

PLANT & PEST ADVISORY

FRUIT EDITION \$1.50

DECEMBER 11, 2001



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Pruning Blueberries

Gary C. Pavlis, Ph.D., Agricultural Agent

Revised from The Blueberry Bulletin, November 5, 2001, Vol. XVII, No. 21.

New Jersey has approximately 8,000 acres of blueberries under cultivation and this is the primary crop for which I have extension responsibilities. Pruning continues to be little understood and poorly executed throughout the industry. In fact, it is rare to find two growers who prune the same. I would like to clear up a few misconceptions and try to outline a simple method of pruning blueberries.

The importance of pruning

Growers often feel that pruning is of little value because the effects of the practice are not immediately apparent or dramatic. However, blueberry researcher Phil Marucci stated many years ago that pruning was the most significant factor to influence the lack of increase in blueberry yield on a per acre basis over the last 30 years.

More recent research has revealed that young canes are more efficient fruit producers than old canes. In fact, canes which are 3 to 10 years old, allocate greater than 50% of applied water and fertilizer to fruit production. By the time a cane reaches 20 years of age, only 25% are allocated to fruit. (Water and fertilizer costs the grower money and there is no profit in the production of blueberry leaves.)

Additional research compared three pruning types on yield and fruit size. Plants were 1) regularly pruned in a moderate manner - one out of every six canes per cut out, 2) heavily pruned by removing 40% of all canes out every five years and 3) not pruned at all. The result was that the regular moderate pruning had the highest yield on the least number of canes. Research has also shown that as pruning increases, new cane production increases. These studies show us that young canes out-produce old canes, the removal of one out of six canes produces the right number of new canes and the highest yield and fruit weight is produced with regular moderate pruning.

How a blueberry plant grows

Each year, canes are initiated from the base of the plant. Each succeeding year, the cane produces laterals, laterals produce laterals and so on. Each year the lateral production on any individual cane decreases in diameter, or in other words, the wood becomes progres-

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sively twiggy. As wood becomes smaller, fruit size decreases. This is why we detail prune to increase fruit size.

How to prune

There are really 5 basic steps to keep in mind when approaching a bush to be pruned. 1.) Assess the plants overall vigor, is cane production adequate? 2.) Prune out all dead wood. 3.) Locate the oldest canes and prune out one of every six canes thus if the plant has twelve canes, remove two of the oldest. 4.) Prune out all low branches, which will never be picked and are a source for disease. 5.) Detail prune, i.e. remove as much twiggy wood as time allows.

Armed with these basics, we can now deal with the different plant situations that arise. First, pruning young plantings is to establish the plant to obtain full production as soon as possible. Thus, the first two years the procedure is to remove flower buds. Some growers cut off as much as the top half of the plant. This is really quite drastic. Rubbing off lower buds would be sufficient, however in a big operation it is usually less labor intensive to cut the top 3-5 inches off each cane which will remove most flower buds. Any weak twiggy growth should also be removed.

In year three, a small crop is possible but not the expense of stunting the plant. Usually 1-2 pints/bush is the optimum and fruit should only be on strong wood.

The fourth and fifth year twiggy growth must again be removed as well as any lateral canes which have developed. Fruit production can be increased but the amount is dependent on the number of new canes which were produced the preceding years, 3-5 canes/yr. is optimum.

The blueberry planting should be in full production by the sixth year though there are numerous variables which will influence this timing. The most important of these being proper pH and nutrition, water management and the crop to cane production balance.

Pruning strategies based on plant status

I do not believe there is a strategy for each variety though any one variety may fall into one of the following categories most of the time. For example, the variety Blueray often has a spreading or open habit in which canes tend to bend down to the ground. Plants of this type must be thinned to the 1 of 6 rule, however canes that are bent over also tend to produce an upright shoot. These canes should be pruned just above this upright shoot to produce a more erect plant. Other varieties that often fit into this category are Berkeley, Bluetta, Coville, Weymouth and Patriot.

