

Project Title: Soil Fertility and Nutrient Management

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Project Overview

FY15 was a somewhat difficult year for a number of reasons. Fees were raised in October 2014 in response to the rising cost of lab operations. Last winter we saw lots of snow, and a late spring thaw. Consequently, the volume of soils received for analysis was down through our spring rush and beyond.

In addition, we had staffing issues. With no lab director for the year and the departure of one chemist in February 2015, we were challenged to keep turnaround times to a minimum, while providing accurate results and excellent customer service.

To fill the vacancy left by the departing chemist, we promoted one staff member from Technical Assistant to Chemist, and hired a 30-hour per week Departmental Assistant, to be employed through November 2015. In addition to the regular staff, we employed three undergraduate students at 10 hours a week each using Work Study funds.

The plan was to increase revenue while reducing expenses, thus supplementing our dwindling trust fund. We were somewhat successful, but clearly, more needs to be done.

In spite of all this, we achieved quite a lot. With the vacancy in February, we all had to learn new methods, equipment and procedures. We successfully integrated our Metals program into our report generating system. We continue to provide clients with practical information that enables them to increase crop yield and food safety, while being more aware of environmental concerns at an affordable price.

Activity Summary

- Routine Soil Analysis: soil test reports (15,217)
- Developed and Implemented a report generating system for Compost, Plant Tissue, Greenhouse Media, and Textural Analysis (1)
- Telephone, email, and in-person consultations (5000)
- Disseminate practical and applied information through factsheets (3)
- Soil and Plant Tissue Testing Lab Website (1)
- Total Sorbed Metal Test (328)
- Analytical Laboratory Proficiency Testing (4)

Total educational contacts

	Adult Contacts
In Person	6583
Indirect Contacts (Print, Web, etc...)	113500

Narrative Summary and Impact

In 2015, the UMass Soil and Plant Tissue Testing Lab delivered a total of 18,238 test results for soils, compost, plant tissue and greenhouse media. The following is a breakdown of services.

- Routine Soil Analysis: 15,217 soil test reports
- Pre-Side Dress Nitrate Testing: 36 test reports
- Particle Size Analysis (1083)
- Compost Analysis (239)
- Plant Tissue Nutrient Analysis (567)
- Greenhouse Media Testing (140)
- Miscellaneous testing (576)

Revenue generated during this time period from fees for these tests was \$422,104.

A report generating system for Compost, Plant Tissue, Greenhouse Media, and Textural Analysis was successfully developed and implemented. This system streamlines data entry and report generation, which saves time and reduces errors. Also developed and implemented was a module for reporting Total Sorbed Metals, which uses the same methods of data entry and reporting.

Reports produced using this system are more professional looking and user-friendly, which should result in increased credibility, client understanding, and more efficient use of resources.

Both the lab supervisor and secretary interact with the general public every day. The amount of traffic fluctuates with the season. Soil lab personnel disseminate information to clients in three ways: by email, telephone, and in person. The soil lab has an email account where customers can send questions. There may be between 3 and 10 emails every day. Responses are made on a daily basis to help customers understand test results, or give referrals to get information on related topics. The lab supervisor and secretary field between 5 and 10 phone calls each daily giving status information, referrals, and interpretation of test results. A small percentage of our clients drop samples off at the lab during business hours. Often, there are discussions regarding nutrient testing, interpretation of results, and referrals for related information. The lab prides itself on being client-centered and accommodating whenever possible.

Three new fact sheets were developed and published on the soil lab website this year. Topic selection was based on perceived needs of clients.

The first fact sheet, "Adjusting Soil pH" was written due to the number of phone calls fielded from clients asking how to lower their soil pH. Information was adapted from previous fact sheets and the New England Vegetable Management guide to produce this fact sheet.

Next, is a fact sheet regarding over-fertilization of soils. This fact sheet was prompted by two things: the alarming number of soil test results with excessive nutrient levels, and the new Plant Nutrient Regulation enacted in Massachusetts.

Lastly, a fact sheet was written regarding soil contaminants. Soil contamination is a growing concern, especially due to the recent increase in urban farming and gardening. All fact sheets were produced with input from extension personnel and clients before publication.

The Soil and Plant Tissue Testing Lab website is updated on a regular basis. New fact sheets are posted as they are produced, order forms are updated and improved, new links are added, and information regarding turnaround time, parking, and other general topics are posted as needed. Recently, the Ordering Information page was reorganized to address a problem with plant tissue samples intended for the Plant Diagnostic Lab being sent to this lab by customers. Headers were changed, and a note and link directing customers to the Plant Diagnostic website for disease and insect testing was added. An events calendar is updated four or five times a year. Information for this calendar is from other Extension websites.

Collaborating Organizations

- **Agricultural Laboratory Proficiency (ALP) Program**
- **North American Proficiency Testing (NAPT) Program.**
- **US Composting Council**