

# Dairy & Beef Feeds



Prince Feeds offers products from calf starters to growers to lactation diets. In addition to our standard products, Prince manufactures private labeled calf starter and lactation diets for multiple customers.

Calf products are available with either Chlorotetracycline (CTC) or Decoquinat (Decoxx). Growing rations are available with either bovatoc or rumensin. Lactation diets are available in a range from all-natural plant based to economical form using a combination of plants and urea.

Located in the center of the traditional dairy industry, Prince Feeds' reputation for quality feeds is based upon the success our customers experience with our dairy feeds and their production.

## Multiple Protein Sources

Prince does not inventory any meat and bone meal of ruminant origin to prevent any possibility of contamination of dairy or beef feeds. Prince does inventory and uses multiple protein sources in order to balance for the amino acids needs of today's production animals.

## Locked Formulas

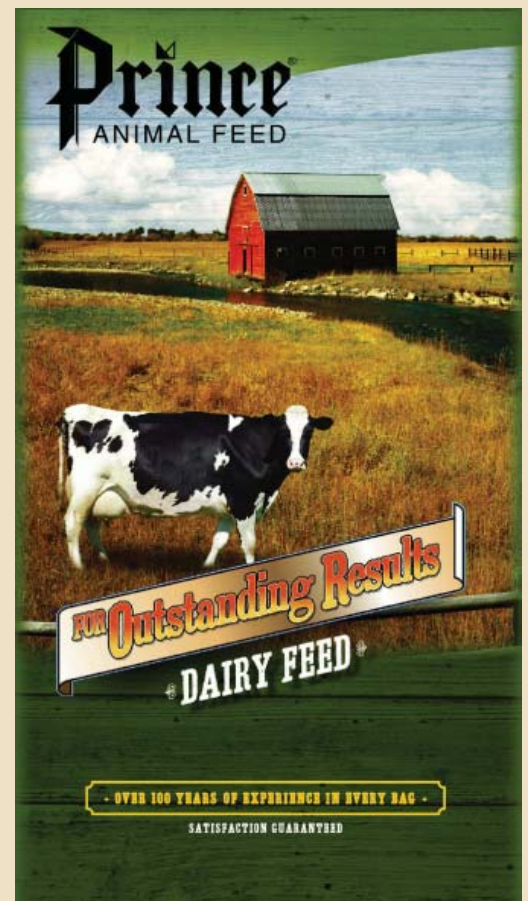
Prince does not vary its formulations based on least cost formulation. Beyond that, we only purchase ingredients from sources with a history of providing consistent high quality products. By providing consistent high quality feed we encourage good feed consumption and steady production.

## Manufacturing Technique

Prince uses additional binders and manufacturing temperatures to reduce fines in pelleted products with damaging proteins.

### Fun Fact:

*World Record in Milk Production - in 365 days, Lucy produced 75,275 lbs. of milk. This is equivalent to 24 gallons of milk per day for 365 days!*



# Product Offerings

Prince offers a variety of dairy products to meet both different life stages and management options, from complete feeds to protein concentrates to base mineral mixes.

Prince complete calf starters are designed to meet all the nutritional needs for growing calves from 3 days to 3 months of age. Our calf starters are available with either Decoquinatone to help control coccidiosis, or Chlorotetracycline for growth and feed efficiency.

Prince concentrate feeds provide proteins, minerals and vitamins for both blending into texturized calf feeds by regional blenders, or protein concentrates for use on the farm in developing lactation diets.

Prince mineral products provide the minerals and vitamins to supplement a variety of diets. Minerals can either be incorporated into the feed or provided on a free choice basis.

## GROWING CATTLE FEEDS

### CALF STARTER AND GROWER PRODUCTS

Prince manufactures texturized feeds for use in growing calves. These feeds are a blend of prepared pellets containing all the needed minerals, vitamins and selected medications, along with high quality oats and steam flaked corn with a molasses based liquid feed to encourage feed intake resulting in superior growth.

