



Feathered Facts

A
Baker County
Extension
Service
Newsletter

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Dear Extension Friends,

I would like to thank you all for the interest and enthusiasm that has been expressed to me about this newsletter. I hope to continue to provide timely and important information to those interested in poultry throughout Florida. Please remember that if you have a question or topic that you would like me to cover, please email me at the address on page 4. Also remember that there is a County Extension Office in all Florida counties. As always, if we can help you in any way, please do not hesitate to contact us.

Sincerely,

Michael A. Davis, Ph.D.
Director / Agriculture Agent
UF | IFAS Baker County Extension Service



NUTRITION FOR THE BACKYARD FLOCK



Correct nutrition is key if you want your poultry flock to perform and produce well. Feed costs can account for up to 70% of the cost of raising domestic chickens, so it is very important for you to know what to feed your birds. It is also important to remember that the nutritional requirements for poultry will vary between ages and will also be dependent on the type of birds you are raising (egg or meat production). There are times when the nutrient requirements of different ages or types may overlap. In these cases, substitutions in feed can be made. However, there are other times when it is critical to feed the correct diet so that nutritional complications do not occur. An example of this would be feeding a layer diet to chicks. The high calcium in the layer diet can have detrimental effects on chicks such as incorrect bone formation, kidney failure and death.

The remainder of this article will give general information on the nutritional requirements of poultry. If you need additional information, you may consult [Nutrient Requirements of Poultry](#), 9th edition.

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Breed Selection for the Small Operator

There are many reasons for raising poultry, but most people want meat, eggs or a combination of meat and eggs from their flock. After you have made the decision to raise a small flock, you should ask yourself—“What do I want from my birds?” The answer to this question will help you determine what type of birds you will need to get for your flock. There are many different breeds of chicken, but they are not all created equally when it comes to meat and/or egg production.

When looking at breeds you may also come across the terms ‘hybrid’ and ‘heritage’. A hybrid is a cross of breeds that typically exhibits the best traits of both parent breeds. Hybrid breeds typically have a higher production potential and greater flock uniformity. Heritage breeds are older breeds that have more genetic variability; thus, they usually have a lower production potential and lower feed conversion than hybrids. However, this does not mean that a heritage breed is not suitable for your needs. For additional information on heritage breeds in the U.S., please visit The Livestock Conservancy at <http://www.livestockconservancy.org/>. The table below list some of the most common breeds and additional information. Additional information about other breeds can also be found using ‘[Henderson’s Handy Dandy Chicken Chart](#)’.

Breed	Plumage Color	Eggshell Color	Rate of Lay	Additional Information
Barred Plymouth Rock	Black & white barring	Brown	Excellent	One of the oldest breeds, Excellent dual purpose bird.
Black Sex-Link	Black with gold hackle & breast	Brown	Excellent	Cross of Rhode Island Red and Barred Plymouth Rock
Brown Sex-Link	Dark red with black tails & wings	Brown	Excellent	Cross of Rhode Island Red and White Plymouth Rock
Gold Sex-Link	Light red with white tails & wings	Brown	Excellent	Cross of Rhode Island Red and Rhode Island White
Red Sex-Link	Dark red with black tails & wings	Brown	Excellent	Cross of Rhode Island Red and Delaware
Rhode Island Red	Very dark red	Brown	Excellent	Very old breed and popular dual purpose bird
Black Australorp	Black with a greenish sheen	Brown	Excellent	Excellent small flock producer, very hardy
Ameraucana & Araucana	Multicolored	Green, blue, light brown	Excellent	Nicknamed the ‘Easter Egg Chicken’

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NUTRITION FOR THE BACKYARD FLOCK

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WATER

Water is probably the most important nutrient and the one that gets the least attention. If birds do not have an adequate supply of clean drinking water, their performance will suffer very quickly. Water intake by chickens is typically two (2) times the intake of food, by weight. It can be even higher when temperatures are hot. Make sure to keep a clean, fresh supply of water for your flock. It is advisable to clean jug waterers daily.

CARBOHYDRATES

Carbohydrates are the major source of energy for chickens; therefore, they make up the largest percentage of the ration. Chickens are able to digest simple sugars and starches, but are not able to digest complex carbohydrates such as cellulose. Many grains are high in carbohydrates that are usable by chickens, including corn, wheat and milo. One of these will most likely be the main ingredient in the feed. Poultry diets of all kinds typically have an energy content of 1290 to 1450 kilocalories of metabolizable energy per pound (2838 to 3190 kcal ME/kg).

