

# Reading a Feed Tag

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Feed stores carry a variety of feed types. How do you choose which to buy? You need to read the feed tag. A lot of information is on a feed tag that can help you make your selection.

## Product Name

Each feed typically has a name, often specific for the company manufacturing it. Sometimes this name is a company specific trade name such as “Meat Maker.” Typically the name gives an indication of which animals the feed was designed for, such as “Chick Starter” or “Layer Feed.” If the feed is medicated, this should be indicated right under the product name. The product name should also include whether the feed is in a mash, pellet, or crumbled form.

In the feed tag example, the product name is “True-Blue Chick Starter.” Note that it clearly states under the name that it is a medicated feed.

Feed can be in the form of a mash, pellets or crumbles. Pelletizing helps to reduce feed wastage and has been shown to improve broiler growth performance. Most pellets are too big for young birds so they are broken down into crumbles. Most feed tags will indicate the form of the feed they contain, but not always. If the form is not indicated, assume it is in mash form. It costs money to pellet a feed, so if the manufacturer has done so they typically indicate it on the tag. In the feed tag example, the feed is crumbled.

## Purpose Statement

Nutritional requirements of the different poultry species (chickens, turkeys, ducks, etc.) vary considerably. In addition, for specific species the nutrient requirements will vary depending on the age

and production level of the individual birds. For example, feed for a broiler chicken is designed for rapid growth and is higher in protein than a feed designed for a laying hen. The calcium content of a layer diet would be higher than that of a broiler diet.

<p><b>Product Name</b> →</p> <p><b>Purpose Statement</b> →</p> <p><b>Active Ingredients</b> →</p> <p><b>Guaranteed Analysis</b> →</p> <p><b>List of Ingredients</b> →</p> <p><b>Directions for Use</b> →</p> <p><b>Warnings and Cautions</b> →</p> <p><b>Manufacturer</b> →</p>	<p style="text-align: center;"><b>TRUE-BLUE CHICK STARTER</b> Medicated Complete Crumbs for Chicks</p> <p>True-blue Chick Starter is formulated for the development of active immunity to Coccidiosis and for increased rate of weight gain and improved feed efficiency in replacement chickens.</p> <p style="text-align: center;"><b>ACTIVE INGREDIENTS</b></p> <table border="0" style="width: 100%;"> <tr> <td>Amprolium .....</td> <td>113.5 g/ton</td> </tr> <tr> <td>Bacitracin Methylene Disalicylate .....</td> <td>10 g/ton</td> </tr> </table> <p style="text-align: center;"><b>GUARANTEED ANALYSIS</b></p> <table border="0" style="width: 100%;"> <tr> <td>Crude Protein</td> <td>Min</td> <td>18.00%</td> </tr> <tr> <td>Lysine</td> <td>Min</td> <td>0.85%</td> </tr> <tr> <td>Methionine</td> <td>Min</td> <td>0.25%</td> </tr> <tr> <td>Crude Fat</td> <td>Min</td> <td>2.50%</td> </tr> <tr> <td>Crude Fiber</td> <td>Max</td> <td>7.00%</td> </tr> <tr> <td>Calcium</td> <td>Min</td> <td>0.75%</td> </tr> <tr> <td>Calcium</td> <td>Max</td> <td>1.25%</td> </tr> <tr> <td>Phosphorus</td> <td>Min</td> <td>0.70%</td> </tr> <tr> <td>Salt</td> <td>Min</td> <td>0.25%</td> </tr> <tr> <td>Salt</td> <td>Max</td> <td>0.75%</td> </tr> </table> <p style="text-align: center;"><b>INGREDIENTS</b></p> <p>Grain Products, Processed Grain By-Products, Plant Protein Products, dl-Methionine, Calcium Carbonate, Mono calcium Phosphate, Dicalcium Phosphate, Salt, Ferrous Carbonate, Ferrous Sulfate, Copper Sulfate, Manganous Oxide, Manganese Sulfate, Zinc Oxide, Zinc Sulfate, Cobalt Carbonate, Calcium Iodate, Sodium Selenite, Vitamin A supplement, Vitamin D3 supplement, Vitamin E Supplement, Menadione Sodium Bisulfite Complex, Menadione Dimethylprimidinol Bisulfite, Thiamine Mononitrate, Riboflavin Supplement, Niacin Supplement, Choline Chloride, Calcium Pantothenate, Pyridoxine Hydrochloride, Folic Acid, Biotin, Vitamin B12 Supplement.</p> <p style="text-align: center;"><b>FEEDING DIRECTIONS</b></p> <p>Feed True-Blue Chick Starter-Medicated continuously as the sole ration to chicks from 0 to 8 weeks. Provide fresh, clean water free choice at all times.</p> <p><b>CAUTION:</b> Do not use amprolium in feeds containing bentonite</p> <p><b>WARNING:</b> Use as the sole source of amprolium</p> <p><b>WARNING:</b> Do not offer any feed that is spoiled, moldy, rodent- or insect-infested, or abnormal in appearance or odor, as it may cause illness or death</p> <p><b>WARNING:</b> This product contains supplemental copper. DO NOT feed to sheep or other copper-sensitive species</p> <p><b>IMPORTANT:</b> Feed is perishable. Store this product in a cool, dry area away from rodents and insects.</p> <p style="text-align: center;"><b>TRUE-BLUE FEED COMPANY</b> Lexington, KY</p>	Amprolium .....	113.5 g/ton	Bacitracin Methylene Disalicylate .....	10 g/ton	Crude Protein	Min	18.00%	Lysine	Min	0.85%	Methionine	Min	0.25%	Crude Fat	Min	2.50%	Crude Fiber	Max	7.00%	Calcium	Min	0.75%	Calcium	Max	1.25%	Phosphorus	Min	0.70%	Salt	Min	0.25%	Salt	Max	0.75%
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## Medication Information

