



Newsletter

Extension

Volume 3, No. 7
March 10, 1999

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Calendar

March 19: Raspberry School, Rosby's Berry Farm & Greenhouse, 50 E. Schaaf Rd., Brooklyn Hts., OH, 5:30 P.M. Millcreek Row Mulcher demonstration, herbicide application update with Dr. Richard Funt. Receive « hour of ODA pesticide credits. For more information and to RSVP call Charles Behnke at (440) 322-0127. \$5.00 registration per family payable at the door.

March 23-24: Kentucky Farmers Direct Marketing Conference, Capital Plaza Holiday Inn, 405 Wilkinson Blvd., Frankfort. The conference will feature workshops on beginning and expanding farmers' markets, value added products, agritourism, business plans, regulations, direct marketing, livestock, and aquaculture. Contact Alason Duncan (606) 233-7845.

Raspberry Freeze Damage Symptoms

Paulina Palonen, Department of Plant Production, University of Helsinki

According to my experience, browning in the pith behind the bud indicates slight frost damage, which will not hinder growth severely. Buds will probably grow next summer, depending on weather conditions in the beginning of the season; cool and wet conditions are favorable for recovery. More severe frost damage is expressed as browning of the vascular tissue at bud base, browning of floral primordia, and, finally, browning of leaf primordia. Even buds with dead floral primordia may start growing and developing leaves in spring, but these will wither as soon as drought or heat stress occurs, since bud vascular tissue does not function properly.

Frost damage is usually assessed by visual observation of injuries after a severe winter. Alternatively, frost hardiness can be assessed in a lab by artificial freezing of the plants followed by assessment of injuries, either visually, with electrolyte leakage test or TTC test. For further information on this, see review article: Palonen & Buszard. 1997. Current state of cold hardiness research on fruit crops. *Can. J. Plant Sci.* 77: 399-420. (Source: Small Fruit email newsgroup posting 2/1/99smallfruit@mail.orst.edu). Forwarded by Sonia Schloemann, Massachusetts Berry Notes, Feb. 1999

Raspberry Pruning Review

David Handley, University of Maine Cooperative Extension, Vegetable and Berry News, No. 1, Jan. 1999.

Raspberries should be pruned every year. The bulk of the pruning should be done during the late winter or early spring. Some growers remove the fruiting (2 year-old) canes shortly after harvest to encourage growth of the new canes, which will fruit next season. However, recent research has suggested that it is better to leave the old canes until late in the fall or winter, because they provide carbohydrates to the crown of the plant that will be used by the new canes.

Prune out all the canes that fruited the previous summer. Prune out any first-year canes that emerged outside of the desired 1 1/2 ft. row width or show signs of insect or disease injury. Thin the remaining canes in the row, leaving only those with the greatest height and basal diameter, until the desired cane density of four to five canes per foot of row length is attained. Attach the remaining canes to the trellis wires and remove all of the prunings from the field. (These may harbor diseases and insect pests.)

Forwarded by Sonia Schloemann, Massachusetts Berry Notes, Feb. 1999

IPM Success Story: NY Berry Growers Promote IPM

Source: Gempler's IPM Solutions, January 1999

A dedicated group of berry growers in New York State is committed to using the latest IPM methods to produce high quality fruit that minimizes pesticide use. The New York Berry Growers Association's IPM Program "puts growers in a proactive position -- it shows what they can do to protect our environment and minimize the use of pesticides," association Executive Director Frank Wiles says.

"In New York State there is no large distribution center for berries. The majority of growers are selling directly to the public. Consumers are interested in supporting environmentally correct practices. It makes economic sense, and supports New York agriculture. It helps us compete with berries grown in other states. Think how badly we would feel if another state shipped berries into New York that were IPM grown," Wiles says.

The program, initiated with the help of a grant from EPA's Pesticide Environmental Stewardship Program (PESP), currently involves 27 berry growers. The association worked closely with Cornell University's IPM staff to develop IPM-related "elements" in such areas as pest management, soil management, and pre-plant practices. Growers achieving 70 percent of the element (or IPM-related practice) points are certified as IPM berry growers.

"We have a certifier (former New Jersey IPM Program Coordinator Don Prostack) who visits growers. This is very important," Wiles says. Prostack reviews the elements with the growers prior to harvest season, answers their questions, helps with record keeping, and verifies whether the growers have achieved at least 80 percent of the points.