**18% Calf Starters - texturized available with Decox**

**16% Calf Grower - texturized or pelleted with CTC**

**32% Calf Concentrate for blending calf starters with Decox or CTC**

• **18% Calf Starter with DCX (#001172)** - Prince includes Decoquinatone (decox) to help control and prevent coccidiosis, which can be devastating to calves and calf rearing operations. Young calves are not ruminants and cannot utilize the fiber important in adult cattle. Prince Calf Starter uses steam-flaked corn, and crimped oats to provide a diet with digestible starch sources to provide energy to these pre-ruminant calves. Molasses is included to not only provide energy but to encourage strong feed intake. Prince Calf Starter provides an excellent “bridge” as calves are weaned off milk and on to solid feeds.



Nutrient	18% Calf Starter w/ DCX
Crude Protein (min) %	18.0
Crude Fat (min) %	2.5
Crude Fiber (max) %	6.5
Calcium %	0.9 to 1.2
Phosphorus %	0.5
Salt %	0.5 to 1.0
Selenium (ppm)	0.54
Vitamin A IU/lb	10400
Vitamin D <sub>3</sub> IU/lb	2100
Vitamin E IU/lb	50
Form	Texturized
Feeding/Mixing Directions	Feed 1 1/3 lbs per 100 lbs of calf weight
Medication Decoquinatone	17/mg per pound

**Fun Fact:** Dairy cows can produce 125 pounds of saliva a day.

**Fun Fact:**

The oldest cow ever recorded was a Dremon Cow named "Big Bertha" that died 3 months just before her 49th birthday on New Years Eve, 1993. Big Bertha also holds the record for lifetime breeding as she produced 39 calves.

- **16% Calf Grower with CTC (#001179 & #001181)** - Prince Calf Grower is available as either a pellet or texturized feed. Calf Grower is designed to feed calves after they have been weaned, and are beginning to consume, and increase their consumption of, forages. Calf grower supplies vitamins, minerals and proteins needed to support both skeletal and muscle development. Calf grower contains Chlortetracycline to improve growth rate and feed efficiency.

Nutrient	16% Calf Grower w/ CTC
Crude Protein (min) %	16.0
Crude Fat (min) %	2.8
Crude Fiber (max) %	7.0
Calcium %	0.75 to 1.1
Phosporus %	0.45
Salt %	0.5 to 1.0
Selenium (ppm)	0.42
Vitamin A IU/lb	8500
Vitamin D <sub>3</sub> IU/lb	1700
Vitamin E IU/lb	38
Form	Texturized or Pellet
Feeding/Mixing Directions	Feed 1 3/4 to 4 3/4 per head per day
Medication Chlortetracycline	15/mg per pound



- **32% Calf Concentrate with Decox or CTC** - Prince 32% Calf Concentrate can be used to manufacture calf starter or grower feeds, or be fed as a top dress to calves to provide needed protein, vitamins and minerals. Prince's 32% calf concentrate uses a variety of protein sources including linseed, which is found in many "show" diets. Prince's standard feeds use decoquinate (decox) in its' starter feeds and chlortetracycline (CTC) in its' grower feeds, as this best fits most operations. However, producers may choose to use *either* drug in *either* application to manufacture calf starters and growers that best meet their particular situation.



Nutrient	32% Calf Concentrate w/ Decox or CTC
Crude Protein (min) %	32.0
Crude Fat (min) %	1.5
Crude Fiber (max) %	6.0
Calcium %	1.5 to 2.5
Phosporus %	0.90
Salt %	2.0 to 3.0
Selenium (ppm)	1.3
Vitamin A IU/lb	27000
Vitamin D <sub>3</sub> IU/lb	5300
Vitamin E IU/lb	120
Form	Pellet
Feeding/Mixing Directions	Feed 1/2 to 1/4 lbs per head per day. Use 800 lbs per ton in starter diets & 600 lbs per ton of grower diets.
Medication Decox or CTC	87 g per ton of Decox or 100 g per ton of CTC

