This article is written using dairy cow examples, however, ALL businesses who use ground or surface water should read and run some calculations. Greenhouses – please think about your usage during your highest month! This law has the ability to substantially impact ag businesses in the future. (Think about water regs in the western USA.)

PRO-DAIRY Alert and Action Statement

Water use reporting required for New York State dairy farms that use large quantities of water.

All dairy farms should be aware of this requirement, especially those with approximately 200 cows or more that expect to see further growth.

Reporting Deadline: February 15, 2012

On August 15, 2011, Governor Cuomo signed a law that updates water use reporting and permit requirements for users of large volumes of water in NYS (www.dec.ny.gov/lands/55509.html). Although NY is fortunate to have plentiful water, the reporting of water usage provides NYSDEC information to manage the state's water resources. The changes bring consistency in water use reporting across the watersheds in NYS and were developed in anticipation of increased water use for hydrofracking activity.

The law has a provision that waives reporting fees for agricultural users. It also exempts some agricultural water uses from reporting and clarifies obligations for other farms. The bottom line:

> **Agricultural water users withdrawing an average of 100,000 gallons or more of water per day in any 30-day period during the previous year from any combination of groundwater and surface water sources are required to register their water withdrawals with NYSDEC; this year the deadline is February 15, 2012.**

All other farms consuming water for agricultural purposes at a rate less than 100,000 gallons of water per day in a 30-day period are *exempt from reporting*. Farms under the threshold may choose to report by February 15, 2012, since the initial registration and annual reporting thereafter by any farm will in effect grandfather a farm's water use so that in most situations a permit will not be required in the future. We assume that permit requirements will be more complicated and uncertain than registering now to protect future water use.

Does this law apply to my dairy farm?
For water use reporting purposes, there are three basic categories. Dairy farms that:

1) currently consume more than 100,000 gallons per day;
2) may consume more than 100,000 gallons per day in the future and hope to avoid needing a permit when they begin using that much water; and
3) do not now, and are never likely to consume more than 100,000 gallons of water per day. We suggest that farms falling into categories 1 and 2 consider reporting water use.

Water use on a dairy farm depends on many factors, most notably: number of animals, level of milk production, size of milking center and other areas cleaned with water, use of a milk pre-cooler and/or summer cooling of cows (sprinklers), and, for some cases, irrigation of crops. Farms currently milking or planning to milk more than 800 to 900 cows within the next few years may be near the reporting threshold (see Table 1, next page). For farms with multiple sites, generally, locations that are contiguous or that share water supplies should aggregate water use, while non-contiguous sites should estimate water use separately. Farms solely on public water supplies are NOT required to register because their water use will be reported by the municipal water provider.

Reporting of agricultural water use (withdrawal) to DEC by February 15, 2012, and annually thereafter ensures compliance with the new law. It appears that so long as withdrawals continue to be agriculturally related, and reported annually, incremental growth will not require a permit for existing operations. Large, new green-site agricultural facilities, along with many non-agricultural new or existing uses, will likely need to be in a permit process as the law gets implemented going forward.

It can be difficult to accurately determine water use for many dairy farms. Most farms lack water meters and many have multiple water sources that were developed independently from each other based on farm growth/expansion. PRO-DAIRY is developing a spreadsheet that will be available in time for the 2013 reporting cycle for use by producers to more accurately estimate their farmstead (barns and milking center) annual and monthly water use.

In the meantime, to perform an initial estimate of the number of cows needed to trigger water use reporting, a dairy farm can use Table 1, selecting the scenario that most closely represents the farm. If the threshold is triggered, and, if a farm chooses to report, Table 1 can also be used to develop month-by-month water use values for reporting as required by the DEC reporting form (discussed below).

Table 1. Threshold number of cows required to result in a farmstead water demand of 100,000 gallons per day for five various scenarios and the gallons/cow factor for use in reporting monthly water use.

Scenario Number	Description	Ave. Monthly Use (gallons/cow)			
		Threshold No. of Cows	Summer	Fall/Spring	Winter
1	Lactating and Dry Cows	2,800	1,125	983	852
2	Lactating and Dry Cows, Plate Cooler, and Sprinklers	950	3,356	3,191	3,082
3	Lactating and Dry Cows and Replacements	2,400	1,316	1,152	1,043
4	Lactating and Dry Cows, Replacements, and Plate Cooler	1,725	1,798	1,634	1,525
5	Lactating and Dry Cows, Replacements, Plate Cooler, and Sprinklers	925	3,390	3,192	3,083

How to use Table 1

Select the scenario that best describes the dairy farm being analyzed. If cattle numbers exceed (or if the farm plans to exceed in perhaps 1 to 3 years) the "Threshold No. of Cows" column, then water use likely exceeds the reporting threshold and reporting is recommended. The table can also be
used to estimate water use and report even if use is below the threshold.
The following example uses Table 1 to determine if reporting is required or not:

- a dairy most closely matches the description for Scenario No. 4 and milks 2,000 cows;
- because they have more than the 1,725 total cow threshold for this scenario, this farm should report water use.

