

Poultry Feeds



Raising poultry for meat and/or eggs is common among those wishing to raise their own food, but may have limited space and facilities needed for raising larger animals. Poultry have the advantage of being very efficient (amount of feed need vs. food produced) and a relatively short time period for return on investment in animals, equipment and feed.

Prince Feeds have a great reputation for both growing and laying birds. Prince offers specialized feed for growing layers, broilers, turkeys and game birds. We also offer laying feeds for both traditional egg production and for game bird egg production.

**note - for more information on game birds, please see game bird feeds section.*

The nutrient guarantee for poultry feeds will often look similar across many manufacturers. However, the superiority of Prince Poultry Feed is based upon the chosen ingredients and manufacturing techniques.

Multiple Protein Sources

Essentially all companies balance diets for methionine and lysine, the first two amino acids to limit production in corn soybean based diets. However, Prince feeds include ingredients such as: meat and bone meal, alfalfa meal and linseed meal. These other ingredients help to supply other essential amino acids, key fatty acids and highly digestible minerals, allowing for maximum production.

Locked Formulas

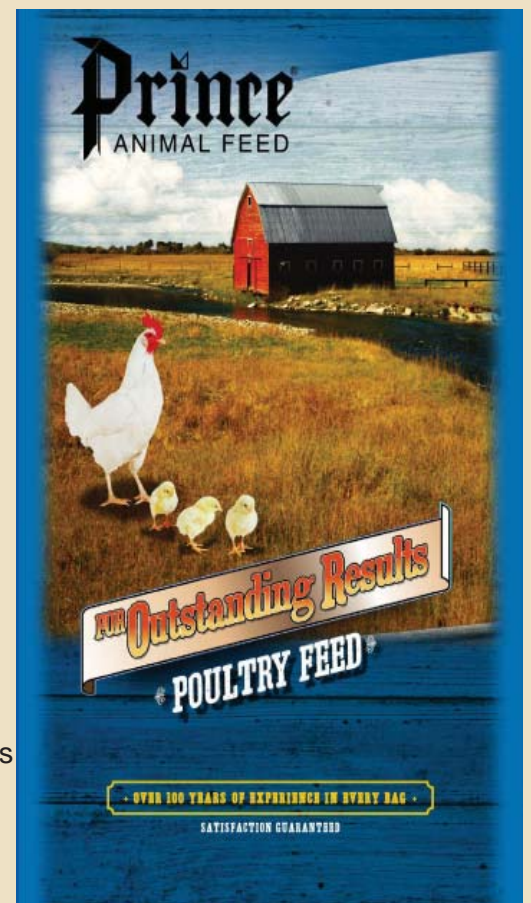
Prince does not vary its formulations based on least cost formulation. Beyond that, we only purchase ingredients from sources with a history of providing consistent high quality products. By providing consistent high quality feed we encourage good feed consumption and steady production.

Manufacturing Technique

Prince operates its' pelleting equipment at temperatures that have been shown to improve the digestibility of pellets and crumbles verses the products manufactured at either cooler or warmer temperatures.

Fun Fact:

The record for laying the most chicken eggs: seven in one day!



Prince Poultry Feeds are available in both medicated forms preferred by commercial operations and in non-medicated forms preferred by many growing birds for their own use.

Product Offerings

Prince offers a variety of poultry products to meet the needs of both growers and layers. Prince poultry feeds are available either as crumbles, screened to size for specific use, or as a “mini” pellet. Prince manufactured complete feeds do not require any additional feed offerings other than a supply of clean water. Prince also offers two products: Poultry Base Mix and Poultry Concentrate that can be blended with local ingredients to make a multitude of poultry feeds.



Nutrient	Poultry Base Mix	17% Complete Layer
Crude Protein (min) %	20	17
Lysine (min) %	---	0.8
Methionine (min) %	5.0	0.4
Crude Fat (min) %	---	3.5
Crude Fiber (max) %	---	5.0
Calcium %	20.0 to 23.0	4.1 to 4.5
Phosphorus %	12	0.7
Salt %	---	0.4 to 0.7
Selenium (ppm)	8.0	0.3
Form	Meal	Crumble or Pellet
Feeding/Mixing Directions	See Chart Below	See Chart Below

Various Poultry Feed Formulations & Nutrient Content Using Prince Poultry Concentrate

	18%	17%	16%	15%	14%
Poultry Concentrate	725	650	575	500	450
Corn	1275	1350	1425	1500	1550
NUTRIENT CONTENT*					
Crude Protein (min) %	18	17	16	15	14
Lysine (min) %	0.95	0.89	0.80	0.73	0.68
Methionine (min) %	0.45	0.43	0.40	0.37	0.35
Crude Fat (min) %	3.2	3.2	3.2	3.2	3.3
Crude Fiber (max) %	2.4	2.4	2.4	2.3	2.2
Calcium %	2.4	2.2	2.0	1.7	1.6
Phosphorus %	0.8	0.7	0.6	0.60	0.56
Salt %	0.52	0.47	0.41	0.36	0.32
Selenium (ppm)	0.435	0.39	0.345	0.30	0.27

*Nutrient values are based upon generally accepted values.
Actual nutrient content will vary with actual content of various ingredients used.

