamins, minerals and unidentified factors are obtained from carbohydrate sources, but they do furnish a certain amount of the amino acids that go into making up the protein content of the diet. Since the dietary energy sources make up the major volume of a turkey feed, their amino acid composition should be included in the total.

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## Protein

A number of protein sources are available for use in the turkey breeder diet. A breeder diet should be formulated to contain approximately 18 percent protein. This diet can be mixed either as a com-

TABLE 1. TURKEY BREEDER HEN FORMULA AND CONCENTRATE

Ingredients	Turkey breeder hen all mash formula	Turkey breeder hen concentrate	Turkey breeder hen all mash formula using the concentrate
	— — Pounds per ton — —		
Yellow corn	489		500
Sorghum grain	800		790
Soybean oil meal (44 % protein)	400	1031	
Fish meal (60 % protein)	100	350	
Dehydrated alfalfa meal (17 % protein)	60	200	
Fermentation product	10	25	
Phosphorus source (28 % Ca; 18 % P)	40	150	
Limestone or oyster shell flour (38 % Ca)	85	200	
Salt	5	12	
Manganese sulfate	½	1.25	
Zinc sulfate	¾	1	
Vitamin-antibiotic-arsonic premix <sup>1</sup>	10	30	
Breeder concentrate			710
	— Calculated analysis —		
Protein %	18.01	35.20	18
Fat %	2.61	1.60	2.70
Crude fiber %	3.25	5.72	3.28
Calcium %	2.56	7.10	2.56
Total phosphorus %	0.98	2.34	1.02
Inorganic phosphorus %	0.53	1.95	0.70
Calories (productive energy per pound)	920	602	923
Calorie per protein ratio	51/1	17/1	51/1

<sup>1</sup>See the sections on vitamins, antibiotics and arsonic acids for the composition of the premix.

plete feed or on a concentrate basis, as shown in Table 1. If the concentrate is used, it is mixed with grain before feeding. It is not necessary nor advisable to have the diet pelleted before feeding. Protein sources available for turkey breeder diets are soybean oil meal, fish meal, meat scraps, poultry by-product meal, fish solubles, corn gluten meal, feather meal and blood meal. If feather meal is used in the diet, it should not be used at a level of more than 2.5 percent of the total diet, nor should a level of more than 1 percent blood meal be used. Sesame oil meal can be used as a protein source; however, the essential amino acid, lysine, will limit the amount of sesame oil meal that can be used in the turkey breeder diet. The sources of protein to use under a specific set of circumstances are dictated by their amino acid makeups and their cost per unit of protein.

### **Vitamins, Minerals, Antibiotics and Arsonics**

The turkey breeder must be fed a diet adequate in vitamins, minerals and unidentified factors before the onset of egg production. It then comes into production with an adequate storage of these nutrients, which are essential for maximum hatchability and fertility. The vitamin levels suggested for a turkey breeder diet on a per ton basis are: 9 million IU of vitamin A, 4 million ICU of vitamin D<sub>3</sub>, 30 thousand IU of vitamin E, 2 grams of vitamin K, 4 grams of riboflavin, 50 grams niacin, 12 grams d-calcium-pantothenate, 1,000 grams choline chloride; 12 milligrams of vitamin B<sub>12</sub>, 10 grams of antibiotics and 45 grams 3-nitro-4-hydroxyphenylarsonic acid or 90 grams of arsanilic acid. These vitamins and dietary additives should be incorporated for mixing convenience in the above amounts into a 10-pound package, so that one such package can be added to each ton of diet. Or, in the case of the concentrate, 30 pounds should be added per ton of the concentrate feed. In addition, the diet should contain a half pound of manganese sulfate and three-eighths pound of zinc sulfate per ton. A level of 0.70 to 0.75 percent inorganic phosphorus and 2.50 to 2.75 percent calcium should also be used. Limestone, or oyster shell flour contains only 38 percent calcium and most phosphorus supplements contain from 28 to 38 percent calcium and approximately 18 percent phosphorus.

**One of a Series**

This is one of a series of six leaflets on feeding poultry under Texas conditions. Titles of the leaflets are:

*Feeding Broilers*

*Feeding Flock Replacements*

*Feeding Laying Hens* (in process)

*Feeding Chicken Breeders*

*Feeding Turkey Breeders*

*Feeding Growing Turkeys*

Additional copies of the six leaflets will be available as issued from the offices of the extension agents located in each Texas county, or from the Agricultural Information Office, Texas A&M University, College Station, Texas.

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