To mulch or not to mulch, that is the question. Growers who are planting blueberries on heavier soils than those found in the Pine Barrens of New Jersey realize that highbush blueberries require a soil with a high organic matter content. To that end, the standard recommendation to increase the organic matter of the blueberry planting is to put peat moss or some other composted material in the planting hole to get the blueberry plant off to a good start and to apply a mulch around the base of the plants on a yearly basis to increase the organic matter of the soil. This recommendation along with diligent pH monitoring has resulted in successful highbush blueberry plantings in non-traditional blueberry soils. The use of mulch in blueberry culture is a given on these soils, however, there are good mulches and bad mulches, advantages and disadvantages to mulch and the question is being asked, should growers in New Jersey with classic blueberry soils mulch.

Many different materials have been tested as a mulch around the world. In general, suitable mulches include grass clippings, peat moss, buckwheat hulls, shredded leaves, straw, wood chips, and sawdust. Some of these are better than others however. Peat moss and buckwheat hulls are very expensive. The use of grass clippings has occasionally resulted in phytotoxicity due to herbicides in the grass. In addition, fresh clippings can raise the temperature of the root zone as they break down. Straw can release nitrate nitrogen and decrease the ammonium form in the blueberry root zone. Lastly, leguminous hay can be bad because it releases nitrogen in the fall which can delay the blueberry plant from entering dormancy. The result is an increase in winter damage.

There can be other disadvantages to using mulch in a blueberry field. Mulch ties up Nitrogen, and often plants tested for nitrogen levels via leaf analysis show deficiencies. The use of mulch often requires an increase in fertilizer application rates. The problem comes in making a guess as to how much to increase the rate. This largely depends on the kind of mulch used and the degree to which it is decomposed. A leaf analysis should give the grower some indication of the amount needed to provide the optimum level of nitrogen.
In addition to increased nitrogen costs, there are the added costs of the mulch and its’ application. The process can be mechanized however such equipment is costly and may not be cost effective for a small operation.

Other problems which have surfaced with mulching are the increased problems with mice and voles. Both find the mulch a very suitable place to live and they can damage blueberry plants.

Lastly, the problem of scab beetles increases when mulch is used, again because mulch is very suitable for their life cycle. Farms that experience Japanese, Oriental or Asiatic Beetle grub problems must realize that the problem may become worse with the use of mulch.

That’s all the bad news. There are many advantages of using mulch in a blueberry planting. I have already mentioned that mulching increases the organic matter of the soil and blueberries thrive when the organic matter is high. Mulch also lowers the root zone temperature in the summer and keeps the roots warmer in the winter. Both are excellent for healthy roots. The increase in organic matter also results in an increase in soil moisture which is beneficial in times of drought.

I have been skeptical about New Jersey growers using mulch. I really couldn’t see the reason given the added costs and all the disadvantages listed above. After all, our soils have all the characteristics needed by highbush blueberries, low pH, high organic matter, well drained, etc. However, after looking at the soil analysis results over the last 10 years I realize that our soils have changed. We fertilize with 10-10-10 which contains nitrogen in the ammonium sulfate form. Years of using this form drives the pH down. So soils that were historically 4.5 are now 3.5. The pH must be adjusted to the correct range. In addition, I have noticed that due to our practice of roto-tilling the middles for weed and pest control, we have lowered the organic matter levels in the soils. The use of mulch may very well be a good practice in New Jersey. I would just warn growers to be aware that there are pluses and minuses to mulching.

Insects

Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University; Dean Polk, IPM Agent, Rutgers Cooperative Extension; Amy Raudenbush, Fruit IPM Program Associate, Rutgers Cooperative Extension

Cranberry Weevil (CBW): Cranberry weevil activity has decreased over the past week. We are still finding CBW; however at very low numbers. Bloom is now occurring and bees are present in the fields so no treatment applications can be made.

Plum Curculio (PC): Our first capture of adult PC was on Monday April 20th. We continue to find adults in low numbers in Burlington and Atlantic counties. Maximum count was 0.4 adult PC per site. There are no chemical controls targeting the adult PC during bloom.

Leps. and other larvae: One sample was seen in Atlantic county with the presence of cutworm.

