

## **July 2014 Newsletter**

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#### "Ask the Lab"

We would like to start an interactive part of the monthly newsletter - so send us your craziest lab questions or requests for data summaries and the Dairy One Team will work to answer your questions.

## Water - The Forgotten Variable

Water is the most important part of a dairy cow's diet, especially as we see the temperatures rise in the summer. A mature dairy cow producing 70 lbs. (32 kg) of milk will consume about 33 gallons (126 liters). Offquality water has the potential to restrict milk production. Water requirements vary with level of production and environmental temperature. Water intake increased by 3 to 4 gal/day when temperature increased from 60°F to 80°F.

Signs of poor water intake and quality in lactating dairy cows:

- Depressed immune function increased somatic cell count
- Increased reproductive failure conception failure, early embryonic death, or abortions
- Increased off-feed events and erratic eating patterns

Symptoms of water-quality issues in dairy cows are:

- Health or performance issues
- Digestive upsets or scours in replacements
- Deteriorating health status of newly arrived heifers or dry cows

Other symptoms to be aware of:

- Off-flavor, smell or color of drinking water
- Digestive upsets in humans drinking from the same water source



Drinking water makes up 60 to 80 % of dry and lactating cows' water needs while feed provides the remainder. It is important to evaluate both the availability of water and the quality of the water available.

#### **Availability**

Cows should have access to water when exiting the milking parlor or if milked at the stall. Each pen should have two functioning waterers with 3.5 in of linear water space available per cow. It is best to have water access within 50 feet of the feed bunk. Additionally, factors like stray voltage and dirty troughs or bowls can greatly limit water consumption. A recommended practice is to clean waterers at least weekly and increase as temperatures increase. Monitor animal behavior at water troughs to detect any other problems.

#### Quality

Animal performance is affected by high levels of dissolved solids such as sulfate, chloride, iron, manganese and nitrates. General guidelines for levels of nutrients in water for livestock are in Table 1. There is also a great tool available at <a href="www.waterforcows.com">www.waterforcows.com</a> that allows you to input your test results and other dietary specifications to determine nutrient balances for your cows.

Table 1. General guidelines for levels of nutrients in water

Item	Level	Item	Level
Calcium, ppm	< 100	рН	6 to 8.5
Chloride, ppm	< 100	Potassium, ppm	< 20
Copper, ppm	< 0.2	Sodium, ppm	< 50
Iron*, ppm	< 0.2	Sulfur, ppm	< 50
Magnesium, ppm	< 50	Sulfate, ppm	< 125
Manganese, ppm	< 0.05	TDS, ppm	< 960
Nitrate-N, ppm	< 20	Zinc, ppm	< 5

<sup>\*</sup>When analyzed using total recoverable iron, cows may tolerate higher levels of iron in water

#### Agro-One Livestock Water Analysis

Our lab offers a wide range of water testing options. The complete package includes coliform, total dissolved solids (TDS), pH, hardness, Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Iron (Fe), Zinc (Zn), Copper (Cu), Manganese (Mn), Molybdenum (Mo), Chlorides, Sulfates, and Nitrates. However, if you suspect a specific problem you can select to have any of these tests run individually.

You can order water sampling kits, review the water sample information sheet, and water sampling instructions at <a href="www.dairyone.com/analytical-services/water">www.dairyone.com/analytical-services/water</a> or call 1-800-344-2697 ext. 2172.

## Summer Soil Sampling - What to sample and why

After a cutting of hay is taken, or a pasture has been grazed down give the soil an opportunity to dry down from the spring. Then plan on getting out to take some soil samples to prepare for the fall management season.

The first step is to identify which fields to soil sample.

Looking at aerial images of the farm and fields can be helpful in determining what fields to sample and how many samples per field. Aerial images can be as simple as using an online tool like Google, slightly more in depth by using the Web Soil Survey and identifying soil types, or as complex as a set of maps developed by a farm planning service.