• **PRINCE 36% POULTRY CONCENTRATE** - can be blended with corn and limestone to make a variety of layer mash products at the farm. Prince Poultry Concentrate contains multiple sources of protein including soybean meal, porcine meat and bone meal and alfalfa meal. Carrying an inventory of all three of these products may not be practical for many individuals or even smaller mills. Using multiple proteins allows us to provide a better amino acid balance than may be found in simple soybean meal corn mixes. Additionally, these multiple protein sources also provide a good source of chelated mineral, both trace minerals and calcium needed for both egg production and good bone formulation.

Fun Fact:

Occasionally a hen will produce double-yolked eggs throughout her egg-laying career. It is rare, but not unusual for a young hen to produce an egg with no yolk at all.

Various Poultry Feed Formulations & Nutrient Content Using Prince Poultry Base Mix

	21% Chick Starter	18% Chick Starter	17% Layer	16% Layer	23% Broiler Starter	20% Broiler Grower	18% Broiler Finisher
Base Mix	75	60	50	50	75	65	60
SMB 48	675	560	505	455	720	630	525
Corn	1230	1360	1250	1335	1145	1290	1400
Calcium Carbonate	15	15	189	154	4	9	9
Salt	5	5	6	6	6	6	6
Fishmeal	---	---	---	---	50	---	---
NUTRIENT CONTENT*							
Crude Protein (min) %	21	19	17	16	23	20	18
Lysine (min) %	1.1	1.0	0.9	0.8	1.3	1.1	0.9
Methionine (min) %	0.5	0.45	0.4	0.4	0.5	0.5	0.5
Crude Fat (min) %	2.5	2.6	2.4	2.5	2.6	2.5	2.7
Crude Fiber (min) %	2.2	2.1	1.9	2.0	2.2	2.2	2.2
Calcium %	1.2	1.0	4.2	3.5	1.2	1.0	0.9
Phosphorus %	0.8	0.7	0.6	0.6	0.9	0.7	0.7
Salt %	0.24	0.24	0.29	0.29	0.30	0.30	0.29
Selenium (ppm)	0.30	0.24	0.20	0.20	0.30	0.26	0.24

*Nutrient values are based upon generally accepted values. Actual nutrient content will vary with actual content of various ingredients used.

• **PRINCE POULTRY BASE MIX** - provide the minerals and vitamins needed to mix with corn-soybean based diets to produce a variety of grower and layer diets. The use of a base mix reduces blending errors compared to simply adding a small VTM pack. Producers may also find it more economical to purchase Prince Base Mix vs. buying dicalcium phosphate and limestone to use with a VTM pack. Even with a base mix it is important to get a consistent mixture or birds will not receive the blend of nutrients needed to maximize production. Prince Poultry Base Mix can be used to manufacture a variety of poultry feeds for both layers and broilers.



Fun Fact:

The longest distance flown by any chicken is 301 1/2 feet.

PRINCE COMPLETE FEEDS

• **Layer Products** - Egg production requires quality micronutrients such as vitamins and trace minerals in addition to protein, energy, calcium and phosphorus. Egg shell quality is important to ensure that the nutrient placed in the egg can, in fact, be utilized. Good egg shell quality comes not only from the calcium and phosphorus but also requires the work of enzymes and proteins to ensure that the egg shell will be of both the proper mineral content and composition to allow the strength and flexibility to reduce shell breakage.

Additionally, it is important for those raising birds for eggs that other factors affect actual egg production including the age of the hen, the stage of egg production and the amount of sunlight present.

(Birds should be kept under lights to stimulate egg production when daylight hours are short.)

Prince offers 2 different layer feeds: 20% Egg Mash and 17% Complete Layer

Egg mash is designed to be fed in conjunction with chicken scratch or other grain sources. Egg Mash should be fed at approximately 25% of the total feed consumption in order to assure a selenium intake of not more than 0.3 ppm of the diet. Scratch feeds can come from many sources and may be a blend of different grains. Prince offers 2 scratch products as a mixture of corn, wheat and milo; available in either a medium or coarse grind.