The DEC reporting form requires water use estimates by month, so Table 1 was also prepared to help with that. The values in the Summer, Fall/Spring, and Winter columns can be used to estimate gallons used per month by multiplying the total number of milking and dry cows (heifers and calves are built into the estimate where appropriate) by the gallons per cow figure for a scenario. The Summer column is used for June, July, and August. The Fall/Spring column is for September, October, November, March, April, and May. The Winter column is for December, January, and February.

Assumptions and further information regarding the development of the numbers in Table 1 and other key items to consider:

- Dry cows housed on-site with lactating cows.
- Table values based on milk production of 80 lbs. per cow per day.
- Milking equipment CIP water and general milking center clean-up water included.
- No significant water used for cleaning the holding area. If milking center cow decks are flush cleaned with fresh water, it will take fewer cows to trigger the reporting threshold, so reduce the threshold numbers shown in table by 20%.
- Table values do not include other on-farm fresh water uses such as barn flushing or crop irrigation, so such uses will need to be determined separately by other means and added to estimates from Table 1.

Reporting

The DEC has posted a reporting form (www.dec.ny.gov/docs/water_pdf/wwreportingform0120.pdf) that may be submitted on-line or printed and returned to DEC by US mail. (Note: page 1 of the reporting form indicates a February 1, 2012, reporting deadline for 2011water use, but the new law states the deadline for this year is February 15, 2012.) DEC has indicated a willingness to accept reports submitted anytime in the month of February.

PRO-DAIRY has developed a worksheet "Dairy Farm Reporting Form Guidance" to assist dairy producers to complete the DEC reporting form. This document is available at the PRO-DAIRY home page (www.ansci.cornell.edu/prodairy) under the "What's New" header. We suggest that managers print out the guidance form and use it to complete the official on-line reporting form available at the DEC website.

The DEC reporting form is designed for a broad range of users and asks for information that many dairies are unlikely to have ready access to. Producers are encouraged to answer as completely as possible, and to do the best they can when there are information gaps.

We suggest that Page 2 of the DEC reporting form be completed first, making it easier to fully complete Page 1.

Page 1 of the DEC form asks about individual sources of water and requests information about those sources. DEC understands that farms often have multiple wells/sources that are plumbed together in various combinations. At a minimum, list wells individually along with other sources (ponds, springs, etc.). DEC requests that producers make their best estimate of maximum rate and capacity of withdrawal, well depth, etc. There is NO FEE required for agricultural users, so select "N/A" on the front of the form .

The results of the monthly water use estimates (based on Table 1 of the PRO-DAIRY Alert document) developed for filling out Page 2 of the DEC form can be used to develop values for "Average Day Withdrawal" (Box A) and "Max Day Withdrawal" (Box B). "Max Potential Withdrawal Rate" requested on Page 1 of the DEC form (Box C) will be based on the producer's best estimate (unrelated to Table 1 calculations), because many water sources are likely to have the potential to provide more water than needed by the farm.

From Page 2, the total estimated annual water use can be determined by summing the estimated monthly uses. For the 2,000-cow example, this value is 39,546,000 gallons.

A value for insertion in Box A (Average Day Withdrawal) is determined by dividing the estimated annual usage (39,546,000 gallons) by 365. For this example, the result is 108,345 gallons per day.

For Box B (Max Day Withdrawal), take the water use estimate for one summer month and divide by 30 days. For this example, the value is 119,866 gallons (3,596,000/30).

Flush dairies that use fresh water as flushwater will need to increase monthly water use estimates beyond the values provided by Table 1.

Page 2 of the DEC form asks for monthly amounts of water withdrawn for farm use. Most dairies will be focusing on "Withdrawn" with some reporting "imported" water if they buy tankers when wells run low in dry conditions. DEC does not consider water in shipped milk or exported manure to be a transfer. DEC suggests the monthly amounts for "withdrawn" and "consumed" for a dairy farm will be identical. Some producers may wonder if manure applications count as "returned" water. This term is not intended for manure applications so dairy producers will leave the "returned" row blank.

Using the 2,000-cow farm example, as a means to assist in demonstrating how to develop numbers for use in completing Page 2, the estimated water use is:

- Summer: 3,596,000 gallons per month for June, July and August (2,000 x 1,798)
- Fall/Spring: 3,268,000 gallons per month for September, October, November, March, April, and May (2,000 x 1,634)
- Winter: 3,050,000 gallons per month for December, January, and February (2,000 x 1,525)

Page 3 of the DEC form asks for additional sources of water not covered on page 1. Be sure to include estimates for irrigation withdrawals if your operation uses water in this way.

Questions regarding the DEC reporting form may be directed to Mr. Richard Kruzansky, NYSDEC (rhkruzan@gw.dec.state.ny.us, or call 518-402-8182). General questions on water use reporting or use of Table 1 of this document may be directed to PRO-DAIRY's Karl Czymmek (kjc12@cornell.edu, or call 607-592-2634) or Curt Gooch (cag26@cornell.edu, or call 607-255-

2088).