

Cornell Fruit Resources Web Site- Your Gateway to Electronic Berry Information

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Berry production information at Cornell is only a click away! Just point your internet browser to the **Cornell Fruit Resources Page** (www.fruit.cornell.edu). This web site is the gateway to electronically based fruit information at Cornell. The fruit resources page is organized by fruit commodity and includes links leading to tree fruit, grape, and berry pages (Figure 1).

Sidebar links include the NY State IPM program, regional programs, other

Cornell sites, and a calendar of fruit-related events. From each commodity page you can navigate to information on all aspects of fruit production from pre-plant site selection and preparation to harvesting, marketing, and value-added products. You may also access other fruit-related links, web sites, and information both at Cornell and around the country.

"Berries" takes you to the berry homepage (<http://www.fruit.cornell.edu/berry.html>) where you can navigate to

any one of fourteen menu pages linking to comprehensive berry production content in both html (web page) and print-friendly PDF formats (Figure 2). Again, the information is grouped by commodity – a sort of "one-stop" shopping experience for the small fruit grower. Crops listed here include: 1) blueberries, 2) strawberries, 3) brambles (raspberries and blackberries), and 4) specialty fruit such as ribes (currants, gooseberries, jostaberries), beach plums, aronia and elderberry, persimmon and pawpaw, hawthorns and medlars, hardy kiwi, and mulberries.

Cornell Fruit Resources (www.fruit.cornell.edu) is the gateway to electronically based fruit information at Cornell University. One click on the "Berries" button takes you on a sort of "one-stop" shopping experience for the small fruit grower. The Cornell berry site is open for business 24/7 and just about anything you might want to know about small fruit production may be found here or accessed from this site.

Much of the content comes from the "Berry Crops, Culture and Management" course taught by Dr. Marvin Pritts at Cornell University, not previously accessible to the general public. Other content is drawn from articles published in *The New York Berry News*, Cornell's monthly online berry newsletter. Additional content includes research and extension publications from small fruit faculty and staff.

Sidebar links include the Cornell berry team, county or regionally based small fruit programs, the pest management guidelines for berry crops, the small fruit nursery guide, upcoming small fruit-related events and product label alerts. The site also provides links to small fruit newsletters, grower organizations and on line berry information from other states.

What's on the menu tonight?

Just about anything you might want to know on small fruit production may be found here or accessed from this site. Here's just a taste:

General production page features information that applies to most or all small fruit commodities such as site and soil requirements, pollination, maintaining drip irrigation systems, nutrient and soil analysis and more.

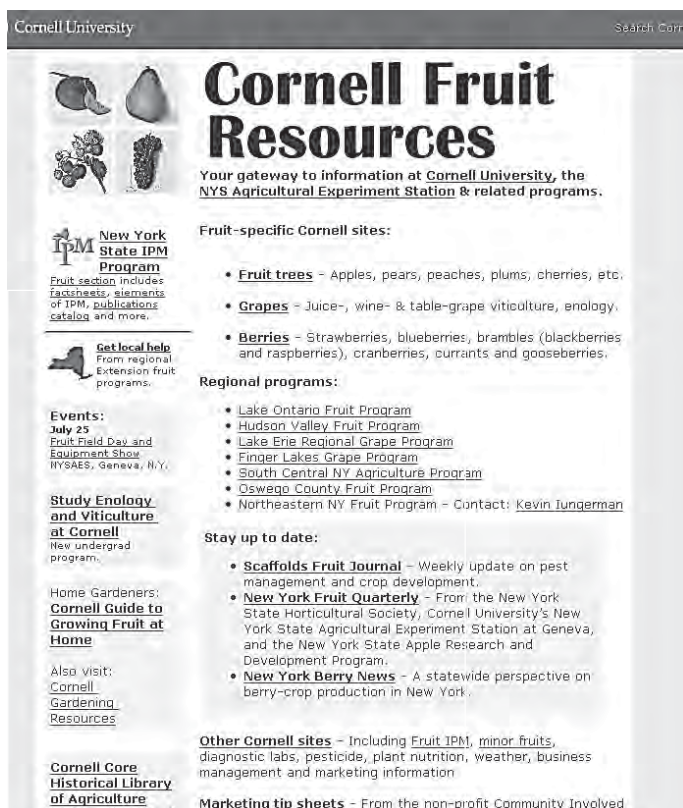



Figure 1. Cornell Fruit Resources Home Page

Cornell University



Cornell Fruit Resources Berries

Blueberry Pruning and Rejuvenation

Dr. Marvin Pritts, Department of Horticulture, Cornell University's College of Agriculture and Life Sciences, Ithaca, NY 14853