<table>
<thead>
<tr>
<th>Insect counts April 25 to May 1, 2015</th>
<th>CBW</th>
<th>PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max average per bush</td>
<td>5.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Min average per bush</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>% positive sites</td>
<td>55.6</td>
<td>13.0</td>
</tr>
<tr>
<td>% of sites above threshold (5 CBW/bush)</td>
<td>1.59</td>
<td>n/a</td>
</tr>
</tbody>
</table>
Food Safety Equipment Loans Available
Wes Kline, Rutgers University

Attached to this newsletter is a fact sheet from the Farm Service Agency on the Farm Storage Facility Loan Program. This program has expanded to include food safety-related equipment. This includes most things you would need to upgrade a packinghouse (graders, sizers, washers, cold rooms, cement flooring, etc.). If you are thinking about upgrading your equipment contact the FSA office – 1318 South Main Rd., Building 5, Suite A, Vineland, NJ 08360; Tel 856-205-1225.

Sanitizers in the packinghouse

There seems to be some confusion as to the difference between cleaning a packing house and using a sanitizer. Cleaning is the physical removal of dirt from surfaces by using clean water and soap or detergent. Water does not have any sanitizing properties! Sanitizing is the treatment of a clean surface with a sanitizer such as chlorine, Quaternary Ammonium, peroxyacetic acid, etc. to reduce or eliminate microorganisms. Remember you cannot sanitize a dirty surface! Cleaning always comes first! Remember, when using a sanitizer, to read the label. Soap or detergents normally need to be rinsed off before applying a sanitizer. You should set up a cleaning schedule for packing lines, floors, ceilings, walls, light fixtures, etc.

Postharvest water used to wash produce in a packinghouse must be potable. If a dump tank is used, a sanitizer must be added to the water. The sanitizer is not meant to “sanitize” the product, but to prevent the spread of contamination. It only takes one fruit that is contaminated with a pathogen to spread in the water. There are several sanitizers that can be used on produce. The most common and affordable is chlorine. Others include peroxyacetic acid, hydrogen peroxide, etc. There are both organic and non-organic products available. All water sanitizers must be monitored and the information recorded. Remember to read the label and follow directions on monitoring the products.
Farm Storage Facility Loan Program

OVERVIEW

The U.S. Department of Agriculture (USDA) Farm Service Agency (FSA) Farm Storage Facility Loan Program (FSFL) provides low-interest financing for producers to build or upgrade farm storage and handling facilities. FSA is authorized to implement the program through the USDA Commodity Credit Corporation (CCC).

The maximum loan amount is $500,000 per loan request. Loan terms are seven years, 10 years or 12 years depending on the amount of the loan. Each applicant will be charged a nonrefundable $100 application fee.

ELIGIBLE COMMODITIES

The following commodities are eligible:

- Corn, grain sorghum, rice, soybeans, oats, peanuts, wheat, barley or minor oilseeds harvested as whole grain;
- Corn, grain sorghum, wheat, oats or barley harvested as other-than-whole grain;
- Pulse crops - lentils, chickpeas and dry peas;
- Hay;
- Honey;
- Renewable biomass;
- Fruits (includes nuts) and vegetables - cold storage facilities

ENVIRONMENTAL EVALUATION REQUIREMENTS

These loans must be approved by the local FSA state or county committee before any site preparation and/or construction can be started.

All loan requests are subject to an environmental evaluation. Accepting delivery of equipment, starting any site preparation, or construction before loan approval, may impede the successful completion of an environmental evaluation and may adversely affect loan eligibility.

ELIGIBLE FACILITIES AND UPGRADES

The following types of facilities and upgrades are eligible and must have a useful life of at least 15 years:

- New conventional cribs or bins;
- New oxygen-limiting structures and remanufactured oxygen-limiting structures;
- New flat-type storage structures;
- New electrical equipment and handling equipment, excluding the installation of electrical service to the electrical meter;
- New safety equipment, such as interior and exterior ladders and lighting;
- New equipment to improve, maintain or monitor the quality of stored grain;
- New concrete foundations, aprons, pits, and pads, including site preparation, off-farm labor and material, essential to the proper operation of the grain storage and handling equipment;
- Renovation of existing farm storage facilities, under certain circumstances, if the renovation is for maintaining or replacing items;
- New permanently affixed grain handling and grain drying equipment determined by CCC to be needed and essential to the proper operation of a grain storage system (with or without a loan for the storage facility);
- New structures that are bunker-type, horizontal or open silo structures, with at least two concrete walls and a concrete floor;
- New structures suitable for storing hay built according to acceptable design guidelines;
- New structures suitable for storing renewable biomass;
- New cold storage buildings, including prefabricated buildings that are suitable for storing fruits and vegetables. Also may include permanently affixed cooling, circulating and monitoring equipment and electrical equipment including labor and materials for installation of lights, motors and wiring integral to the proper operation of a cold storage facility.
Expanded provisions for fruits and vegetables include the following:

