



# The Berry Basket

Newsletter for Missouri Small Fruit and Vegetable Growers

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## From the Editors

*by Marilyn Odneal*

We hope that everyone has begun to thaw out from our cold and snowy winter and is making plans to attend the upcoming conferences detailed on page 9. We hope to see you there!

### **Berry Basket Newsletter Staff:**

Patrick Byers, Gaylord Moore and Marilyn Odneal  
- editors.

Pamela Mayer - proofing, copying and mailing list.

Teresa Inman - posting and sending.

Please direct comments or suggestions to:

Marilyn Odneal, SMSU - Mountain Grove, 9740

Red Spring Road, Mountain Grove, MO 65711,

phone: 417-926-4105, fax: 417-926-6646,

e-mail: [mbo774t@smsu.edu](mailto:mbo774t@smsu.edu)

internet: <http://mtngrv.smsu.edu>

## It's Pruning Time!

*by Ben Fuqua*

Pruning is one of the more important cultural practices in producing high yields of quality blueberries. Highbush blueberry plants need some pruning each year; the extent depending on plant age, plant vigor, and overall growth habit of the plant. The goals in pruning blueberries are to remove diseased, damaged, and unproductive canes, promote new cane growth, and balance fruit production with vegetative growth. While pruning reduces the number of fruit buds, and ultimately the number of berries per plant, the remaining berries will be larger and will ripen slightly earlier than fruit on un-pruned plants. Pruning also "opens up" the center of the bush, permitting better light penetration throughout the plant canopy, thereby increasing the sweetness of the ripened fruit.

Pruning can be done any time during the dormant season, however the best time in Missouri is during January, February, and March. Diseased and damaged canes are more easily identified at this time, the chances of freezing injury at the newly cut surfaces are lessened, the absence of leaves makes it easier to properly shape and thin the plant, and the colder temperatures reduce the potential of spreading diseases from one plant to another. Pruning of plants after growth starts should be avoided as developing buds can be easily injured.

Flower buds of highbush blueberries are located near the tip of new growth. Flower buds are initiated in late summer and early fall and bear fruit the following year. Under good growing conditions every new shoot, including tiny lateral shoots, will set one or more flower buds. There is a direct

relationship between the size of fruiting wood and the size of fruit produced. Larger berries are produced on thicker wood, while weak, twiggy growth produces small fruit, factors to keep in mind when pruning blueberry plants.

***Pruning Tips:***

**Young Plants:** Only limited pruning is required on young, non-bearing plants. The emphasis during the early years should be on developing a good, strong plant framework, not on production. Flower buds should be rubbed off by hand for the first two years to encourage maximum vegetative growth. Pruning should be restricted to removing diseased, broken, and low-growing canes. Three to five of the strongest canes should be allowed to develop for each year of age. Plants of low vigor may need three or even four years of vegetative growth before being allowed to set fruit.

**Producing Plants:** The extent of pruning needed to maintain healthy, high-producing blueberry plants will increase with age. During the first two or three fruiting seasons, developing a strong, healthy plant should still be emphasized. All plants should be pruned to remove weak, twiggy growth, diseased, broken, and low-growing (within 12" of mulched surface) canes and branches. The larger and stronger canes should be permitted to set an increasing amount of fruit each year. In some cases, tip pruning (removal of a few fruit buds) may be necessary to balance the fruit load with vegetative growth. While the rate of plant growth varies greatly from one planting to another, healthy, vigorous blueberry bushes should have approximately 20 good, strong canes by the end of the 5th growing season.

As plants become older, additional pruning will be required. First, remove all diseased, broken, and low-growing canes and branches as done in previous years. Secondly, remove a few of the older, less vigorous canes as older canes tend to produce smaller berries and lower yields than younger ones. Older canes also inhibit the development and growth of new canes from the base or crown of the plant. Since the strongest canes originate from below ground level, all old canes need to be cut off at or slightly below ground level. Cutting canes off too high leaves stubs or

stumps that will produce weak twiggy growth. Stubs/stumps also rot and become sources of disease inoculum.