A variety of medications can be used in poultry feeds. The medication information will indicate the specific medication included in the feed, and at what level. It is important to pay attention to this part of the tag since some medications can be included in the feed for one species but should not be fed to others. For example, waterfowl should not be fed medicated chick feeds. Ducklings typically eat more feed than chicks. Some of the medications in chicken feed can be harmful if consumed in large amounts by waterfowl.

For those wishing to raise poultry without antibiotics or other medications it is important to know what to look for. The tag will not necessarily say it contains an antibiotic. Instead, it will list the name of the drug. In the feed tag example, Bacitracin has been added. Other examples of antibiotics include chlortetracycline, erythromycin, neomycin, oxytetracycline, streptomycin, tylosin, and virginiamycin. Similarly, some feeds contain a medication called a coccidiostat to control coccidiosis. Examples include amprolium and monensin. In the feed tag example, amprolium has been added for this purpose.

## Guaranteed Analysis

The guaranteed analysis does not indicate specific levels of a nutrient in the diet. It simply indicates maximum and/or minimum levels. This allows the feed manufacturers to use the same feed tags regardless of the formulation used. Feeds are formulated on a least cost basis. As the prices of different ingredients increase or decrease, the levels of inclusion in the diet will change. For example, if the cost of corn increases dramatically, the feed manufacturer may include

more barley or wheat as alternative energy sources. This may change the nutrient content slightly, but they will stay within the ranges indicated on the feed tag.

For example, the minimum level of **crude protein** is listed on poultry feed tags. Protein is added to poultry diets as a source of the amino acids needed for maintenance, growth and/or egg production. Animals synthesize a variety of different proteins from 22 amino acid building blocks. Animals are able to produce some of the amino acids in the levels required, but not all of the amino acids. Amino acids which cannot be synthesized by the bird are known as essential amino acids and they must be supplied in the diet. **Lysine** and **methionine** are two essential amino acids that should be listed. The example feed tag indicates the feed has a minimum of 18 percent crude protein, with minimum levels of 0.85 percent and 0.25 percent lysine and methionine, respectively.

Fat is an important source of energy in the diet, providing nearly 2.5 times as much energy per pound as carbohydrates (starch) and protein. Unfortunately, the level of energy in the diet is not indicated on a feed tag, but the higher the minimum level of **crude fat** in the diet typically the higher the energy level, although this is not always the case. The higher the dietary energy level the lower the amount of feed that needs to be eaten to meet the energy requirement of the birds being fed. The example feed tag indicates there is a minimum of 2.5 percent fat.

**Crude fiber** has been used as the industry standard for the level of fiber in poultry diets. Fiber is typically poorly digested by non-ruminants such as poultry and swine. The example feed tag indicates a

maximum of 7 percent crude fiber.