In the future, Wiles hopes to interest more New York State berry growers in the program, further market the efforts to consumers, and develop a "benchmark - a reference point - to see if this does work," he says.

Forwarded by Sonia Schloemann, Massachusetts Berry Notes, Feb. 1999

Small Fruit Plant Source List Available from Cornell Cooperative Extension

Cornell Cooperative Extension has just completed an update of a source list for small fruit plant varieties. This excellent resource included a list of 41 nursery sources (including email addresses where available) cross-referenced to a list of small fruit crop varieties (40 strawberry varieties, 26 highbush blueberry varieties, 39 summer and fall raspberry varieties, 8 blackberry varieties, loads of currants and gooseberries and other assorted fruit like lingonberries, saskatoons, elderberries, and kiwi fruit). This list can be obtained by downloading it from the internet at <http://www.fvs.cornell.edu/ExtnServ/MPP/Nurserylist.html>.

Forwarded by Sonia Schloemann, Massachusetts Berry Notes, Feb. 1999

Bumble Bee as an Alternative

Connie Stubbs, University of Maine Wild Blueberry Newsletter, Jan., 1999

Bumble bees are a very good alternative to honey bees for wild blueberry pollination. Research conducted by Connie Stubbs and Frank Drummond, Biological Science Department, University of Maine, indicate that the commercially available bumble bee, *Bombus impatiens*, is an excellent pollinator of wild blueberries.

Field observations of the commercial bumblebee and honeybee indicate that the bumblebee forages on blueberry even in moderately-heavy rain, whereas the honeybee does not. Bumble bees also start foraging earlier in the morning and visit flowers at cooler temperatures than honeybees.

Stubbs and Drummond conducted a 3-year study (1996-1998), which compared pollination efficiency at different stocking densities of bumblebees to the "recommended" stocking density of 3 honeybee hives per acre. Stubbs and Drummond found that stocking bumble bees at 3 colonies per acre produced significantly higher fruit set than stocking with honeybees. Percentage fruit set was 73% for *Bombus impatiens* versus 49% for honeybees. Also, significantly more berries were harvested from counted flowers on marked stems in fields with bumblebees. The percentage of flowers that produced harvestable berries was 41% in fields with bumble bees as compared to 26% in fields with honeybees. Berry weights were similar for the two species. For bumble bees, the average berry weight was .48 grams and the average seeds per berry was 38.7. For honeybees, the average berry weight was .46 grams and average seeds per berry was 39.1.

In 1998, the average price of honeybee hives was \$50, which was an increase of \$10-14 per hive from 1995. The bumble bees for field pollination are sold in units of 4, termed "quads" because each quad contains 4 colonies. In 1998, the price per bumble bee colony, if purchased in bulk (50 quads or more), was \$70 to \$280 per quad.

Forwarded by Sonia Schloemann, Massachusetts Berry Notes, Feb. 1999

Highbush Blueberry Pruning Review

David Handley, University of Maine Cooperative Extension, Vegetable & Berry News, No. 1, Jan. 1999

Blueberry bushes should be pruned every year to keep them producing high yields of good quality fruit. Prune the plants when they are fully dormant, during the late winter or early spring (January - March). For the first two years after planting, simply remove any dead branches and all weak, spindly growth.

For plants that have been established for three years or more, follow these steps:

Prune out any weak, low-growing or diseased canes. Prune out all canes that are over six years old (these are usually the thickest canes, which are gray in color with peeling bark). Blueberry canes tend to be less productive once they get more than six years old and should be pruned out in favor of younger, more productive canes. Cut the old canes to the ground level unless new cane growth has been sparse, in which case leave a four- to eight-inch stub above the ground. New canes may sprout from these stubs. Thin the remaining canes, leaving those with the most vigorous shoot growth (long, thick branches with fruit buds). Leave six to seven vigorous two- to five-year-old canes and two or three one-year-old canes per bush. A mature blueberry plant should have six to 10 healthy canes varying in age from one to six years old. Remove any weak fruiting branches on the remaining canes, especially those under six inches in length. Most fruit is produced on vigorous one-year-old shoots on healthy two- to five-year-old canes. The fruit buds on these shoots are large and tear-drop-shaped. Each bud will produce a cluster of five to eight flowers. The shoots also have smaller, pointed buds that will produce leaves.

Forwarded by Sonia Schloemann, Massachusetts Berry Notes, Feb. 1999

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Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Keith L. Smith, Director, Ohio State University Extension.

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