Most older bushes require additional thinning of branches and removal of twiggy growth from the center of the plant. Opening up the center of the plant allows better light penetration and air movement, two important factors in improving fruit ripening and curtailing the potential for diseases. The overall growth habits of the different varieties will dictate the type and extent of detailed pruning needed. Some varieties, such as Bluetta, Blueray, and Bluecrop produce a large number of canes each year from the crown of the plant, thereby necessitating removal of some of the new, but weaker canes. On the other hand, Coville, Lateblue and Berkeley produce most of their new growth off of older, existing canes. These varieties require more thinning and removal of branches from the interior of the plant. Ideally, all plants should have an equal number of canes from one to eight years in age. This balance can be accomplished by continually removing approximately 15-20% of the older canes each year.

**Complete Rejuvenation:** In some plantings, a complete rejuvenation of plants (all canes removed) may be warranted. When all old canes are cut off at ground level, a large number of new canes are usually produced that first summer. Do not fertilize these plants. Select six to ten of the most vigorous canes and remove the rest. Return to a regular pruning schedule the next year by removing 15-20% of the older canes. Eventually, these plants will become more productive, although from one to two years of berry production are normally lost by this process.

**Use good sanitation:** Good sanitation practices are essential in all cultural operations, but are especially critical when pruning. All pruning tools, loppers, hand pruners, saws, etc. should be thoroughly cleaned and sharpened so that neat, smooth cuts that callus rapidly can be made. Older canes should be cut as close to the crown as possible; branches should be removed as close to the main cane as possible. Avoid leaving short stubby wood. Frequent dipping of pruning tools into a disinfecting solution of 20% bleach and/or 70% alcohol will help

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prevent spreading of diseases to adjacent plants. Removal and destruction of all pruned material will also help prevent the buildup of inoculum in the planting.

**Conclusion:** Annual pruning of highbush blueberry plants is required for sustained production of high quality berries. Weather conditions, birds, and other uncontrollable factors that affected blueberry yields last year should not influence the extent of pruning this year. Good pruning practices must be followed from year to year to maintain the vigor and productivity of blueberry bushes.

## Blueberry Council News

*by Bob and Ronnie Hershey*

The Blueberry Council of Missouri will hold it's annual meeting February 20, 2001 in conjunction with the Missouri Small Fruit Conference. The meeting will be held after the blueberry session, and the location will be announced. Please make suggestions and bring ideas for discussion.... this is the meeting where the majority of our members are present.

Topics we need to discuss are promotions, like the Governor's Conference, the Legislative Banquet, and some ideas the Missouri Department of Agriculture has asked us to consider.

We will also have an update and final draft of the "Blueberry Trail" from Linda Jones and her committee.

The State of Missouri has a very serious budget shortfall for 2001, and I understand all departments are asked to cut their budgets by 10%. Don't be surprised if some of the state programs in place now are cut.

We have gained several new members this year. New folks equal new ideas. New ideas equal progress.

Webster's Dictionary defines *member* as one of a group; one of a whole body. Membership is defined as an enrollment or participation in a group. Let us never forget we are a grower group, not to be operated by a few board members. We all have our own ideas and know what needs to be accomplished. Please consider volunteering for a position on the board. We don't need to set term

limits in our grower group, but it is desirable for everyone to pitch in; volunteer to do a part.

With the formation of the USA Blueberry Council, we now need to let consumers know they can find the best blueberries at the member farms of the Blueberry Council of Missouri.

I extend an appreciative thank-you to everyone who helped with the functions the Blueberry Council participated in 2000. Hoping the year 2001 will be very prosperous for us all!

### *Notes from the Secretary:*

I want to wish each one of you reading this newsletter a "Happy New Year" and extend an invitation to join the membership of the Blueberry Council of Missouri!

Membership dues are coming in pretty steady, and I hope to have a current membership list, with all needed changes in address and phone numbers, soon. I am trying to include e-mail address or websites for an update page in the "Blue Book".

I am told from those members who have noted the number of picking bags needed for 2001 that the majority would rather have a logo rather than a plain bag if the price is still reasonable. If any member will need bags, and has not notified me, let me know soon. I am seeking the price now, and the number of cases will be the deciding factor for printing. I have requests for 19 cases to be ordered. Normally the price break falls at 25 cases, then again at 50 cases. Would you want two years of picking bags, if we could lower the price for having a larger quantity?

I have been asked to check the costs of reprinting the Blueberry Cookbook. I'll check into this, and present at the Annual Meeting. It would be nice for any current member, who did not submit a recipe, to do so and maybe the printer could include them if we re-print. I know some of our current members have never seen the two cookbooks from past years.