**Calcium** and **phosphorus** are important minerals involved in a number of biological functions, including bone development and egg shell formation. The analysis usually indicates the minimum levels of these two macro-minerals. On the example feed tag, calcium content is guaranteed to be between 0.75 percent and 1.25 percent. The phosphorus content is guaranteed to be above 0.70 percent.

**Salt** is composed of sodium and chloride, both of which are essential minerals for poultry. Adding too much salt to the feed will result in increased water consumption, resulting in wet litter. Wet litter can lead to air quality problems in the poultry house, especially with regards to ammonia. Salt is one compound for which both maximum and minimum levels are given. On the example feed tag, there is between 0.25 percent and 0.75 percent salt.

## Ingredient List

The major ingredients in a feed may be listed individually or may be represented by a collective term such as animal protein products, plant protein products, grain products, etc. Collective terms make it easier for feed manufacturers to vary ingredients depending on the price of feed ingredients without having to create a new feed tag each time they mix feed.

### **Animal Protein Products**

The harvesting of livestock and poultry for food production in North America results in the production of nearly 50 billion pounds of by-product material not used in human foods. These materials are used by the rendering industry to produce an important protein by-product for poultry. The rendering process breaks down tissues into protein-rich products that have no

resemblance to the original material. The cooking process controls bacteria while preserving the nutrients, resulting in a safe, nutritious animal feedstuff.

**Meat meal** is produced by rendering meat trimmings, inedible parts and organs, and fetuses. The materials are rendered (cooked) to produce a nutritional and economical feed ingredient which recycles these waste materials. Blood, hair, hoofs, horns, manure, stomach contents and hide trimmings are *not* included in meat meal. When bones are added to the meat it becomes **meat and bone meal**. Beef and pork by-products account for more than 80 percent of all products produced. If these by-products were not recycled into animal feeds they would have to be disposed of in landfills, causing environmental problems.

**Fishmeal** is another animal protein product included in poultry diets. Several species of fish can be processed into fishmeal, with Menhaden accounting for 90 percent of fishmeal production in the United States. Antioxidants must be added to fishmeal to stabilize the fat it contains and prevent it from spoiling during transportation and storage. Fishmeal is an excellent source of the essential amino acids lysine, methionine and tryptophan.

**Poultry by-product meal** is an animal by-product of poultry processing. It is made from grinding rendered parts of poultry carcasses and can contain bones, offal, and possibly undeveloped eggs. The only feathers that would be present would be those that are unavoidable in the processing of the birds. The feathers are used in a specific feedstuff, **feather meal**.

### **Plant Protein Products**

Soybeans contain “anti-nutritional” factors that are destroyed by heat. As a result, if whole soybeans are used they must be roasted first. The main protein source used in American poultry diets is soybean meal. The oil extraction process is sufficient to destroy the anti-nutritional factors in the soybeans. Additional oilseeds that can be used whole or as an oilseed meal include canola, sunflower seeds, peanuts, cottonseed, flax, and sesame seed.

Additional ingredients that can be added to poultry diets as a source of protein include fava beans, field peas, lentils, and lupins. Buckwheat, though not a true cereal, can also be included as both a source of protein and energy.

### **Grain Products**

Cereals are typically added to poultry diets as the main energy source. Possible grains include corn (most common), barley, wheat and sorghum. Less commonly used grains included rye, oats, and triticale.

### **Processed Grain By-products**

Several by-products of grain milling can be used in poultry diets. Typically they are by-products of corn or wheat milling. Common by-products of corn milling include hominy, corn gluten feed, and corn gluten meal. Similarly, by-products from wheat milling include wheat bran, wheat germ meal, wheat red dog, wheat mill run, and wheat middlings. In addition, today corn is used as a source of carbohydrates for ethanol production. A by-product of ethanol production from corn is distillers dried grains with solubles (often referred to as DDGS). Similarly, a by-product from producing beer from barley is brewers dried grains, another possible ingredient for poultry diets.

### **Additional Ingredients**

Feed tags often have several ingredients which provide specific vitamins or minerals. Examples include dicalcium phosphate, choline chloride, and riboflavin.

The list of ingredients typically includes ethoxyquin which is added to the feed as a preservative. Without ethoxyquin, or some other antioxidant, feeds will spoil quickly.