Varieties such as Bluecrop, Collins, Darrow, Earliblue, Herbert, Jersey, Lateblue and Elliot often fall into the erect plant category. These plants become overly dense in the center which decrease's fruit bud

initiation. The pruning strategy for this category is to remove older central canes before all others.

When plants are overly vigorous, the primary strategy is to remove entire canes rather than spend time on detail pruning. This is done at least until the proper fruit to cane production balance can be established through nutrition and fruit production management. Varieties that are prone to this situation are Earliblue, Collins, Blueray, Herbert and Collins though any variety can potentially be overly vigorous.

Weak plants are treated in the opposite manner. The primary procedure is to detail prune rather than whole cane elimination. Varieties that are classically put into this category are Weymouth and Bluetta.

The method of pruning on a field that has been neglected for a long time and needs to be rejuvenated

This often comes up when a grower has purchased one of these fields. The most important step is to inspect the plants in the field for virus symptoms. Any plant showing these symptoms should be pulled out. The plant inspections must be done during the growing season because symptoms are most easily seen on the leaves. The next step is to completely prune everything down to the ground, a chain saw is the quickest and easiest method. This pruning is best done in late winter. An application of a 10-10-10 fertilizer should be made in early April, usually at a rate of 400 lbs. per acre. No crop will be harvested that year, however the following winter the canes should be thinned to approximately 12-16 canes per plant. A full crop can be harvested that year.

In summary, pruning correctly can 1) increase yield by producing more young canes, 2) increase fruit size by producing more strong wood, 3) decrease disease by removing dead wood and, 4) increase cane initiation because as pruning increases, cane number increases. Pruning costs money, but it will cost a grower more if it isn't done and it isn't done correctly.

Submitted by Jerome L. Frecon, Agricultural Agent. □

Plum Pox Virus and the Ontario Tender Fruit Industry

*Norman Lalancette, Ph.D., Specialist in Tree
Fruit Pathology*

Research and extension personnel from universities, federal, and state/provincial agencies recently met for an annual conference on plum pox virus (PPV) biology and eradication. Representatives from the US, Canada, Australia, and Europe attended the meeting, which took place during mid-November in St. Catharines, Ontario. Grower representatives from the fruit industry in both the US and Canada, and from the ornamental nursery industry in Canada also attended, providing valuable economic information on PPV impact. The meeting was also an opportunity for all participants to view firsthand agriculture in Ontario.

The Ontario Tender Fruit Industry includes growers raising peaches, nectarines, plums, and cherries. These stone fruit growers, along with grape growers, ornamental nurseries, and greenhouse growers (vegetables, flowers) constitute the bulk of Ontario agriculture on the Niagara peninsula. The majority of production for these industries occurs along a narrow "coastal plain" between Lake Ontario and an escarpment located inland. The region extends from Niagara Falls westward. This area is particularly favorable for agricultural production due to the effect of Lake Ontario on moderating winter temperatures.

The tender fruit industry, which consists of 700 growers operating 13,500 acres of orchards, employs a total of 12,000 full and part-time workers. A total of 8,500 of these acres consist of PPV susceptible peaches and nectarines, which translates into 1.6 million susceptible trees. Approximately 73% of the peaches are for fresh market, with the remaining 27% being cling peaches for processing. These values translate into annual crop values of \$32 and \$8 million dollars for fresh and processed fruit, respectively. (In contrast, the ornamental nursery industry value in Ontario is \$276 million per year.) A DelMonte canning plant is located on the peninsula and obtains most of its fruit from the Ontario producers. The vast majority of sales from the Ontario tender fruit industry (99%) are to the Canadian market.

In contrast to Pennsylvania, a very high density of stone fruit plantings exist in the Niagara peninsula PPV quarantine area. If the same eradication approach had been instituted in this region as in PA (i.e., removal of whole blocks and all trees within 500 meters), then an estimated 80% of the stone fruit industry would be immediately lost; very little local fruit would be available for the processing plant. Consequently, the Canadian

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Near Record Crops for 2001 in California

*Reprinted from In Agreement Newsletter, Vol. 14,
No. 4, November 2001.*

According to preliminary figures, packout for fresh California peaches, plums and nectarines in 2001 totaled 57,130,000 packages. This just misses the record production year of 1997 when 57,582,000 packages were produced. The year did see individual production records set for nectarines and for Summerwhite peaches and nectarines. Meanwhile, the peach crop was just shy of last year's production record and, although plums produced a larger crop than expected, they did not come close to the record crop of 17.3 million set in 1997.