See you at the conference!

## Pollinators for Small Fruit Crops

by John Avery

In recent years it has become more important for the small farmer/fruit grower to understand pollination and the need for adequate pollination to secure a good crop. With the problem of mites in honeybees and the resulting loss of feral colonies and many hobby beekeeper colonies, the use of rented commercial honeybee colonies for pollination is critical for the production of a good crop.

Highbush blueberries are self-fruitful (that is the pollen of the plant can fertilize the flowers of that plant) but do require insect pollination and studies have shown that berries are larger and ripen earlier when pollinated by bees. In order to have a good crop of berries about 80% of the flowers need to be successfully pollinated. The bumblebee is the most efficient pollinator of blueberries. The problem with bumblebees is that their population is low during the early spring when blueberries are in bloom. Early in the spring bumblebee queens have to forage and provision the nest until they can raise a worker crew to support egg-laying. It takes several weeks for the nest to become a good pollination unit, but by then blueberries have already bloomed. In areas with high populations of bumblebees and low acreage of blueberries, bumblebees will do a good job of pollination.

It is recommended to have from 1 to 5 honeybee colonies per acre in blueberry plantings for good pollination. This is dependent on the acres of blueberries in the planting and the availability of native pollinators. Here in Missouri most of our blueberry fields are small and native pollinators are relatively abundant. One honeybee colony per acre should be adequate in our case. A few years experience in your area will tell you if there is a need for increasing the numbers of honeybee colonies to obtain a good crop of blueberries. Adequate pollinators will result in a bigger crop, larger berries, sweeter fruit, and earlier harvest of blueberries.

Strawberries generally attract pollinators to their flower with an abundance of pollen and nectar. Uniform pollination is required in order for a well

developed and even ripening berry to be produced. With small plantings native pollinators will take care of the pollination needs of the crop. With a large acreage planting, or low populations of native pollinators, or cultivars with a low attraction to bees, there may be a need for honeybee colonies to provide adequate pollination of the crop. It is easy for the grower to determine the need for honeybees in his field. As the first flowers start to drop their petals the grower should do a random check of the fruit for adequate pollination. If the pistils are uniformly dark on the fruit then pollination was adequate but if there are many yellow white fresh looking pistils then pollination was inadequate. The grower then may want to move in honeybee colonies to insure a good crop of well-developed fruit. Recommendations range from one colony per 2-4 acres to 2 colonies per acre. As a general rule one colony per acre is a good starting point for the small to medium acreage planting of strawberries.

The brambles, which consist of blackberries and raspberries, are highly attractive to insects for pollination. Generally there is no need for extra pollinators in the brambles. If a grower has a large planting or is in an area with row crops where insecticide spraying is common then honeybees may be needed to insure good pollination of the crop. One colony per acre should be adequate for the brambles.

There are other crops grown by small fruit growers, which can benefit from bee pollination. Growers who may want to try the hardy kiwi fruit should consider the need for bees to pollinate the crop. The vegetable crops and pumpkins will need bee pollination for best production. Generally if native pollinators are abundant then honeybee colonies may not be needed, but if misshapen fruit or lower production than anticipated occurs, one colony per acre of crop may help to insure a good crop. As the acreage of a crop increases the need for more colonies per acre should be considered.

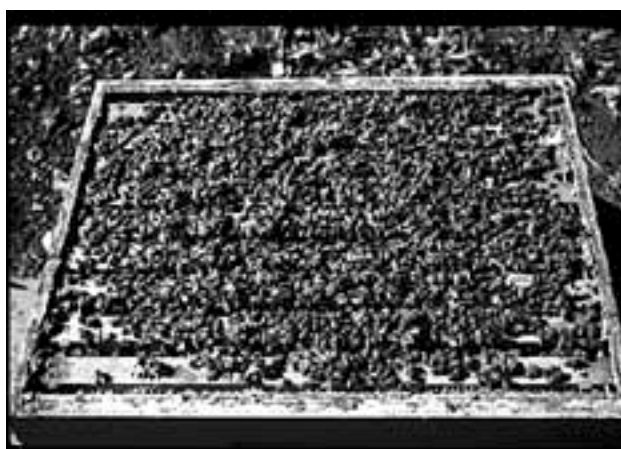
When there is a need for honeybee colonies to pollinate a crop the grower needs to have an idea of the strength of the colonies he is renting. In Missouri, where a small number of colonies is needed by the grower, it is important that each