### **Directions for Use**

Feed tags also include directions indicating which species of poultry the feed is intended for, such as chick starter. The example feed tag indicates that it should be fed to chicks for the first eight weeks of life. The tag also reminds producers that fresh, clean water must be available to the flock at all times.

### **Cautions and Warnings**

If a feed is medicated the tag has warnings or cautions related to its use. It is important to note these warnings, especially if multiple species are kept in the same enclosure.

The example feed tag indicates that amprolium is included. Additional amprolium should not be given, typically in the water. This could exceed the safe intake of amprolium. The feed also contains copper so should not be fed to sheep or other species that are sensitive to copper. Some of the warnings are generic such as do not use spoiled feed.

### **Manufacturer**

The last thing that is typically indicated on the tag is the manufacturer’s name and location. In the example feed tag, the feed is manufactured by the True-Blue Feed Company in Lexington, KY.

**Read the following feed tag and answer the following questions:**

1. What is the name of the feed?
2. What form is the feed in?
3. What species and type of poultry should this feed be given to?
4. Is the feed medicated? If so, what is the medication and its purpose?
5. What precautions must you take when using this feed?
6. What level of crude protein is guaranteed?
7. What two amino acids are listed in the guaranteed analysis?
8. Has fat been added to the diet? If so, what kind?
9. Is there an antioxidant added to the feed? If so, which one(s)?

**DUCK, GOOSE AND CHICK  
STARTER/GROWER**

For immature ducks, geese and chickens

**GUARANTEED ANALYSIS**

Crude Protein	Min	20.0%
Lysine	Min	1.10%
Methionine	Min	0.40%
Crude Fat	Min	4.0%
Crude Fiber	Max	5.0%
Calcium	Min	0.6%
Calcium	Max	1.1%
Phosphorus	Min	0.75%
Salt	Min	0.2%
Salt	Max	0.7%

**INGREDIENTS**

Grain Products, Processed Grain By-Products, Plant Protein Products, Animal Protein Products, Forage Products, Animal Fat (Preserved with BHA and Citric Acid), L-Lysine, Methionine supplement, Calcium Carbonate, Salt, Monocalcium/Dicalcium phosphate, Ferrous Sulfate, Magnesium Oxide, Zinc Oxide, Copper Sulfate, Iron Oxide, Ethylenediamine Dihydroiodid, Sodium Selenite, Folic Acid, Vitamin D3 Supplement, Vitamin A Supplement, Choline Chloride, Niacin, Vitamin E Supplement, Menadione Dimethylpyrimidional bisulfite, Vitamin B12 Supplement, Calcium Pantothenate, Riboflavin, Biotin, Pyridoxine Hydrochloride, Thiamine, Propionic Acid, Natural Terpinenes, Acetic Acid, Sorbic Acid, Benzoic Acid, Mono- and Diesters of 1,2 Propanediol, Sodium Phosphate, Amorphous Silica, Propyl Benzoate, Propylparaben, Methylparaben, Propyl Acetate, Butylated Hydroxyanisole, Ethoxyquin (A preservative), Sodium Silico Aluminate

**DIRECTIONS FOR USE**

Feed **DUCK, GOOSE, AND CHICK STARTER/GROWER** as the sole food to ducks and geese from 1 day of age until slaughter or supplemental food is no longer required. Beyond three weeks of age, supplemental grain and (or) forage may be used to meet a portion of their food needs.

Producers desiring to raise chickens without use of medication may want to feed **DUCK, GOOSE AND CHICK STARTER/GROWER** from day 1 to slaughter or market.

**TRUE-BLUE FEED COMPANY**  
Lexington, KY

**Summary**

- It is important to buy the right feed for your flock.
- The feed tag will tell you what type of feed it is and to which species it can be fed.
- The nutrient levels given in the feed tag can be used to compare one feed to another and help in selecting the best feed for your flock.
- Be careful with medicated feeds, noting any precautions or warnings on the feed tag.
- Feed is perishable, even with added ethoxyquin, so it is important to store the feed in a cool, dry area away from rodents and insects.

**Answers:**

1. Duck, goose and chicken starter/grower
2. Not indicated so probably mash
3. Immature ducks, geese and chicks
4. No
5. None indicated
6. 20 percent
7. Lysine and methionine
8. Yes, animal fat
9. Yes, ethoxyquin, BHA and citric acid