Crop Rotation in Organic Production

Crop rotation is an important cultural practice that is recommended in all agricultural production. In certified organic production, crop rotation is mandatory. In the National Organic Plan rules crop rotation is defined as:

"The practice of alternating the annual crops grown on a specific field in a planned pattern or sequence in successive crop years so that crops of the same species or family are not grown repeatedly without interruption on the same field. Perennial cropping systems employ means such as alley cropping, intercropping, and hedgerows to introduce biological diversity in lieu of crop rotation."

In addition sections of the rules that specifically address crop rotation include:

205.203 Soil fertility and crop nutrient management practice standard.

(b) The producer must manage crop nutrients and soil fertility through rotations, cover crops, and the application of plant and animal materials.

205.205 Crop rotation practice standard.

The producer must implement a crop rotation including but not limited to sod, cover crops, green manure crops, and catch crops that provide the following functions that are applicable to the operation:

(a) Maintain or improve soil organic matter content;
(b) Provide for pest management in annual and perennial crops;
(c) Manage deficient or excess plant nutrients; and
(d) Provide erosion control.

Crop rotation specifically addresses changing the crop on the same field in different years. At a minimum the standard requires different crops over two years. There has been some confusion with organic onion production in which some have suggested that a summer cover crop is a sufficient rotation. This is not the case since the cover would be in the same crop season. Although a two year rotation meets the
specific requirements of the rules, to garner the full benefit of crop rotation a minimum of three years would be needed. In fact rotation schemes that use 5, 7, or even longer rotations have been used.

Crop rotation is known to have benefits specifically with controlling soilborne diseases and improving overall soil fertility. No soil can be cropped to the same crop year after year without depleting that soil. Current practices in conventional production allow continued monoculture because of the constant addition of inputs (i.e. conventional fertilizers, fumigants, etc.). One of the purposes of organic production is to increase sustainability through the reduction of off-farm inputs such as conventional fertilizers and other chemicals.

**Shade Grown Pepper May Improve Yield and Quality**

Last summer we conducted research on using shade cloth to grow both tomato and pepper. It did not appear to have any affect on the tomatoes and in any case they were heavily infected with a virus. In the peppers there was an interaction effect between pepper variety and shade. We had two pepper varieties planted, Heritage, which has Tomato Spotted Wilt Virus resistance and Polaris, which does not. The shade effect was only apparent in the Polaris (S) variety. The peppers under shade appeared to have larger leaves and grew taller. There also appeared to be less sunscald with the peppers under the shade. Several years ago while investigating wavelength selective plastic, I noticed that pepper seedlings grown under shade had much better growth. These results are encouraging and we plan to repeat the study. Shade may prove to be a method to increase yield and quality in pepper production.

**Vidalia Onion Field Day**

The Vidalia Onion Field Day is quickly approaching. This event will be held on April 3, 2008 from 12:00 - 3:00 p.m. at the Vidalia Onion and Vegetable Research Center. There will be sponsored lunch at noon followed by visits to the field plots.

There are a number of experiments in the ground with onions this year including the largest variety trial we've ever had. There are experiments with fertility, insect and disease control, organic onion production, and weed control. We are in the process of building a new facility at this location and it should be near completion by the time of the field day. Please make an effort to attend and encourage your growers to attend as well.

**From My Desk**

Time got away from me after the first of the year. It seems like its been non-stop since the Christmas holiday. I've been to Texas for the Amer. Soc. of Hort. Sci Southern Region meeting, the Georgia Organics Conference in north Georgia, the
Fruit and Vegetable Grower Assoc. Conference in Savannah, and I just got back from Washington D.C. where I served on the Integrated Organic Program panel. Its already March and this is the first newsletter of the year, so its listed for January and February. I hope to have another out by the end of the month, but onion harvest is fast approaching and I’m trying to get the summer crops in the ground before we start on the onion harvest. Talk to you next month.

Regards,

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