



Dairy One

Forage Laboratory

February 2016 Newsletter

In This Issue

[Blog](#)

[Expanding Your Soil Test Horizons](#)

[Fecal Starch Now Available](#)

[Upcoming Events](#)

[Pasture Management Package](#)



[Click here to check out the Dairy One blog!](#)

Read the latest posting:
[2015 Review](#)

Expanding Your Soil Test Horizons: How to Use Your Solvita® CO2 Burst and SLAN Results

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Soil health continues to be a hot topic in agricultural communities, conservation groups, and professional communities. The Agro-One lab has had the Solvita® and SLAN tests available for about a year now. Additionally, this has been a great fall and winter in the Northeast for soil sampling.

When talking to farmers and consultants about the soil health tests we are offering, the most common question is "When is the best time to take a sample for soil health testing?" Testing has shown that the highest CO2 respiration rates are seen on samples taken in June and July. However, this is not the most convenient time to sample fields and not the regular time for nutrient sampling. The samples analyzed in the Agro-One Lab in June and July had the highest CO2 Burst respiration of the year (Table 1). With the limitations of sampling field in June and July, the best time to sample for soil health is when you can consistently repeat the sampling. For example, if you start taking soil health samples in the spring, always sample in the spring for making direct comparisons.

Month Sample Received	Solvita® CO2 Burst (mg/kg CO2-C)	SLAN (mg/kg Amino-N)
June-July	110	129
August	63	374
October	22	37
November	83	130
December	79	123

Table 1. Solvita® CO2 Burst Respiration and Solivta® Labile Amino Nitrogen (SLAN) Analyzed by the Agro-One Lab in 2015.

Several ways to utilize the results of the soil health tests are as follows:

1. **Evaluation of current level of soil health.** The test gives a measure of the current status of the soil and the potential of the biological life in it. This can be used to determine if a management program is performing how you expected.
2. **Build a history to evaluate to management changes.** How management changes influence soil health can only be evaluated if there is a measure of soil health done before management changes are made.
3. **Evaluation N Needs.** The results from the Solvita® test can be entered into the [Solvita® on-line calculator](#) to give an estimate of the amount of N potentially available to crops. Additionally, the SLAN result can be converted to lbs/ac from mg/kg by multiplying by 0.89, and the results used to gauge what is potentially available to your crop.

New this year, we will also be offering a field soil health kit. The kit will include the field test paddles for Co2, a soil sieve, a thermometer, and the reader for the paddles for the field test. We are working to finalize the kit. If you are interested, contact sally.flis@dairyone.com.

Fecal Starch Now Available!

This winter, our NIR staff completed the development of a new calibration for fecal starch. Fecal starch measurements are used to assess the starch digestibility of the ration. For good starch digestion, a fecal starch level of less than 5% is recommended. Starch digestibility can be affected by:

1. **Particle size.** Poorly ground or processed grain will have a negative impact on starch digestibility.
2. **Corn silage processing.** Related to the above, poorly processed kernels in corn silage can result in lower digestibility. Use the Corn Silage Processing Score (CSPS) as an additional analytical tool to monitor particle size and starch availability.
3. **Moisture content.** Drier grain in corn silage (>35%DM) tends to be less digestible.
4. **Fermentation.** This will enhance starch digestibility over unfermented corn. Additionally, digestibility continues to increase in storage for 4 - 6 months after ensiling.

Two new fecal starch packages are now available. Both packages include dry matter, fecal starch, and total tract starch digestibility (TTSD). As its name implies, TTSD is an estimate of starch digestibility throughout the entire GI tract. It is based on research performed at the University of Wisconsin (1).

1. (181) NIR Fecal Starch, \$12 - cattle only
2. (182) Wet Chemistry Fecal Starch, \$19 - all species

Use fecal starch as a diagnostic tool in herds that are underperforming. It's one more weapon in your arsenal!

1. S.M. Fredin, L.F. Ferraretto, M.S. Akins, P.C. Hoffman and R.D. Shaver. 2014. Fecal starch as an indicator of total-tract starch digestibility by lactating dairy cows. J. Dairy Sci. 97: 1862-1871.

Upcoming Events: February

Friday 2/19: Kentucky Hay School
9 AM to 3 PM at the Kentucky Dam Village.
\$10 each; call 270-928-2168 to register.

Thursday and Friday 2/25-2/26: 2016 Idaho Hay and Forage Conference, Burley, ID.
<http://www.idahohay.com/conference.htm>

Introducing the Dairy One and Agro-One Pasture Management Package

The Dairy One Forage Lab and the Agro-One Lab are offering a package to help you better understand your pasture. The package is designed for use in one pasture during a growing season. Testing your pasture from top to bottom (clippings and soil) will tell you what you are providing for your animals and what you might need to supply for your pasture.

Pasture Management Package Includes:

Forage Testing: You will get 3 Forage testing kits and sample submitting sheets to be used through the grazing season

Soil Testing: One soil sample to determine the nutrient needs of the pasture (Phosphorus, Potassium, and pH)

Interpretation: Each forage sample result will come with an interpretive sheet. The sheet will have the Dairy One Forage Lab sample ranges for comparison to your results and some management suggestions for changing your pasture.

Price \$75.00

(includes all shipping costs and is a 15% savings over list price)



For More Information Contact:

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