The complete layer provides all of the protein, energy, vitamins and minerals needed. The processing that Complete Layer undergoes actually improves the digestibility of grains. It is recommended that feeding additional grit or oyster shells will allow birds to digest feed in a natural manner.



Nutrient	20% Egg Mash	17% Complete Layer
Crude Protein (min) %	20	17
Lysine (min) %	1.0	0.8
Methionine (min) %	0.5	0.4
Crude Fat (min) %	3.5	3.5
Crude Fiber (max) %	5.0	5.0
Calcium %	3.5 to 3.75	4.1 to 4.5
Phosphorus %	0.7	0.7
Salt %	0.40 to 0.70	0.4 to 0.7
Selenium (ppm)	1.1	0.3
Form	Meal	Crumble or Pellet
Feeding/Mixing Directions	Egg Mash can mixed w/ grain to make a complete ration or fed free choice along w/ scratch feed & grit or oyster shells available.	Feed as the complete ration for laying hens. Fresh water should be available at all times. Additional grit or oyster shells should be provided.

Fun Fact:

*White shelled eggs are produced by hens with white feathers & ear lobes.
Brown shelled eggs are produced by hens with red feathers & red ear lobes.*

- **Grower Feeds** - Poultry geneticist have and continue to make great strides in improving the efficiency of both chickens for laying eggs and chickens grown for meat production.



Fun Fact:

Yolk color depends on the diet of the hen. Natural yellow-orange substances such as marigold petals may be added to light-colored feeds to enhance colors. Artificial color additives are not permitted.

Laying hens are “leaner birds” that have been designed to put most of their energy into producing eggs. They need starter and grower feeds that allow them to grow and prepare their bodies for producing eggs rather than building body tissues. It is important the early growth is maximized so that birds will have a larger frame which will allow for the production of larger eggs. Pullets should weigh 1 pound by 6 weeks of age, and should be at 95% of their adult frame size by 12-14 weeks.

Birds for meat production, Broilers, need to support maximum growth in muscle tissue and bone to support their heavier bodies. Meat type birds mature at an earlier age and require a nutrient dense diet to meet their needs.

Prince offers both medicated and non-medicated forms of poultry starter feeds (Prince Starter and Prince Broiler Starter.) Amprolium/Bacitracin (Amp/Bac) is commonly used in starter diets to reduce the effect of coccidiosis, which can be devastating in a flock of birds, if not causing death it can greatly decrease growth rate and result in an “uneven” group of birds. This drug combination also can reduce respiratory illness and results in improvements in growth rate and feed efficiency.

Layer Type Birds


Meat Type Birds

Nutrient	20% Chick Starter	17% Pullet Grower	25% Broiler Grower	20% Broiler Finisher
Crude Protein (min) %	20	17	25	20
Lysine (min) %	1.00	0.85	1.40	1.18
Methionine (min) %	0.40	0.35	0.50	0.50
Crude Fat (min) %	3.0	3.0	5.0	5.0
Crude Fiber (max) %	5.0	5.0	5.0	5.0
Calcium %	1.3 to 1.5	1.2 to 1.6	1.3 to 1.7	1.0 to 1.4
Phosphorus %	0.7	0.70	0.90	0.70
Salt %	0.30 to 0.50	0.45 to 0.70	0.5 to 0.7	0.4 to 0.7
Selenium (ppm)	0.3	0.3	0.3	0.3
Form	Crumble	Crumble	Crumble	Crumble
Feeding/Mixing Directions	This is a complete ration. Feed free choice from day of hatch until approximately 10 weeks of age.	Feed continuously as the sole ration.	Feed as the complete ration to broilers from start to finish.	Feed as the complete ration to broilers from 4 weeks of age to finish.

Turkey Feeds

Modern turkeys, much like broilers, have been genetically selected for rapid growth. However, because the turkey is a larger bird, it puts greater strain on its skeletal system to support the additional weight. Therefore, a good turkey grower program must support bone development with mineral and vitamins as well as supporting the growth of muscle tissue.

Prince offers two turkey feeds, a Starter and a Grower-Finisher. Turkeys should be of sufficient size for slaughter between 24-48 weeks depending upon desired final size.



Nutrient	28% Turkey Starter	18% Turkey Grower
Crude Protein (min) %	28	18
Lysine (min) %	1.6	0.8
Methionine (min) %	0.6	0.4
Crude Fat (min) %	2.5	3.5
Crude Fiber (max) %	5.5	5.0
Calcium %	1.0 to 1.4	4.1 to 4.5
Phosphorus %	0.95	0.7
Salt %	0.35 to 0.60	0.4 to 0.7
Selenium (ppm)	1.1	0.3
Medication	None or Amp/Bac	None or Amp/Bac
Form	Crumble	Crumble
Feeding/Mixing Directions	Feed as the complete ration. Feed for the first 8-10 weeks, or until slaughter if desired.	Feed as a complete ration. Start feeding at 8-10 weeks of age through slaughter.