<table>
<thead>
<tr>
<th>baggers</th>
<th>electrical equipment</th>
<th>roller spray units</th>
</tr>
</thead>
<tbody>
<tr>
<td>boxers</td>
<td>food safety-related equipment</td>
<td>safety equipment meeting</td>
</tr>
<tr>
<td>brush polishers</td>
<td>fruit/vegetable conveyors</td>
<td>Occupational Safety and Health Administration requirements</td>
</tr>
<tr>
<td>bulk bin tippers</td>
<td>fruit and/or vegetable hoppers</td>
<td></td>
</tr>
<tr>
<td>case palletizers</td>
<td>hydrolifts</td>
<td></td>
</tr>
<tr>
<td>cement flooring</td>
<td>hydrocoolers</td>
<td></td>
</tr>
<tr>
<td>circulation fans</td>
<td>ice machines</td>
<td></td>
</tr>
<tr>
<td>cold dip tanks</td>
<td>quality graders</td>
<td></td>
</tr>
<tr>
<td>drying tunnels</td>
<td>refrigeration units or systems</td>
<td></td>
</tr>
<tr>
<td>dumpers</td>
<td>roller creepfeeders</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- Scales, portable equipment, used bins and used equipment are not eligible for financing.
- Facilities built for commercial purposes and not for the sole use of the borrower(s) are not eligible for financing.

**ELIGIBILITY REQUIREMENTS**

An eligible borrower is any person who is a landowner, landlord, leaseholder, tenant or sharecropper. Contact the FSA office for more details.

**WHERE TO FILE THE APPLICATION**

Loan applications should be filed in the administrative FSA office that maintains the farm's records.

**MORE INFORMATION**

For more information about FSA programs, contact your local FSA office or USDA Service Center at http://offices.usda.gov.

The U.S. Department of Agriculture (USDA) prohibits discrimination against its customers, employees, and applicants for employment on the bases of race, color, national origin, age, disability, sex, gender identity, religion, reprisal, and where applicable, political beliefs, marital status, familial or parental status, sexual orientation, or all or part of an individual's income is derived from any public assistance program, or protected genetic information in employment or in any program or activity conducted or funded by the Department. (Not all prohibited bases will apply to all programs and/or employment activities.) Persons with disabilities, who wish to file a program complaint, write to the address below or if you require alternative means of communication for program information (e.g., Braille, large print, audio tape, etc.) please contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). Individuals who are deaf, hard of hearing, or have speech disabilities and wish to file either an EEO or program complaint, please contact USDA through the Federal Relay Service at (800) 877-8339 or (800) 845-6136 (in Spanish).

If you wish to file a Civil Rights program complaint of discrimination, complete the USDA Program Discrimination Complaint Form, found online at http://www.ascr.usda.gov/complaint_filing_cust.html, or at any USDA office, or call (866) 632-9992 to request the form. You may also write a letter containing all of the information requested in the form. Send your completed complaint form or letter to U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, by fax (202) 690-7442 or email at program.intake@usda.gov.

USDA is an equal opportunity provider and employer.
May 4, 2015

BLUEBERRY BULLETIN

If you have any comments about this newsletter, please make them in the space below and mail to:

Dr. Gary C. Pavlis, County Agricultural Agent
Rutgers Cooperative Extension of Atlantic County
6260 Old Harding Highway, Mays Landing, NJ 08330

I would like to see an article on the following subjects:______________________________________________________

I would like to comment on the following articles:__________________________________________________________

Title:_____________________________________________ Date:_____________________________________________

Comment:________________________________________________________________________________________
________________________________________________________________________________________________

The Blueberry Bulletin
Weekly Newsletter
Published By
Rutgers Cooperative Extension of Atlantic County
6260 Old Harding Highway, Mays Landing, NJ 08330
Phone: 609/625-0586, Fax: 609/625-3646
E-mail: pavlis@njaes.rutgers.edu
http://www.njaes.rutgers.edu/pubs/blueberrybulletin
Dr. Gary C. Pavlis, County Agricultural Agent
Editor - The Blueberry Bulletin
Sharon Ponzetti, Secretary
E-mail: ponzetti@njaes.rutgers.edu