



Nitrate Testing – Feed Sampling Guidelines

1. Submit the plant parts that the animal will consume.
2. Representative sampling is essential. Test results can be affected by suboptimal sampling.
 - Different batches, fields, or cuttings should be submitted separately.
 - If certain locations seem to be more drought affected or contain nitrate-accumulating plants, sample and submit separately.
 - Do not collect samples from only one area of the field, only one bale, or only one bag of silage.
3. Sample type
 - Pasture: collect samples from multiple locations and create a composite sample. Cut the sample at the anticipated harvest level and submit what will be fed.
 - Dry forage, silage, bailage, haylage: sample from 10-20 different locations or 10-20 different bales and create a composite sample.
 - Round bales: core samples are preferred to ensure multiple layers are sampled.
 - Nitrate concentration can decrease with ensiling, however testing silage is still recommended.
 - Sample amount: a medium to large Ziplock bag is sufficient.
4. Sample transport.
 - Fold or cut forage to fit into a resealable plastic bag.
 - Moist samples should be shipped in resealable plastic bags on ice or ice packs to keep them cool.
 - Moist samples kept in resealable bags at room temperature can favour bacterial growth and produce erroneous results.
 - Dry samples can be shipped in paper or plastic bags at room temperature.
 - Ship samples as soon as possible after sampling, either overnight or directly to the laboratory.

The Prairie Diagnostic Services toxicology laboratory uses a qualitative diphenylamine screening test to determine if a sample contains or does not contain nitrate. The test will be positive if the sample contains approximately >0.5 to $>1.5\%$ nitrate, which is unsafe to feed to livestock. If you receive a positive test, quantitative testing is recommended to determine the extent of feed dilution that is required to feed the ration safely. Contact your regional Livestock and Feed Extension Specialist to create a ration with a dilution to $<0.5\%$ nitrate in the total mixed ration.