Fun Fact:

Turkeys have heart attacks. When the Air Force was conducting test runs and breaking the sound barrier, fields of turkeys would drop dead.

Duck and Goose Feeds



Prince manufactures both a starter and grower for ducks and geese. Ducks grow larger at younger ages than chicks and require additional space. Like chicks they should be kept in a dry environment free of drafts. Ducks and geese are less susceptible to many of the diseases and fewer medicated feeds are needed or approved. Pekin ducks are usually ready for harvest at 6-7 pounds and should be ready in 7-9 weeks.

Nutrient	Duck & Goose Starter	Duck & Goose Grower
Crude Protein (min) %	22	18
Lysine (min) %	1.2	0.9
Methionine (min) %	0.42	0.46
Crude Fat (min) %	3.0	3.5
Crude Fiber (max) %	7.0	5.0
Calcium %	1.0 to 1.4	4.1 to 4.5
Phosphorus %	0.90	0.7
Salt %	0.40 to 0.60	0.4 to 0.7
Selenium (ppm)	0.3	0.3
Medication	None	None
Form	Crumble	Crumble
Feeding/Mixing Directions	Feed as the sole ration from 0-3 weeks of age. Always provide plenty of clean, fresh water	Feed as a complete ration. Always provide plenty of clean, fresh water.

Fun Fact:

Groups of geese may be called a "Gaggle" or "Skein." A group of ducks can be referred to as a "Paddling," "Team" or "Dopping."

Ratite Feeds

Prince offers three different complete feeds for use with ratites. Ratite Start-N-Grow is designed for use as the first feed from hatching to 4 or 5 months of age. The Ratite Developer/Maintenance is used for older growing birds and maintenance of adults. Adult laying ratites should be fed "Ratite Breeder Formula" to help supply the minerals needed for egg shell production, and protein for egg development.



Feeding ostrich, emu, cassowary and rhea can be challenging, requiring housing similar to other poultry plus housing for more traditional farm animals of larger size. Young animals need temperature controlled environments; however larger animals can handle a wider range of temperatures and conditions. Ratites are grazing animals and appear to be able to utilize some fiber. Like other poultry, ratites have a relatively high requirement for protein in their diet. Birds in "wild" situations are omnivorous and may not be able to meet their nutrient needs on forage alone.

Fun Fact:

An ostrich can run 70 kilometers an hour (40 mph) and maintain that speed for 15 minutes at a time.

Nutrient	Ratite Start-N-Grow	Ratite Developer-Maintenance	Ratite Breeder Formula
Crude Protein (min) %	17.5	17.5	20.0
Lysine (min) %	0.9	0.70	0.95
Methionine (min) %	0.35	0.35	0.40
Crude Fat (min) %	4.0	3.5	3.5
Crude Fiber (max) %	12.0	15.0	15.0
Calcium %	1.2 to 1.6	1.0 to 1.4	2.2 to 2.6
Phosphorus %	0.95	0.80	0.95
Salt %	0.20 to 0.40	0.20 to 0.40	0.20 to 0.40
Selenium (ppm)	0.3	0.3	0.3
Medication	None	None	None
Form	Crumble	Pellet	Pellet
Feeding/Mixing Directions	Feed free choice as the sole ration to developing ratites. Always provide plenty of clean, fresh water	Feed as the sole ration to ratites from 4-5 months of age up to breeding age. Feed free choice based upon body condition desired. Always provide plenty of clean, fresh water	Feed as the sole ration to sexually mature ratites (<i>age of sexual maturity varies with species</i>). Feed at a rate of 1.5% to 2.0% of body weight per day. During breeding season feed according to desired body condition, approximately 2.0 to 2.5%



For additional information on raising poultry...

we recommend the following websites which provide extensive information on all aspects of poultry operations:

CHICKEN

<http://www.msstate.edu/dept/poultry/byflock.htm>
<http://gallus.tamu.edu/publications.htm#production>

TURKEY

<http://poultryextension.psu.edu/Turkey.html>

DUCK & GOOSE

<http://www.extension.umn.edu/distribution/livestocksystems/DI1189.html>
<http://www.agmrc.org/commodity/livestock/poultry/Ducks+and+Geese.htm>

RATITE

<http://extension.oregonstate.edu/catalog/html/pnw/pnw494-e/>
<http://attra.ncat.org/attra-pub/ratite.html#emus>
<http://www.eznc.org/docs/Ratitestandard2.pdf>