# HEIFER GROWER PRODUCTS

40% Heifer Cattle Booster (#001303) with rumensin is designed to be fed to replacement heifers at a rate of 1 lb per head per day. Heifer premix-R1200 is to be used in producing feeds for heifers, by providing the minerals and vitamins along with monensin. It is important when feeding replacement heifers that they reach sufficient size (60% of mature weight; approximately 775 lbs. for Holsteins and 550 lbs. for Jerseys) at 13 to 15 months of age so that they can produce their first calf when they reach 24 months of age, maximizing efficiency. Heifers, generally, should gain between 1.4 and 1.7 lbs per head per day. Heifers that gain excess weight will begin to put down fat tissue that not only is less efficient but may also reduce milking capacity when mature.

Prince Heifer Cattle Booster contains urea to provide additional crude protein, which can be efficiently used by growing heifer and helps control cost of the feed. Additionally, Prince Heifer Cattle Booster contains rumensin to improve feed efficiency. Prince Heifer Premix contains the needed vitamin, minerals and Rumensin to manufacture or produce an appropriate heifer feed using locally available feed ingredients.



Nutrient	40% Heifer Cattle Booster w/ Rumensin	Heifer Premix - R1200
Crude Protein (min) %	40.0	----
Crude Fat (min) %	1.5	----
Crude Fiber (max) %	9.5	----
Calcium %	7.0 to 8.2	17.0 to 20.4
Phosporus %	0.90	8.0
Salt %	4.6 to 5.5	16.5 to 18.0
Selenium (ppm)	4.2	29
Vitamin A IU/lb	50000	250000
Vitamin D <sub>3</sub> IU/lb	13000	70000
Vitamin E IU/lb	170	1000
Form	Pellet	Meal
Feeding/Mixing Directions	Mix w/ grain to provide 1 lb per head per day	Mix to provide no less than 50 or more than 200 mg monensin per head per day in no less than 1 lb of feed
Medication Rumensin	400 g per ton	1200 g per ton

## Fun Fact:

*A newborn Holstein calf weighs about 100 pounds and can walk within an hour after birth!*

# LACTATING DAIRY CATTLE

Prince offers a variety of feeding options to meet the needs of lactating dairy cattle. Our most popular product choices include 3 different dairy pellets designed to provide crude protein, trace minerals and vitamins that can match the needs and desires of today's dairy producer.

- **32% Dairy Concentrate** - is an economical dairy supplement that takes advantage of cattle's ability to utilize Non-Protein-Nitrogen (NPN) to produce bacterial protein to support the needs of the dairy cow. This economic alternative allows the Dairyman the opportunity to utilize the efficiency of the rumen to produce milk.

- **Profit Blend 38** - provides a dairy supplement that takes advantage of the bypass ability and the excellent amino acid balance of porcine meat and bone meal to support superior milk production. Profit blend 38 also contains plant protein sources that provide both nitrogen for the rumen bacteria and additional bypass proteins.

- **37% Natural Dairy** - provides a mixture of plant protein sources to provide a bypass source of methionine and lysine, the two most often "limiting" amino acids in milk production. In addition to meeting a ruminants needs for both soluble and insoluble Nitrogen, 37% Natural Dairy provides chelated minerals to help support immune function which is necessary in today's high producing dairy cattle.