For nectarines, this was the second consecutive year for a production record with the 2001 preliminary packout numbers showing 20,993,700 packages, which exceeds the record set last year which stood at 20,680,000 packages. Despite the high production figures for nectarines, market conditions remained good for most of the season, perhaps reflecting high consumer demand and lack of competition from other states.

Peaches just missed last year's record crop producing 21,347,200 packages compared to 21,412,000 in 2000. Market conditions were very rough for peaches beginning in early July, as the lateness of the season appeared to affect retail promotion schedules and excessive production in eastern states impacted supply.

Summerwhite peaches and nectarines continued their upward production trend with Summerwhite peaches producing 4,046,300 packages and exceeding last year's record of 3,268,000. Summerwhite nectarines produced a crop of 4,297,100 in 2001 surpassing the 3,737,000 packages produced in 2000.

Plums significantly exceeded the pre-season crop estimate set at 11.4 million packages ending the year with actual production of 14,790,600 packages. This was not a record for plums, but the crop did exceed production levels realized in any of the past three seasons. In fact, not since the record crop of 1997 has the plum industry had a crop that would be considered large. Market conditions were very tough for plums this year as volume exceeded estimates on most varieties and large quantities of small-sized plums impacted supply conditions.

The amount of Utility grade fruit packed this year was in line with last year with some 5 percent of the plums, 5.1 percent of the peaches and 5.4 percent of the nectarines being shipped as Utility grade.

All in all, most growers and shippers are characterizing 2001 as a difficult year for tree fruit. Our industry continues to struggle, as do several other California agents.

Submitted by Jerome L. Frecon, Agricultural Agent. □

Grapes – Drought and Potassium Deficiency

Hans Walter-Peterson, Cornell University

Reprinted from *Massachusetts Berry Notes*, Vol. 13, No. 19.

As I've been riding harvesters and walking fields with growers this past month or so, I have noticed some symptoms of potassium deficiency, which can often be associated with drought conditions and water stress in vines. While potassium deficiency symptoms can resemble those of other problems, there are a few things that you can look for to decide whether or not the symptoms are due to a lack of potassium.

Symptoms of potassium deficiency will first develop in the basal leaves of a shoot. This is because the vine will mobilize potassium stored in the older leaves in order to provide the growing shoot tip with enough to continue its growth. This fact is useful when looking at leaf symptoms to decide if they are due to this deficiency or another problem that may affect the entire shoot.

The most common symptom of potassium deficiency is yellowing of the basal or mid-shoot leaves, starting at the edges of the leaves. Under more severe deficiencies, the margins may turn brown as the tissue dies.

Another symptom of potassium deficiency is what's called "black leaf." On the upper surface of the leaf you will see the development of black or dark purple splotches between the veins on the basal or mid-shoot leaves. In more severe cases, the leaf may be completely dark purple or black except for the veins of the leaf.

Potassium deficiencies may show up in low-rainfall years for a couple of reasons: 1) the lack of water in the soil prevents movement of potassium towards the roots, and 2) root growth is generally reduced under drought conditions, so the vine isn't "reaching out" for those nutrients as effectively. In addition, because vine photosynthesis decreases under drought conditions, there is less "pull" on the water and nutrients from the soil into the plant. The more severe examples of drought and potassium problems I saw were also generally on more gravelly soils, where water-holding capacity is not as high.

If you're noticing these symptoms in your vineyards, there are things to think about before deciding to add a bunch of potash to your soil to increase the potassium in your vines. Consider what you have seen in such areas in the past. Have you noticed these symptoms in this area before? What kind of soil is in the area (gravel, silt, clay)? With the low rainfall during the season this year, potassium deficiency in the vines does not necessarily mean that your soil is deficient in it as well. Consult any soil and/or petiole samples you may have taken in previous years from areas that look questionable. Have

there been potassium issues there before? In other words, think about any deficiency symptoms you see in the context of both the dry weather we had this year and your past experience with the vineyard's potassium needs. If you're seeing these symptoms on a well-drained site for the first time, it may not be necessary to change the amount of potash that you apply.

