

## 2011 Alfalfa Plant Analysis Survey

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### Background:

- More reports from field agronomists suspecting S deficiency in southern Wisconsin.
- Last alfalfa plant analysis survey was from 1999-2002. Information from this study plus additional experiments resulted in the WI sulfur availability index (SAI) being updated.
- Atmospheric deposition of S has continued to decrease. Is the SAI still a good measure of sulfur availability?
- Application of potash to alfalfa has been reduced in recent years.
- Alfalfa samples submitted to the UW Soil & Plant Analysis Lab have had an increasing frequency of S and K deficiency (based on plant analysis) in the past two years. Is this part of a bigger trend?
- Results from the 2010 alfalfa plant analysis survey showed that S and K were deficient on 64% and 51%, respectively, of samples submitted.

### Justification:

Having a better understanding of the nutritional status of alfalfa is one component to assisting farmers in profitably producing a high yielding and good quality alfalfa crop.

### Objectives:

1. To obtain information on the nutritional status of Wisconsin's alfalfa crop.
2. To determine if K and S deficiency are becoming more common throughout Wisconsin or in certain regions.

### Plant Sample:

1. From a uniform appearing field, sample the top 6" of 30 to 40 plants that are at the bud to 1<sup>st</sup> flower growth stage and composite into one sample.
  - a. Only sample fields that have been established for >12 months (no seeding year).
  - b. Samples should be taken from different crowns.
  - c. Samples should be taken prior to 1<sup>st</sup> cutting (ideally) but could also be taken prior to 2<sup>nd</sup> cutting. If there are numerous fields in the county with normal (good) and abnormal (poor) areas of the field, two separate samples (one from the good area and one from the bad area) can be taken. It is not necessary to look for fields with good and poor areas.
  - d. Do not sample fields with known problems (eg. winter kill/compaction/disease).
2. If mailing samples to the lab, be sure to dry samples over a heat vent or in the sun for 1 to 2 days before placing in a large paper envelope. Do not pack samples into envelope.
3. Air-drying is not necessary if samples are delivered to the lab in person within 24 hours of sampling.

### Soil Sample:

1. Collect 6 to 10 cores from a 0-6" depth and composite into one sample.
  - a. Cores should be collected in the same area where plants were sampled.
  - b. If plant samples were collected in good and poor areas of the field, take separate soil samples from each area.

### Photos (optional):

1. Photograph the field from a distance and close up.
2. No more than 6 photos per field.

### Sample Submission:

1. Be sure to clearly label sample bags with your name, field, and sample number.
2. Submit plant and soil samples to the UW Soil & Plant Analysis Lab (SPAL) in Madison (8452 Mineral Point Road, Verona, WI 53593).
3. Complete the attached sample submission form (2011\_Alfalfa\_Survey\_Lab\_Form.xls).
  - a. You must supply your name, address, and email.
  - b. Be sure to specify which county the samples came from
  - c. Please check the method by which you would like to receive results (mail, fax, email). Please add your email address. All results will be emailed to Carrie Laboski as well.
  - d. If you already have an account number with SPAL, please enter it on the form.
  - e. Enter billing/payment information.
  - f. Enter field ID and sample number.
  - g. Check if the sample is from a normal or abnormal appearing portion of the field.
    - i. It is not necessary to sample more than one area of the field (see plant samples 1.c. above).
  - h. The remainder of the sample submission form is completed.
  - i. All lines on the form are filled in for the convenience of those submitting multiple samples.
4. The fee is \$30/sample (plant + soil), which includes the plant analysis plus free routine soil analysis (\$24) and soil sulfur and boron (\$3 each).
  - a. Example: If submitting 2 plant and 2 soil samples, the fee is \$60.

### Data collection form:

1. Fill out the attached Excel file (2011\_Alfalfa\_Survey\_Data\_Form.xls) as completely as possible.
  - a. Crop and site history information along with soil and plant analysis data are requested. Without this information, the plant analysis survey is meaningless.
2. **Please fill in plant and soil analysis data.**
  - a. Even though plant and soil analysis data should be emailed to Carrie Laboski, please enter this information just in case there is confusion about site IDs or other miscommunications.
  - b. **Be sure to fill out all tabs in the Excel file and be sure to scroll down to ensure that you don't miss any information.**
3. Send completed form to Dr. Carrie Laboski at [laboski@wisc.edu](mailto:laboski@wisc.edu) before **September 1**.  
Early submissions are welcome!

This instruction sheet along with sample submission form and data collection file can be found on the Soil Science Extension website at: <http://www.soils.wisc.edu/extension/onfarmdemo.php> Participation in this study conveys your permission for the UW to use results (including photos if supplied) and present findings in research and public forums. Farms will not be individually identified. Results will be compiled and a report written for the second year of the survey by January 15, 2012. Thank you for your assistance in completing this survey!