

MEMORANDUM

To: Steve Kerr, Secretary, Agency of Agriculture, Food and Markets

From: Jeff Comstock, Plant Industry Division

Date: June 3, 2005

Subject: Re: Correspondence from Rep. Leriche - Hardwick Water Quality

The Agency of Agriculture has been conducting water quality testing of the groundwater and surface water in the vicinity of the Laggis Farm in Hardwick, VT since October, 2000. At the present time, there continues to be detections of nitrate-nitrogen (nitrate-N) in several wells and springs that exceed the drinking water standard of 10 ppm. There are also several wells in the area that do not exceed the standard or where nitrate-N is not detected.

It is the Agency's assessment that the nitrate-N contamination in the [REDACTED] springs/wells is the result of groundwater infiltration to bedrock and is not the result of surface water runoff.

The farm practices or sources that are potential contributors of nitrate-N to groundwater are the field application of manure and commercial fertilizer, the corn silage storage bunker, the manure storage bunker, the infiltration pond and the grassed waterway buffer strip.

The Agency has collected one set of water samples for nitrogen and oxygen isotope analysis. This method is being developed to identify and differentiate the source(s) of nitrate-N in water. The results of this test do indicate manure as the source of the nitrate-N in groundwater but there is not enough information to determine whether the manure is related to the manure storage system or field application.

Correspondence from Representative Leriche focuses on her understanding that the manure management system is the most likely source of nitrate-N contamination to the Lovinsky spring. It is unclear at this time whether this characterization is appropriate because it attempts to assign the presence of nitrate-N in a specific well/spring to a specific source. I have reservations/concerns with this approach for this site because it ignores the fact that nitrate-N contamination is also present in the [REDACTED] spring and two wells on the Laggis Farm and that these four water sources are scattered about the landscape and not directly adjacent to the same farm practices or potential sources. In all likelihood, field application practices have as much potential to leach nitrate-N to groundwater as does the manure storage system.

Each of the farm practices listed above is a potential source of nitrate-N to groundwater but there is no way to assign or define an allocation. The major concern for the [REDACTED] springs and the Laggis wells is the general vulnerability of the site because areas of the farm have soils that are well drained and shallow to bedrock.