

Feeding Management

- ◆ Silage and hay should not be sampled for analysis until two weeks after harvesting
- ◆ Nitrate toxicity is dependent upon nitrate level in total diet, so water quality must also be considered.
- ◆ Feeds marginal to high in nitrates should be introduced slowly and allowable amount of such feed should be fed over the course of the day, not all at once
- ◆ Hungry animals should not be allowed access to feeds with moderate to high nitrate levels. Feed low nitrate feeds first to curb appetite
- ◆ Provide adequate energy, particularly rapidly fermentable carbohydrates, to facilitate utilization of nitrate nitrogen by the rumen bacteria
- ◆ During fermentation, nitrates will form nitric oxide, a yellowish-orange gas that is lethal. Provide adequate ventilation if it is necessary to enter the silo shortly after filling.

Table 2. Guidelines for using feeds with known nitrate levels (DM basis).

g/kg NO₃-N	Comment
<1	Safe
1-2	Generally safe. Limit to 50% of dietary dry matter for pregnant animals.
2-3.4	Limit to 50% of dietary dry matter for non-pregnant animals, and do not feed to pregnant animals. Be sure water is low in nitrates.
3.4-4	Limit to 25% of diet dry matter for non-pregnant animals. Be sure water is low in nitrates.
>4	Potentially toxic-do not feed



Elk River Central Laboratory

10383 165th Avenue NW - Elk River, MN 55330

Toll Free: 1-866-366-2259 Tel: 763-274-3067 Fax: 763-241-3398

Email: lab_forage@cargill.com

Certificate of Analysis

Nutrient	As Is	DM
Moisture (%)	78.26	0.00
Dry Matter (%)	21.74	100.00
Crude Protein (%)	1.93	8.90
Nitrate Nitrogen (NO ₃ N) (g/kg)	0.01	0.06
Nitrate Ion (NO ₃) (g/kg)	0.06	0.27

To determine the toxicity of the nitrate level in feed compare the Nitrate Nitrogen (NO₃N) (g/kg) on the DM (dry matter) basis to table 2.

Example: 0.06 is under 1 and is in the safe category.