Unfortunately, the time for taking petiole samples to determine potassium status in your vines is past. The best time to take these samples is around 70 days (10 weeks) after bloom, from leaves that are located about midway down the shoot. These leaves are good indicators because, under deficient conditions, they will have sent potassium to the younger leaves and shoot tip and will therefore have lower potassium levels in their tissues.

This situation is an excellent example of why both soil and petiole samples are important in order to get the full story on the nutrient status of your vineyard. Basing fertilization decisions only on petiole samples may result in spending time and money on fertilizer applications that your soil doesn't need (and sufficient nutrients for proper fruit and vegetable development. Both can be important tools for establishing or refining a fertilization system for your vineyards.

Submitted by Jerome L. Frecon, Agricultural Agent. □

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approach is a compromise between industry survival and the desire to eradicate PPV. Whole blocks are only removed if greater than 30% of the trees are infected.

The overall goal in the Ontario program is to incrementally decrease the incidence of PPV in each successive year of survey. In 2000, approximately 100,000 samples were taken for PPV determination, of which 0.94% (940) samples tested positive; in 2001, 0.24% (360) samples out of 150,000 tested positive. Of the blocks that tested positive in 2000, 70% continued to test positive in 2001, while 30% tested negative. This result would be expected since the survey does not test 100% of the trees in a block; subsequent surveys would discover "misses". Nevertheless, these data appear to indicate progress toward the ultimate goal of eradication, albeit at a slower pace.

Some plant pathologists might consider the Ontario approach to be one of disease management, rather than one of eradication. However, regardless of the interpretation, the determination of our Canadian friends to eradicate the virus is clearly evident. One factor in our favor is that we are dealing with the less invasive PPV-D strain rather than PPV-M. We can only hope that they are ultimately successful, as all peach growers in North America are depending on their efforts as well as those in Pennsylvania. □

Bramble School and Greenhouse Raspberry Workshop

The 2002 Michigan State University Bramble School will be held Thursday, January 10, 2002 from 9:00 a.m. to 5:30 p.m. An "add-on" half-day Greenhouse Raspberry Workshop was also developed. It will be Friday, January 11, 2002 from 8:30 a.m. to 12:30 p.m. Both events will be held at the Holiday Inn Kalamazoo West in Kalamazoo, Michigan.

The intensive one-day 2002 MSU Bramble School is designed to help growers, consultants, and field representatives from the Great Lakes region learn about all aspects of bramble production and pest control. The early-bird registration cost for the one-day event is \$80 (after Jan. 4, 2002 - \$100). Included in this price, besides the educational topics, are an educational notebook, lunch, and breaks.

The Greenhouse Raspberry Workshop is designed for those interested in exploring an opportunity of growing a valuable winter crop of raspberries in unused greenhouse space. Participants will learn how to manage the production of raspberries during the winter months for fresh market sales at very high prices. Both researchers and growers will share their approach to production of raspberries in the greenhouse during the winter. All of the cultural production areas will be covered including the economics and marketing of this crop. The early-bird registration cost for this half-day workshop is \$40 (after Jan. 4, 2002 - \$100).

Dr. Marvin Pritts, a Professor of Small Fruit Crops in the Department of Horticulture, Cornell University, will be the featured speaker. Topics include bramble physiology, variety selection from a research and grower perspective, nutrition, preplant considerations including nematodes and replant disease/fumigation, control of insects, diseases, and weeds, and postharvest handling considerations.

Michigan Department of Agriculture pesticide recertification credits will be offered. Participants are requested to preregister before Jan. 4, 2002. A registration flyer with more information on this school can be obtained from Al Gaus, 616-944-4126, gausa@msue.msu.edu,

Persons with disabilities may request accommodations by calling the Berrien County MSU Extension office at 616-944-4126 by December 27.

