*Extension Programs/Techniques*

**Soil Management in Berry Crops as a Model for Management Education**

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Commercial berry growers in the Northeast have traditionally made standardized fertilizer applications based on crop age. This practice continues today, some 10 years or more after commercial berry crop guidelines for analysis-based fertilization programs became widely available. Adoption of soil health improving practices has also been slow.

Research demonstrates an analysis-based approach to berry crop nutrition provides increased yields along with better fruit quality and plant health. Use of soil health management practices (i.e. cover cropping) has been shown to reduce weed, nematode and soil-borne disease pressure, along with improving soil tilth, organic matter and nutrient content. Rising costs of products and concerns about environmental impacts of fertilizers make a whole farm approach to berry crop nutrient and soil management highly desirable.

Ag educators frequently called on to cover multiple commodities and/or information areas outside their field of expertise, often struggle to assist commercial berry growers with berry crop soil and nutrient problems. No single comprehensive resource on this topic is currently available for either educators or growers.

A 2 year project, led by Dr. Marvin Pritts, Small Fruit Horticulturist and Berry Crop Nutrition Specialist and funded by the North East Sustainable Research and Education program (NE SARE), began in September 2011 to provide in-depth berry crop nutrition and soil management training and resources for ag educators and the commercial berry growers they serve. Year one of the project is focusing on helping ag educators build berry crop nutrient and soil management expertise through 1) a series of 12 in depth webinars and case study learning modules on the subject and 2) development of internet resources to be used by educators in grower training. Year 2 of the project will focus on assisting ag educators to 3) develop and implement grower training programs and 4) carry out one-on-one consultations with participating growers. Year 2 will also involve educators in monitoring adoption and success of analysis-based berry crop nutrient and soil health management by growers.

A whole farm soil and nutrient management decision tool for commercial berry crops will be developed from existing resources. This tool, along with accompanying ag educator and commercial grower training materials, made available via an internet web site, will provide a “one-stop-shop” resource for ag educators interested in building skills or providing training and/or commercial berry growers interested in improving berry crop soil and nutrient management. Soil and nutrient management principles and practices gained through this project will have application to other crops currently or in the future.

The project goal is for fifty educators from across the Northeast to participate in an in depth webinar series to expand their expertise in berry crop nutrient and soil management; of those, 15 will develop and deliver outreach programs on the same, reaching 150 berry growers who manage a total of 750 acres of berry crops; 50 growers will participate in preliminary soil, nutrient and soil health testing, receive one-on-one assistance with interpretation of results, and implement analysis-based fertilization and soil health management practices on farm.

**Progress to Date:**

Registration for the series met with excellent response; 70 are registered and participating to date. The ag educator webinar series began on 9/30/11 with an introductory webinar on the project. The initial 2 webinars aired in the weeks immediately following and feedback has been good. Additional webinars are slated for the first 2 Fridays of each month through March 2012. All webinars are being recorded for later viewing/reviewing. Table 1 shows numbers of participants from various states and Canada.

Of the registered educator participants 48 are associated with a college or university; 12 are associated with a government agency, 40 are involved in extension activities, 8 are associated with USDA NRCS, 3 are associated with organic production/producers, and 7 are associated with other enterprises.

Occupations of participants include: Extension & ag educators, Professors, Instructors, Soil conservationists, Conservation agronomists & planners, Consultants, Horticulture, Research, IPM & Extension specialists, Scientists, District managers & conservationists, Technical advisors, Program coordinators, Water stewardship & Soil conservation technicians, Outreach coordinators, Program leaders, and Environmental biologists & engineers.

Their fields of professional expertise include: Commercial agriculture & horticulture, Animal husbandry, Pest management, Farm business management, Postharvest technology, Natural resources, Environmental compliance, Consumer horticulture, Conservation technology, Plant pathology, Sustainable agriculture, Agronomy, Land protection, Pesticide education, Soil management, Best management practices

**Table 1: Berry Crop Soil and Nutrient Management Webinar Participants by Location.**

Project success will be measured by documenting educator and grower expertise in soil management before and after participating in the project to monitor changes. Throughout the project and in subsequent years, we will monitor adoption and success of analysis-based berry crop nutrient and soil management by commercial berry growers participating in the project.