Sampling and Analysis of Drinking Water for Dairy Cattle a,b

Contact a reputable, certified laboratory:

1. Ask for “Livestock Suitability” Water Analysis.
2. Ask how to take a representative sample.
3. Ask how much sample is needed.
4. Ask what type of container the sample should be collected in and shipped.
5. Ask about types of analyses (chemical and microbial) that can be performed with the “Livestock” analysis and others that may be applicable in your particular situation.

Suggested standard minimum initial analysis: total dissolved solids, sodium, calcium, magnesium, chloride, sulfate, pH, nitrate, iron, manganese, copper, hardness, conductivity

Additional possible for first analysis: total coliform count

Possible Considerations: Water for laboratory analysis should be sampled into a clean plastic container, after repeatedly rinsing with the water to be tested, at the site of discharge into the water tank, trough or bowl, but not at the origin of the water (e.g., the reserve tank). The sample should not be taken by dipping into the tank, because it will be contaminated by feed and saliva. The sample should be sent to a laboratory certified by the appropriate governmental agency. Chemical and microbial measurements are the two main types of tests for drinking water quality. Standard laboratory tests provide concentrations of common mineral elements and some other constituents of interest. A standard water quality analysis is recommended first. If necessary, more extensive testing can be performed for other compounds such as pesticides and contaminants.

Additional analyses: specific analyses at additional costs can be requested, if of interest, for such chemicals as carbon dioxide, bicarbonate, fluoride, phosphate, silica, potassium, arsenic, cadmium, chromium, mercury, lead, hydrogen sulfide, barium, zinc, molybdenum, and streptococcus


b This information is supplied as a service to dairy farmers and consultants to aid in improving the water nutrition of their cattle. Many possible laboratories can provide analysis services. The one listed is not recommended over other certified laboratories that provide comparable services at comparable prices…..David K. Beede, Michigan State University, East Lansing.