### Fun Fact:

*The heaviest live birth of a calf is 225 pounds for a British Friesian cow in 1961.*

Nutrient	32% Dairy Concentrate	38% Profit Blend 38	37% Natural Dairy
Crude Protein (min) %	32.0 (<15% from NPN)	38.0 Contains animal & plant sources of bypass protein	37.0 Contains plant sources of bypass protein
Crude Fat (min) %	2.0	2.0	1.3
Crude Fiber (max) %	9.0	6.0	5.0
Calcium %	1.4 to 1.0	1.5 to 2.0	2.0 to 3.0
Phosphorus %	1.1	1.0	1.1
Salt %	3.8 to 4.6	3.8 to 4.4	3.6 to 4.5
Selenium (ppm)	2.6	2.7	2.7
Vitamin A IU/lb	24000	24000	24000
Vitamin D <sub>3</sub> IU/lb	6400	6400	6400
Vitamin E IU/lb	100	100	100
Form	Pellet	Pellet	Pellet
Feeding/Mixing Directions	Feed 1 lb per 3-5 lbs of milk produced depending upon body condition & forage being fed	Feed 1 lb per 3-5 lbs of milk produced depending upon body condition & forage being fed	Feed 1 lb per 3-5 lbs of milk produced depending upon body condition & forage being fed

All three of the above products can be used to blend a grain mix with a variety of protein contents to best complement available forages and feed intakes.

## COMPLETE DAIRY FEEDS

Complete dairy feeds refer to the grain portion of the dairy cow's diet. These feeds are designed to provide not only the vitamins, minerals and additional protein, but also a significant portion of the energy needs of the dairy cow. As the concentrate portion of the diet, these feeds can be a significant portion of the diet. We recommend not feeding any of these products at more than 50% of the diet. Actual feeding rates will depend upon forages being used, body size and condition, and milk production.

16% Natural Dairy Pellet provides the concentrated portion of the diet to be used in conjunction with roughage sources such as corn silage and alfalfa hay.

Bulky Sweet products do provide a source of fiber but do not alleviate the need for forages in the diet. The protein requirements of cattle in milk production will require a forage source with a greater protein content (>20%) typical of alfalfa or other legumes when using Sweet Bulky products with 14%.

It is more efficient to improve body condition scores (BCS) of cows by increasing energy during the last part of the lactation cycle. However, if cattle need to improve BCS the Bulky Sweet Products can provide additional energy, while still allowing the rumen to recover while preparing for the stress of the next lactation.

Nutrient	16% Natural Dairy Pellet	14% Sweet Bulky	12% Bulky Pellets
Crude Protein (min) %	16.0	14.0	12.0
Crude Fat (min) %	2.5	2.0	2.0
Crude Fiber (max) %	8.0	15.0	13.0
Calcium %	0.9 to 1.4	0.5 to 0.85	0.5 to 1.0
Phosphorus %	0.7	.60	0.6
Salt %	0.8 to 1.3	0.35 to 0.65	0.4 to 0.7
Selenium (ppm)	0.6	0.3	0.5
Vitamin A IU/lb	6000	3000	4500
Vitamin D <sub>3</sub> IU/lb	1500	800	1200
Vitamin E IU/lb	25	12	18
Form	Pellet	Texturized	Pellet
Feeding/Mixing Directions	Feed as the concentrate or grain portion of the diet.	Feed up to 10% of the grain mix for dairy cows & heifers.	Feed up to 10% of the grain mix for dairy cows & heifers.

### Fun Fact:

*It is possible to lead a cow upstairs but not downstairs as their knees can't bend properly to walk back down.*



## DRY PERIOD DAIRY CATTLE

Dairy cattle need an opportunity to rebuild body tissues and support the growth of the fetus prior to the next lactation. Typically the dry period is between 45 and 60 days of length. First-calf-heifers should have a dry period of at least 60 days to allow for growth as well as reconditioning. During this period cows will continue build up bone mineral content and the rumen will grow and repair for increased surface area that will allow for better ion exchange and better fermentative capacity allowing better utilization of feed and increased milk production during the next lactation.

It is generally recommended to divide dry cows into two groups a “far-out” group and a “close-up” group. The close-up group are usually cows from 3 weeks prior to and through parturition (calving). It is important that the close up group continues to consume or increase some grain feeding. Numerous studies have demonstrated that cows that slightly increase or at least do not decrease feed consumption during the last week of parturition will quickly increase feed intake post calving and have increased milk production and more likely to rebreed at the appropriate time.