Submitted by Jerome L. Frecon, Agricultural Agent. □

Fruit Sessions at Annual Meeting and Trade Show of NJ Vegetable Growers Association

Trump Taj Mahal, Atlantic City, NJ

Two excellent sessions on strawberries and blueberries will be held as part of the New Jersey Vegetable Growers Association conference on January 15 and 16 in Atlantic City.

Tuesday Morning, January 15, 2002

STRAWBERRY SESSION Topaz Room

9:30 am Watsonville, California Strawberry Tour and Opportunities for New Jersey Strawberries – Mr. Peter Probasco, Salem County Agricultural Agent, RCE

9:50 am USDA Strawberry Variety Developments at Beltsville, MD – Dr. Kim Lewers, Plant Breeder, USDA

10:15 am Postharvest Handling and Cooling of Strawberries – Dr. Steven Sargent, Horticultural Sciences Dept., Univ. of Florida

10:45 am What's New From Industry – Mr. Robert Moore

11:00 am Soil Fertility Management for Strawberries and Its Effect on Yields – Mr. Bob Muth, Grower, Gloucester County, NJ

11:30 am Adjourn

Wednesday Afternoon, January 16, 2002

BLUEBERRY SESSION Topaz Room

1:45 pm Lime Requirement of New Jersey Blueberry Producing Soils – Dr. Joseph Heckman, Specialist in Soil Fertility, and Dr. Gary Pavlis, Atlantic County Agricultural Agent, RCE

2:00 pm Blueberry Fertilization Update – Dr. Gary Pavlis

2:20 pm USDA Blueberry Breeding Program – Dr. Mark Ehlenfeldt, USDA-ARS, Chatsworth, NJ

2:40 pm Management of Blueberry Aphids and Oriental Beetle Grubs With Soil Insecticide Applications – Dr. Sridhar Polavarapu, Specialist in Entomology, RCE

3:00 pm What's New from Industry – Mr. Robert Moore

3:10 pm Effective Pollination of Blueberry by Honey Bees – Dr. Medhat Nasr, Rutgers Blueberry and Cranberry Research and Extension Center, Chatsworth, NJ

3:30 pm Damage Potential, Monitoring and Management of Blueberry Thrips in Georgia – Mr. Mike Broun, Clinch County Cooperation Extension, Mr. Danny Stranland, Bacon County Cooperative Extension, & Dr. Dan Horton, Univ. of Georgia

4:00 pm Blueberry Scorch Virus: What is Known and What Can Be Done – Dr. Peter Oudemans, Specialist in Plant Pathology, NJAES

4:20 pm Adjourn – Pesticide Recertification Credits

Registration information is available from most county Rutgers Cooperative Extension offices or Phil Traino at 856-985-4382. □

Mid-Atlantic Fruit and Vegetable Meeting: Making a Profit in the New Millennium

Bill Tietjen and Jerome L. Frecon, Agricultural Agents

The 2002 Mid-Atlantic Fruit and Vegetable Meeting has something for every grower to maintain their competitive edge in the marketplace. Six or more concurrent educational sessions will be offered on all three days in Hershey, PA on January 29-31, 2002.

Nearly 2,000 growers are expected to attend from the mid-Atlantic region. The fruit program is jointly sponsored by Cooperative Extension at Rutgers, Penn State and the University of Maryland in cooperation with the Horticultural Societies and Associations in those states. This year the National Peach Council will again hold their annual meeting at Hershey.

Sessions on Tuesday morning will focus on Tree Fruits, Labor Legal Issues and Wine Grapes. Mr. Steve Hoying, Cornell Cooperative Extension, will present The George Goodling Memorial Lecture entitled "An Economic Evaluation of NY Apple Production Systems". Dr. George Greene, Penn State, will lead a grower panel discussing "Apogee Evaluations" in 2001. Dr. Laura Mugnai, University of Florence, Italy will be the featured speaker in the Wine Grape session discussing "Current Wine Grape Research in Italy and France", on Tuesday morning.