#### Selecting the right fields

There are a few things to consider when selecting fields for summer soil sampling. When was the last sample taken? A schedule of every 2 to 3 years is generally recommended. What are the crop plans for the field? If the field is going



to be re-seeded or turned over for corn in the next growing season a new soil sample is good to have for fall applications of lime, manure or fertilizer can be made to prepare for the upcoming crop. Are there different management areas in the field that should be sampled separately? A large or small field can have areas where it is or could be managed differently from the rest of the field due to moisture, soil type or slope. If you can sample these areas separately it can improve the overall management of the field.

After you have identified the fields or areas to soil sample you need to determine how deep of a sample to take. If the field is going to have tillage like a moldboard plow to get ready for a new crop the soil should be sampled down to 7 to 8 inches, but if the sample is for managing an established grass field or pasture, 4 to 6 inches will better represent the zone of soil being managed. When sampling a field 15 to 20 plow depth core sub-samples should be taken in a zig-zag pattern for each management area of 20 acres or less. Be sure to avoid unusual areas like fence lines, ditches, manure stacking areas, or lime piling areas.

After collecting all the sub-samples, mix them together and place the soil in a sample box to send to the lab with the appropriate submittal forms. Results will be returned in 5 to 7 days and if desired will include lime and fertilizer recommendations. If lime and fertilizer recommendations are desired be sure to include soil and crop rotation information on the sample submitting form.

For more information on Agro-One soil testing, to print forms or order sample boxes visit <a href="www.dairyone.com/analytical-services/agronomy-services/soil-testing/">www.dairyone.com/analytical-services/agronomy-services/soil-testing/</a> or call 1-800-344-2697 ext. 2172.

# Greetings from the Agro-One and Dairy One Forage Lab

Hello, I am Dr. Sally Flis and I joined the Agro-One and Dairy One Forage Lab team on June 1st as the Feed and Crops Support Specialist. My role is to help customers better use our analytical services and promote the Agro-One and Dairy One Forage Lab. I will be attending meetings and events throughout the year. I would like to meet you and discuss how you are using our services and what we can do so you can get the most out of our services. Contact me today to set up a meeting, we can chat on the phone or I can come see you!



I look forward to hearing from you.

## Join Us at these Upcoming Events

Date	Time	Meeting	Location	Who's
				Attending?
July 16th	8:30 to	Cornell	Homer C. Thompson	Agro-One,
	11:30	Vegetable and	Vegetable Research	Forage
	AM	Fruit Crops	Farm -133 Fall Creek	Lab
		Weed	RD, Freeville,NY	
		Management		
		Field Day		
July 16th	12 to1:30	NYSABA BBQ	Aurora Farm -1256	Agro-One,
	PM	Lunch	Poplar Ridge	Forage
			RD,Aurora, NY	Lab
July 16th	2 to4:15	NY Weed	Aurora Farm -1256	Agro-One,
	PM	Science Field	Poplar Ridge	Forage
		Day	RD,Aurora, NY	Lab
July 17th	9 AM to	Aurora Farm	Aurora Farm -1256	Agro-One,
	3 PM	Field Day	Poplar Ridge	Forage
			RD,Aurora, NY	Lab
July 17th		Grasstravaganza	Morrisville StateCollege	Agro-One,
to 19th		-Grazing	- 80 Eaton	Forage
		Conference	St,Morrisville, NY	Lab
August	10 AM	Conservation	Jim and Sue Smith's	Agro-One,
2nd	to 2 PM	Day on the	Tre-G Farms, LLC -	_
		Farm	8183 U.S. Route 20,	
			Manlius, NY	
August5th		Empire Farm	Rodman Lott & Son	Dairy One,
to 7th		Days	Farms - 2973 Route	AMR, and
			414, Seneca Falls, NY	ACS

August	8:45 AM	Manure Science	Rupp Vue Farm - 14636	Agro-One,
14th	to 3:30	Review	Seville RD, Sterling,OH	Forage
	PM			Lab
August	8 AM to	2014 NY Corn	Swede's Farm -1054	ACS
14th	4 PM	and Soybean	Peoria RD, Pavilion, NY	
		Summer Crop		
		tour		

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