Nutrient	Dry Cow Concentrate
Crude Protein (min) %	16.0
Crude Fat (min) %	2.2
Crude Fiber (max) %	10.0
Calcium %	3.4 to 4.0
Phosphorus %	1.9
Salt %	3.6 to 4.2
Selenium (ppm)	8.5
Vitamin A IU/lb	75000
Vitamin D <sub>3</sub> IU/lb	20000
Vitamin E IU/lb	880
Form	Pellet
Feeding/Mixing Directions	Feed 1.5 lbs per head throughout the dry period

**Fun Fact:**

*A cow spends 13 hours a day lying down and up to 8 hours a day eating.*

## VITAMIN MINERAL SUPPLEMENTS

Prince provides a number of products that provide the minerals and vitamins for cattle. Minerals can either be added to grain mix or used in manufacturing feed. Mineral products can also be provided on an *ad libitum* (free choice) basis.

Nutrient	Premium 1:1 Mineral	Premium 2:1 Mineral	Premium 4:1 Mineral
Calcium %	15 to 18	14.0	12.0
Phosphorus %	15	2.0	2.0
Magnesium %	4.2	15.0	13.0
Potassium %	0.5	0.5 to 0.85	0.5 to 1.0
Sulfur %	0.95	.60	0.6
Manganese (ppm)	3000	3000	3000
Selenium (ppm)	21	21	21
Zinc (ppm)	3200	3200	3200
Vitamin A IU/lb	185000	185000	185000
Vitamin D <sub>3</sub> IU/lb	50000	50000	50000
Vitamin E IU/lb	770	770	770
Form	Loose Granular	Loose Granular	Loose Granular
Feeding/Mixing Directions	Feed at the rate of 2 -8 oz. per depending on nutrient need. Mix at a rate of 25-50 lbs per ton of complete dairy or beef feed.	Feed at the rate of 2-8 oz. per depending on nutrient need. Mix at a rate of 25-50 lbs. per ton of complete dairy or beef feed.	Feed at the rate of 2-8 oz. per depending on nutrient need. Mix at a rate of 25-50 lbs per ton of complete dairy or beef feed.

• **Prince Premium Minerals** - minerals are available in different calcium to phosphorus ratios. Although animals can accept variations, historically nutritionist and producers have tried to keep the Ca:Phos ratio of the final diet between 1:1 and 2:1. Cattle consuming diets high in alfalfa will be receiving significant amounts of Calcium from the forage and should be fed the 1:1 ratio mineral. Those cattle receiving grass or mixed hay will often find the 2:1 mineral more appropriate. Cattle receiving primarily corn silage should receive either a 2:1 or 4:1 mineral. Prince's Premium minerals do not include any salt. Salt can be added and blended to regulate feed intake.

• **Selenium Plus & Vitamin E** - both selenium\* and Vitamin E are important for maintaining proper immune function. Many nutritionists recommend 1000 to 1500 units of Vitamin E for early lactation/high producing cows. Supplementing individual cows or a "high" group rather than supplementing the entire herd may be the best way of meeting the needs of cows without over supplementing cows that would not benefit from the additional nutrients.

Prince manufactures a Vitamin E supplement to provide 20,000 units per pound, ex - 1 lb will provide 1000 IU per 20 head per day.

\*FDA regulations limit the amount of selenium to 0.3 ppm (0.3 mg per kg) of the final diet.

Nutrient	Selenium Plus
Crude Protein (min) %	9.0
Calcium %	7.4 to 8.8
Selenium (ppm)	105
Vitamin E IU/lb	4800
Form	Loose Granular
Feeding Directions	Top Dress: Each ounce contains 3.0 mg of selenium & 300 IU of Vitamin E. Mixing: Mix 30 oz. per ton of complete feed to provide 90.8 mgs of selenium per ton.