Dr. Robert Anderson, Cornell University, will lead off the Tuesday afternoon Tree Fruit Session discussing "Cherry, Plum and Other Stone Fruit Cultivars and Rootstocks." "Life without the OP's" presentation by entomologist, Dr. James Walgenbach, North Carolina State University will be an important topic for all fruit growers.

The Wholesale Marketing session includes a panel of major chain store produce buyers discussing "What We are Looking for in Local Produce."

Tuesday afternoon will also include a second wine grape session with growers, researchers and nurserymen sharing their experiences and predictions.

Wednesday morning sessions will include the opening of the National Peach Council session with welcoming remarks by President John Lott. Highlighting this session will be the "Ernie Christ Memorial Lecture". Jerry Frecon will review Ernie Christ's lifelong contributions to the fruit industry prior to introducing a former student of Ernie's, Dr. Richard Marini. Dr. Marini of Virginia Polytechnic Institute will discuss "How to Grow Big Peaches." Following in the Peach Session Dr. Robert Belding, Rutgers Cooperative Extension (RCE) will

discuss training and thinning peaches for optimal yield. "Managing Scale Insects in Orchards" is the topic by Dr. Peter Shearer, RCE.

"Apple Cider Pasteurization and HACCP Regulations" by Shellee Anderson, FDA, will be included in the morning tree fruit session. An entire session will be devoted to irrigation with emphasis on drip irrigation systems.

Four concurrent sessions for fruit growers will be held on Wednesday afternoon January 30. Bob Matarazzo, RJM Marketing, will discuss special marketing events in the direct marketing session. Tim Nourse of Massachusetts, Gary Pavlis, RCE and Ed Mashburn, Maryland grower, will discuss new strawberry, bramble, blueberry, currant and gooseberry varieties. Pennsylvania Secretary of Agriculture Sam Hayes and former New Jersey Secretary of Agriculture Art Brown are featured speakers in the Tree Fruit Session on the "Future of Agriculture in the mid-Atlantic Area." Marketing and storage of peaches will be the focus of the Peach Session on Wednesday afternoon.

Thursday, January 31, continues with a full day of educational sessions including small fruit soil and nutrient management, small fruit pest issues and cut flowers. The morning tree fruit session includes a presentation on "Invasive Species and other Emerging Virus Problems", by Dr. Fred Gildow of Penn State.

The afternoon tree fruit session topics will include "Agro-Medicine", FQPA, and OFM Management in 2001. The program will conclude with Dr. Brad Majek, RCE discussing "Timing of Herbicide Application based on Weeds Present."

Information on the fruit programs and pre-registration information are available from Jerry Frecon at 856-307-6450 or Bill Tietjen at 908-475-6505. The complete program, the pre-registration form and Hershey Lodge registration form are also posted on the NJ State Horticultural Society web site at: <http://www.ccnj.net:80/~njshs>. □

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March 5, 2002 - North Jersey Fruit Growers Meeting, Extension Center, Flemington, NJ. Contact: Win Cowgill, Rutgers Cooperative Extension of Hunterdon County at 908-788-1339.

March 9, 2002 - Grape Expectations - A Viticultural and Enological Symposium, Forsgate Country Club, Jamesburg, NJ. Contact: Dr. Gary Pavlis, Rutgers Fruit Research and Extension Center, 283 Route 539, Cream Ridge, NJ 08514, 609-758-7311, fax: 609-758-7085, e-mail: creamridge@aesop.rutgers.edu.

2002 Blueberry Twilight Meetings will be held on the last Thursday of the month of March (28th), April (25th), and May (30th). Contact: Dr. Gary Pavlis, Rutgers Cooperative Extension of Atlantic County 609-625-0056 or pavlis@aesop.rutgers.edu.

International Dwarf Fruit Tree Association Annual Conference

Win Cowgill, Area Fruit Agent

The 45th annual conference of the International Dwarf Fruit Tree Association is set for February 16 to 20, 2002 in scenic Kelowna, British Columbia, Canada. A host of international speakers will present the latest and best information on tree fruit culture.

