

# NitroShure™

## Precision Release Nitrogen

**NitroShure™ Precision Release Nitrogen** uses Balchem's proprietary encapsulation technology to provide a more consistent nitrogen supply to rumen microbes, maximizing microbial protein yield, and improving dry matter digestibility, while providing greater flexibility in formulating high performance dairy rations.

### Product Information:

Content – 87-91% Urea

### Application:

Feed to dairy cattle to provide rumen micro flora with a sustained source of nitrogen for use in synthesizing microbial protein.

### Ingredients:

Urea and fats

### Feeding recommendation:

#### Feeding rates:

Maximum – 250 g/cow/day

Minimum effective rate – 10 g/cow/day

#### Substitution rate:

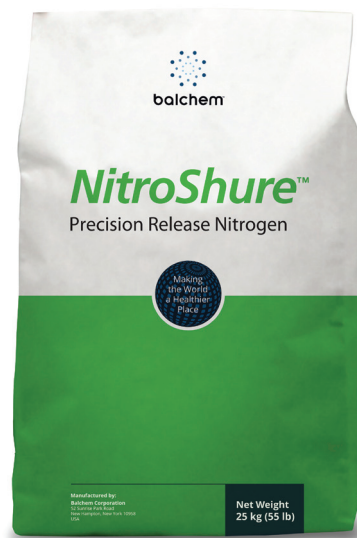
For every 100 grams of soybean meal to be replaced, substitute 20 grams of NitroShure.

For every 100 grams of canola/rapeseed meal to be replaced, substitute 15 grams of NitroShure.

#### General Guidelines:

Maintain a minimum of 1 kg/cow/day of soybean/rape seed/canola meal in the diet

- a) If using CPM, maintain peptide balance at 100% or greater
  - Can reduce target peptide balance from 110% to 102%
- b) If currently feeding urea:
  - Continue using urea up to 90 g/cow/day with NitroShure
  - Maintain a minimum 10 g/cow/day of urea in the ration
  - Add NitroShure to desired level to a maximum of 225 g/cow/day of NitroShure plus urea



- c) Target Rumen Degradable Protein (RDP) levels
  - CPM - 10.0% of DM
  - AMTS, NDS, Dalex with CNCPS v6.1 biology - 9.0% of DM
- d) Total ration soluble protein should be kept between 32 and 38% of total crude protein
- e) Use high-quality ingredients in combination with NitroShure to back-fill the space created by removing the alternative protein source
  - Forage
  - High starch concentrates (e.g., high moisture corn, corn meal, barley meal, sorghum and bakery)
  - High sugar concentrates (e.g., molasses, bakery/candy and citrus pulp)
  - High fermentable fiber concentrates (e.g., citrus, soyhulls and beet pulp)
  - Fat

### Packaging:

55.1 lb. (25.0 kg) poly-lined bags

### Availability:

NitroShure is available through most animal feed outlets. Contact Balchem to find a local supply of NitroShure.



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**Benefits:**

NitroShure™ *Precision Release Nitrogen* is a valuable tool for helping producers and nutritionists reduce ration costs while increasing the amount of high-quality protein available to the cow.

- **Improve Digestible Protein Yield and Quality** – Replace low-quality proteins with NitroShure. Synchronizing nitrogen release with available carbohydrates in the rumen leads to improvements in high-quality, microbial protein production.
- **Improve Fiber Digestion and Dry Matter Utilization** – Microbial mass and activity is increased when available carbohydrate and nitrogen is balanced, resulting in greater dry matter utilization, fiber digestion and volatile fatty acid production.
- **Create Ration Space** – Replace less dense sources of protein with NitroShure to create approximately 2 pounds (0.9 kg) of dry matter space in the diet. The additional space can be used to increase dietary levels of forage, non-fiber carbohydrate or other key ration ingredients to improve milk and milk component production.
- **Lower Ration Costs** – Replace more expensive protein sources with NitroShure to reduce purchased feed costs.

**Economics:**

Studies show that NitroShure™ *Precision Release Nitrogen* is proven to help fill the nitrogen availability gap between fast release urea and the slower nitrogen release of traditional protein sources to better synchronize nitrogen and carbohydrate availability in the rumen. Balancing nitrogen and carbohydrate availability can increase rumen microbial populations and fermentation efficiency, improving fiber and carbohydrate digestibility and microbial protein yield. Research studies show that improvements in rumen fermentation can lead to increases in milk yield and component production. For a complete review of the research, contact your Balchem representative.

**About Balchem:**

For more than 40 years, Balchem has perfected the art of delivering nutrients to specific locations under many different environmental conditions. Today, Balchem's technologies protect more than 140 different products across human, animal and industrial applications. Protect your entire nutrient investment with Balchem.

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