• **Vitamin A, D & E Supplements** - the fermentation occurring in the rumen of cattle provides the water soluble vitamin needs of most cattle. However today's dairy cows production levels require the supplementation of the fat soluble Vitamin A, D and E. Prince manufactures two different fat soluble vitamin supplements.

Nutrient	ADE LO	ADE LINK
Calcium %	15.5 to 19	15.5 to 19
Vitamin A IU/lb	2,000,000	1,500,000
Vitamin D <sub>3</sub> IU/lb	1	50000
Vitamin E IU/lb	770	770
Form	Loose Granular	Loose Granular
Feeding Directions	Feed at the rate of 2-8 oz. per depending on nutrient need. Mix at a rate of 25-50 lbs per ton of complete dairy or beef feed.	Feed at the rate of 2-8 oz. per depending on nutrient need. Mix at a rate of 25-50 lbs per ton of complete dairy or beef feed.

Prince Buffer Pak

Nutrient	Selenium Plus
Calcium %	6.0 to 7.0
Sodium, max %	12.0
Magnesium, min %	9.0
Potassium, min %	2.0
Form	Loose Granular
Feeding Directions	Mix into the grain portion of the dairy or feedlot ration at a level of 23-50 lbs per ton. May be hand fed at the rate of 4-8 oz. per head per day. Buffer Pak should be added to the feeding program gradually over a 7-10 period.

• **Buffer Pak** - today's dairy cattle production rates require the feeding of grain in order to consume enough energy to meet their needs. However excess grain can lead to lower rumen pH resulting in lowered fiber digestion and resulting butter fat. Prince Buffer Pak is designed to contain different buffering agents so that all the buffering capacity is not utilized at once and can work over a greater time period. (See chart on previous page for more information)

**Fun Fact:**

*Hamburger meat from 1 steer would equal 720 quarter-pound hamburgers, enough for a family of 4 to enjoy hamburgers each day for nearly 6 months.*

## BEEF CATTLE

Beef Cattle can be raised using the feeds listed in the Dairy section above. Beef heifers, as dairy heifers, should be fed to reach sexual maturity by 15 months of age for calving at 2 years of age without gaining excess weight that can impair future milking ability.

40% Beef Concentrate is designed for finishing cattle. Cattle intended for slaughter are typically fed diets relatively high in grain in order to maximize growth rate. Given the greater grain feeding, beef cattle can utilize urea to meet a large portion of their protein needs and consume a more cost effective diet. Finishing cattle consuming diets over 85% concentrate should also consider using a buffer such as Prince Buffer Pak listed above.

40% Beef Concentrate is designed to provide the supplemental protein, vitamins and trace minerals needed for finishing cattle. The pelleted form reduces separation when mixed in corn diets and reduces feed loses.



Nutrient	40% Beef Concentrate
Crude Protein (min) %	40.0
NPN CP Equivalent %	>20.0
Crude Fat (min) %	1.5
Crude Fiber (max) %	9.5
Calcium %	7.0 to 8.20
Phosphorus %	0.90
Salt %	4.6 to 5.5
Selenium (ppm)	4.2
Vitamin A IU/lb	50000
Vitamin D <sub>3</sub> IU/lb	13000
Vitamin E IU/lb	170
Form	Pellet
Feeding Directions	Feed 1-1.5 lbs per head per day to growing & finishing cattle

*In addition to the bagged product sold both under Prince and other private labels, Prince manufactures many dairy and beef products in bulk. Bulk products are priced F.O.B. Marshfield. Products may be picked up by customers; however Prince can help find arrangements for those looking for full truckload quantities.*



For additional information on raising cattle...

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

- <http://ohioline.osu.edu/lines/stock.html#Dairy>
- <http://www.extension.iastate.edu/livestock/dairycattle/>
- <http://www.extension.umn.edu/dairy/>
- <http://dairyteam.msu.edu/>