Introduction

Regular pruning is an essential component of blueberry management, yet its importance is often misunderstood because the costs to the neglectful grower are not immediate. Pruning is required to maintain the vigor and productivity of bushes, to aid in disease and insect management, to maintain large fruit size and quality, and to develop an appropriate growth habit for harvesting.

A young blueberry plant will produce many canes for the first several years. Cane production will gradually slow as bushes become tall. Yields will decrease because of the absence of new growth on which flower buds will form. An increasing amount of leaf area will be required to satisfy the respiratory demands of both the fruit and wood. Furthermore, light penetration into the canopy will diminish, resulting in a shift of fruit production to the exterior of the bush, causing a decrease in bearing surface. Appropriate pruning practices can maintain a blueberry bush in an efficient and productive state, without the detrimental changes described.

Navigation:

- Cornell Fruit Main Page
- Berries Main Page
- Printer-friendly .pdf file
- Topics on this page:
 - Introduction
 - Selecting canes for removal
 - Time of pruning
 - Pruning young bushes
 - Mature bushes
 - Regularity of pruning
 - Detailed pruning
 - Rejuvenation
 - Summary

BLUEBERRY PRUNING AND REJUVENATION

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(For more information visit www.fruit.cornell.edu)



Introduction

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A young blueberry plant will produce many canes for the first several years. Cane production will gradually slow as bushes become tall. Yields will decrease because of the absence of new growth on which flower buds will form. An increasing amount of leaf area will be required to satisfy the respiratory demands of both the fruit and wood. Furthermore, light penetration into the canopy will diminish, resulting in a shift of fruit production to the exterior of the bush, causing a decrease in bearing surface. Appropriate pruning practices can maintain a blueberry bush in an efficient and productive state, without the detrimental changes described.

Selecting canes for removal

When selecting canes for removal, first look for any winter-injured or broken canes, or canes with disease and insect damage. If injury is severe, remove that particular cane. Cankers and scales are common pests that can be partially controlled through pruning. Second, remove any cane that is rubbing against another to prevent canker infections. Third, remove those that are interfering with movement through the alley. Aim for a plant with an upright growth habit, yet with a sufficiently open canopy to allow for light penetration. Mechanically harvested bushes should be trained to a more upright habit and narrower crown than those that are hand harvested. Finally, remove short, branched canes that never receive much light. If these canes produce fruit, it will ripen late and will rarely be harvested.

Care should be taken to remove canes as close to the crown as possible. Do not leave 6 to 8 inch stubs. These will rot and act as a source of disease inoculum.

Figure 2. Berry information pages are available in both html and PDF formats.

General Integrated Pest Management (IPM) page details environmentally sound pest management practices for small fruit crops and other general topics such as sprayer selection, calibration and maintenance.

Commodity production pages bring together production information on specific crops – strawberries, blueberries, brambles and specialty fruit. Commodity-specific topics may include site preparation, cover crops, cultivar selection, pruning, training, soil, nutrient and water management, and organic production.

Commodity IPM pages focus on information to help you manage diseases, insects, mites, weeds and wildlife for a particular small fruit or group of small fruits.

Business, Marketing, and Labor Management page includes articles and links to information on business manage-

ment, general and small fruit-specific marketing, labor management and links to other related sites

Post-Harvest Handling, Storage, and Food Safety page provides links to the post-harvest information network, the post-harvest technology research and information center, GAP's (Good Agricultural Practices program) USDA food safety and inspection service, and other related topics and sites.

And now for some dessert!

