

Where to Test Forages for Nitrates

[Dianne Shoemaker](#), Extension Field Specialist, Dairy Production Economics

[Dr. Bill Weiss](#), OSU Dairy Nutritionist

July 18, 2012

With many farms now considering early harvest of drought-stricken corn for silage to salvage some value from the crop, attention must be paid to the potential for high nitrate levels in the plants. If nitrate levels are high enough, they can cause serious health problems for the animals consuming them including death. Good information on this topic is available in the fact sheet "Nitrates in Dairy Rations" which can be found at <http://ohioline.osu.edu/as-fact/0003.html>

Before beginning harvest, and especially if considering grazing or green-chopping and feeding corn fodder or other forages immediately, drought-stressed plants should be tested for the presence of, and if present, level of nitrates present. The ensiling process can reduce nitrate levels present in the unensiled crop.

Most labs now offer nitrate tests, so if you currently use a particular lab for forage testing, it is likely that you can get forage plants tested for nitrates by the same lab. A number of labs are listed below that have nitrate testing available. This list is for your convenience and no labs are intentionally omitted. Check your chosen lab's web site as many are already posting information about nitrate testing and many have specific instructions about how to take and handle the sample.

Samples should be representative of the crop being harvested, and include the parts of the plant that will actually be harvested and fed to the animals. For corn silage specifically, the sample should include the whole plant cut at the height you will actually be chopping - nitrate concentrations are usually highest in the lower part of the plant.

Some labs that test for nitrates (in alphabetical order):

Brookside Laboratories, Inc., New Knoxville OH, <http://brooksidelabs.com/contact.htm> pH: 419.753.2448

Cumberland Valley Analytical Services, Hagerstown MD, <http://www.foragelab.com/> pH: 800.282.7522

Dairyland Labs, WI & MN, <http://www.dairylandlabs.com> pH: 608.323.2123

Dairy One, Ithaca NY, <http://www.dairyone.com> pH: 800.496.3344

Holmes Lab, Millersburg OH, <http://www.holmeslab.com/> pH: 330.893.2933

Rock River Lab, Watertown WI, <http://www.rockriverlab.com/index.html> pH: 920.261.0446

Spectrum Analytic, Washington Court House OH, <http://www.spectrumanalytic.com/> pH: 800.321.1562

Sure-Tech, Indianapolis IN, e-mail: suretechfeedlab@landolakes.com pH: 800.266.7176

While the "[Nitrates in Dairy Rations](#)" fact sheet mentions a quick test that can be done in the field, the chemical ingredients, which include concentrated sulfuric acid and diphenylamine, are dangerous and no longer readily available. Alternatively, some field test kits are available commercially. It is important to note that these kits have limitations. One kit indicates that its testing range is from 0 to 1000 ppm nitrate nitrogen in a fresh plant. This is the maximum safe level in a feed. A lab test would be needed to determine actual levels present in the plants if they are above the kit's range.