A preconference tour on February 16 will feature orchard visits to:

Jamie Kidston Orchard, Vernon. Jamie is a third generation grower on the same land. He planted his first super spindle in 1992, and his standard spacing is now 2 x 10 ft. He buys bench grafts and plants them in their final location (rather than in a nursery).

Jack Shore/Ron Patterman Orchard, Vernon. Jack is a grower with a proverbial green thumb. This 22-acre orchard is completely super spindle (mostly 2 x 9 ft) and varieties include Gala, Fuji and other modern cultivars. New plantings have consistently produced over 50 bins/acre in the third leaf. Year 2000 production totaled 1000 bins from 16 producing acres with trees from 2 to 8 years in age.

Wyatt Laing Orchard, Okanagan Centre. Wyatt retired from a former occupation in 1985 and started farming with no preconceived ideas of "the right way" of doing things. He has replanted his 20-acre orchard since 1990 with spindle and super spindle trees. Varieties include Gala, Spartan and Ambrosia.

Conference topics on Monday the 18th include Dwarfing Rootstocks: Past, Present and Future, Orchard Hail Nets—Australian Experience, super Spindle Orchard Management in British Columbia—Panel discussion with Okanagan Valley orchardists, European and North American Trends in Organic Fruit Production. Evening sessions will focus on high density and orchard design.

Wednesday topics will focus on high-density cherry production and orchard water and nitrogen management, thinning pears, and new Cornell - Geneva apple Rootstocks.

Tuesday will feature orchard tours in the region.

For complete details, speakers, and the complete program visit the IDFTA web site at :

<http://www.IDFTA.org>.

Contact person for the conference is Charles Ax, 570-837-1551, idfata@uplink.net. □

Calendar of Events

January 11-13, 2002 - Southeastern Peach Convention and Trade Show, Hyatt Regency Hotel, Savannah, Georgia. Contact: Janice Whitaker 478-956-6418, <http://www.griffin.peachnet.edu/caes/gapeach/convention.htm>.

January 15, 16, & 17, 2002 - Vegetable Growers Association of NJ Annual Meeting and Trade Show, Trump Taj Mahal Casino and Resort, Atlantic City, New Jersey. Contact: Phil Traino at 856-985-4382.

January 29, 30, 31, 2002 - Mid Atlantic Fruit and Vegetable Convention, Hershey Lodge and Convention Center, Hershey, PA. Contact: Jerome L. Frecon at Rutgers Cooperative Extension of Gloucester County 856-307-6450 or Bill Tietjen at Rutgers Cooperative Extension of Warren County 908-475-6505.

February 4, 5, 6, 2002 - New Jersey Agricultural Convention, Trump Plaza, Atlantic City, NJ. Contact: Web Site www.state.nj.us/agriculture.

February 12-14, 2002 - Varietal Winegrape Production Short Course – presents reviews and updates with farm advisors and faculty members at UC Davis, thus serving the needs of new and experienced vineyard managers and owners. Topics include a review of vine physiology, vineyard establishment, vineyard management and pest management. Held at University of California Davis campus. The \$575.00 fee includes three lunches, one social and course materials. Contact: Jennifer Ciccarella, 530-752-9467.

February 16 to 20, 2002 - International Dwarf Fruit Tree Association Annual Conference, Kelowna, British Columbia, Canada. Contact: Charles Ax, 570-837-1551 <idfata@uplink.net>. Program and Conference info at <http://www.IDFTA.org>.

February 20, 21, 22, and 23, 2002 - Mid Atlantic Direct Marketing Conference, Holidome and Conference Center, York, PA. Contact: Rod Ferber at 610-391-9840, or Web Site www.MADMC.com.

February 20, 2002 - South Jersey Fruit Meeting and Trade Show, Masso's Crystal Manor, Clayton, NJ. Contact: Jerome L. Frecon 856-307-6450.

February 28, 2002 - The Annual Blueberry Open House, Frog Rock Inn, Hammonton, NJ. Contact: Dr. Gary Pavlis, Rutgers Cooperative Extension of Atlantic County 609-625-0056 or pavlis@aesop.rutgers.edu.

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