Additional small fruit resources are accessible from the berry pages. Some were developed originally for small fruit growers by faculty and staff at Cornell as hard copy publications and converted to electronic files. Others were initially developed in electronic format. The site also links to other related Cornell small fruit sites:

Cornell Pest Management Guidelines for Berry Crops is an annually updated publication that brings together the latest information on small fruit pest management. Several Cornell faculty and staff contribute to this publication, now available in both paper and electronic versions. This guidelines series was initially produced by Cornell Cooperative Extension and now is being managed by the Cornell Pesticide Management Education Program. It is housed on their IPM guidelines web site (<http://ipmguidelines.org/>). Links to this excellent resource are scattered throughout the berry pages.

Small Fruit Nursery Guide provides cultivar listings with nursery cross-referencing for strawberries, blueberries, brambles, ribes and other small fruit. It also includes a corresponding nursery listing and contact information. These listings are updated annually from catalogs and information provided by participating nurseries. The nursery guide is available free of charge to both nurseries and growers.

Berry Diagnostic Tool serves as companion to NRAES Production Guides for small fruits (blueberries, strawberries and brambles). The diagnostic key with photos walks a grower through simple steps to help identify potential berry crop problems, such as diseases, insects, nutritional problems, herbicide injury etc. It also includes links to diagnostic keys for blackberries and ribes. The diagnostic key is accessible from links on several of the berry

TABLE 1

Organization of pages and menus.

Crop Production Pages

- Site Selection & Preparation
- Cultivar Selection
- Production
- Soil, Nutrient, and Water Management
- IPM (diseases, insects, weeds, and wildlife)
- Organic Production
- Other Resources
- Home Gardener's Corner

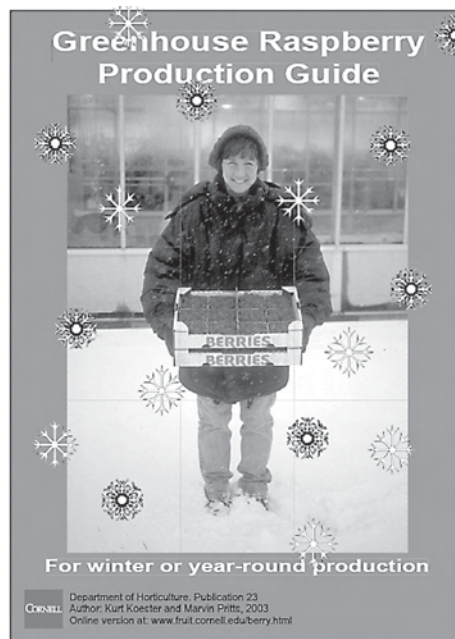
Production & IPM Menus

- General Information
- Blueberry
- Strawberry
- Brambles
- Specialty Fruit

menu pages. It is currently being updated and expanded from its original version. The new version should be available online for the 2008 growing season.

Greenhouse Raspberry Production Guide assists growers in producing raspberries during winter months when field production is not possible in New York State. This guide is based on research done at Cornell by Dr. Marvin Pritts and members of his research program. A companion to this publication, *Raspberry and Blackberry High Tunnel Production Guide*, will be available in fall 2007 and includes similar information generated through research done at Cornell and Penn State University. Bramble production under high tunnels further expands the production season for raspberries and blackberries in New York State through both early and late season extension. Both publications may be accessed electronically through the berry pages, or hard copies may be purchased from the Department of Horticulture at Cornell.

New York Berry News is a monthly electronic small fruit newsletter that includes a calendar of small fruit-related events, news briefs, in-depth articles, research reports, and weather reports. Accessible directly from the Tree Fruit and



Berry Pathology web page, New York Berry News is linked to from several berry pages.

Tree Fruit and Berry Pathology web site is under the direction of Dr. Kerik Cox, new assistant professor in the Department of Plant Pathology at NYSAES. Here may be found the latest information on disease identification and management, disease

prediction models, factsheets, articles, tools, links, and image galleries. Links are available to this site from berry IPM pages.

NYS IPM Program Fruit Resources page provides a plethora of small fruit IPM information and tools including Elements of IPM for Blueberry, Strawberry, and Raspberry, the Network for Environment and Weather Awareness (NEWA) weather data, growing degree day and predictive model information for diseases and insects, fruit fact sheets, PMEP crop profiles and TracBerry software.

Surf's up!

The berry site is open for business 24/7. Stop by anytime and check back often to see what's new. We hope you will find everything you are looking for. If not, drop us an e-mail or note to let us know. www.fruit.cornell.edu/berry.html

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