PROTEINS (AMINO ACIDS)

Proteins are complex molecules that are made from simpler molecules called amino acids. It is actually these amino acids that are essential to diet and not the complex protein itself. The complex proteins serve as a vehicle for transport of the amino acids. Many different feed ingredients are used to meet the amino acid/protein requirement of chickens, with soybean meal chief among them. Many amino acids can be synthesized by the chicken from other amino acids. However, there are amino acids that are considered essential and must be supplied in the diet in sufficient amounts for proper growth. Methionine is one of these essential amino acids and you will most likely see the percentage of methionine included as information on the feed tag.

FATS (FATTY ACIDS)

Fats in the poultry diet are important as an additional source of energy. Fats tend to contain twice as much energy by weight as other feed ingredients. Fats are also important as there are many vitamins that are soluble in fat, but are not soluble in water. Finally, just like proteins, there are essential fatty acids that are required in the diet as they cannot be synthesized by the animal.

VITAMINS

There are thirteen (13) vitamins that are required by poultry for normal growth and production. These vitamins are classified as either fat-soluble or water-soluble. Vitamins A, D₃, E and K are considered to be fat-soluble, while vitamins such as riboflavin, thiamin, folic acid, biotin, nicotinic acid, vitamin B₁₂ and choline are water soluble. Many of the components of poultry feed contain one or more of these vitamins, but feed companies usually add a vitamin premix during formulation that will ensure that all of the vitamin requirements are met.

MINERALS

Minerals are classified into two groups: macrominerals (those needed in relatively large amounts) and microminerals (those needed in very small amounts). It should be noted that even though microminerals are only needed in very small amounts, their exclusion from the diet can have very detrimental effects on growth and/or production. Minerals serve in the processes of blood cell formation, blood clotting, enzyme activation, metabolism, muscle function and, most importantly in the laying hen, egg shell formation. Most of the grains that are used in poultry feeds are low in mineral concentration so feed companies typically include them from supplemental sources.

OTHER FEED ADDITIVES

There are other additives added to feeds that may not serve a direct nutritional purpose, such as antioxidants, binders, coccidiostats and antibiotics. If coccidiostats or antibiotics are in the feed, make sure to follow any directions concerning withdrawal times.

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Breed	Plumage Color	Eggshell Color	Rate of Lay	Additional Information
White Leghorn	White	White	Excellent	Use for egg laying only, not a good dual purpose bird
New Hampshire Red	Chestnut red	Brown	Very Good	Popular dual purpose bird, fast grower
Silver Laced Wyandotte	Silvery white, edged with black	Brown	Very Good	Old breed, popular in cold areas
White Plymouth Rock	White	Brown	Very Good	Medium sized, dual purpose breed
Golden Laced Wyandotte	Golden, edged with green/black	Brown	Good	Old breed, popular in cold areas
Buff Orpington	Rich, golden buff	Brown	Good	Large breed, quiet disposition, popular backyard bird

Guidelines for Nutrient Requirements of Chickens, Adapted from *Nutrition for Backyard Chicken Flocks*, Alabama Cooperative Extension Service (ANR-1317), Blake, Hess and Macklin, 2007.

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Dual-Purpose Egg Production Crosses						
Bird Type	Age	Diet Type	Metabolizable Energy (kcal/lb)	Crude Protein (%)	Calcium (%)	Available Phosphorus (%)
Pullets	0—4 wk.	Starter	1275—1300	18—19	0.85—1.00	0.40—0.45
	4—12 wk.	Grower	1275—1300	17—18	0.80—0.95	0.35—0.42
	12—20 wk.	Developer	1260—1280	15—16	0.75—0.90	0.32—0.40
Laying	> 20 wk.	Layer	1225—1300	14—16	3.00—5.00	0.34—0.41

 <p>UNIVERSITY of FLORIDA IFAS Extension <i>Baker County Extension</i></p>	<p>Baker County Extension Service</p> <p>1025 W. Macclenny Ave., Macclenny, FL 32063 Phone: (904) 259-3520 Email: baker@ifas.ufl.edu Website: http://baker.ifas.ufl.edu</p> <p>Hours: M—F 8:30am to 5:00pm (Closed Noon to 1:00pm for Lunch)</p>	 <p>UNIVERSITY of FLORIDA IFAS Extension <i>Baker County Extension</i></p>
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Extension programs are open to all people regardless of race, color, age, sex, handicap or national origin. In accordance with the Americans with Disabilities Act, any person needing a special accommodation to participate in any activity, should contact the Baker County Cooperative Extension Service at 1025 West Macclenny Avenue, Macclenny, FL 32063 or telephone (904) 259-3520 no later than ten (10) days prior to the event for consideration of the request. Hearing impaired persons can access the foregoing telephone by contacting the Florida Relay Service at 1-800-955-8770 (voice) or 1-800-955-8771 (TDD).