colony be at optimum strength. The honeybee colony will vary in size throughout the year. The lowest point of strength will occur in late January or early February at between 10000 and 15000 workers. As the colony expands for the upcoming season the population will rise until it peaks in June at between 50000 and 60000 workers. The time of year the crop is in bloom will determine the size of the colony a grower should expect for the pollination of the crop. Most beekeepers will strive to have a colony growing and at optimum strength for the given time of the year. For the early blooming fruit crops such as peaches colony strength should be close to 25000 workers or about 4 frames of brood with 6 or 7 frames of bees. By the time blueberries are blooming colonies should be stronger with 5 to 6 frames of brood and 8-10 frames of bees. By late May colonies should be approaching full size with 10 to 12 frames of brood and bees covering all frames. The grower can ask the beekeeper to open the hives or a sampling of hives to visually check the strength of the colonies he is renting. As a preliminary check the grower can visually inspect the hives on a warm and still day without having to open the colony. On a day with the temperature above 60 F but preferably above 65F and the wind below 10 mph the grower can stand to the side of the colony (not in front) and count the bees coming into the hive. A good pollinating unit will have in excess of 100 bees per minute returning to the hive with about one third carrying pollen. A good set of colonies should have uniform flight from each hive.

With the loss of hobby beekeepers and feral honeybees the importance of commercial beekeepers and their honeybees in pollination is important to the growers of fruits and/or vegetables. Growers need to know the basics of good pollination and what to expect from rented honeybee colonies. In Missouri, growers are generally small and there is generally good habitat for native species of bees to survive but rented honeybee colonies can insure the best crop possible. Growers need to learn about pollination and the pollinators of their crops.



*Poor pollinating unit with 4 frames of bees (above).*



*Strong pollinating unit with 9 frames of bees (above).*

## **Use of Different Colored Plastic Mulches for Yield and Earliness**

*by Gaylord Moore*

Plastic mulches have been used commercially on vegetables since the early 1960s. Three basic mulch types have been used in commercial production: black, clear, and white-on-black plastic. The color of a mulch largely determines its energy-radiating behavior and its influence on the microclimate around a vegetable plant. Color affects the surface temperature of the mulch and the underlying soil temperature. Recently, other colors of plastic mulches have been introduced into production systems. Yellow, blue, gray, orange and red are

some of the more popular additions to the spectrum. Bottom line - what are producers trying to accomplish with the use of these colored plastic mulches? The answer is anything that will enhance earlier production, increase quality and yield, and offer additional pest control. The effects of the various colored mulches on each of these factors are often debatable. The greatest effect of plastic mulches may be earliness of production. The plastic allows the soil to warm more quickly to a level that is optimal for plant growth, performance and maturity during the growing season. Early markets for warm season crops generally means quicker returns and higher prices. According to Dr. Hank Tabor, Iowa State University, the value of red plastic mulch over black may be the increased absorption of solar radiation thus quicker warm up. More light is allowed to penetrate with the lighter colored plastics. Daytime soil temperatures under clear plastic mulch are generally 8 to 14 degrees F higher at a 2-inch depth and 6 to 9 degrees F higher at a 4-inch depth compared to those of bare soil. Using clear plastic mulch will require the use of a herbicide, soil fumigant, or solarization to control weeds.

Based upon research at Penn State there was no significant difference in the yield of marketable tomato fruit from any of the various colored mulches. As for insects, many of the colored mulches actually attracted more insects such as the green peach aphid, and the yellow mulches attracted increased numbers of striped and spotted cucumber beetles on specific crops.

Bottom line - researchers do not have all the answers regarding positive or negative benefits when using the colored mulches. Maybe the best approach is to focus on early soil warm up, moisture retention and weed control. Any other benefits experienced may be an additional bonus.

## **Strawberry Cultivar Evaluation at Mountain Grove** *by Martin Kaps, Patrick Byers and Marilyn Odneal*

Sixteen strawberry cultivars and four New Jersey selections were planted in a replicated trial in spring of 1996 at the State Fruit Experiment Station at Mountain Grove, Missouri. All were Junebearing cultivars grown in a conventional matted row production system. The planting was maintained for three harvest seasons following cultural recommendations for Missouri. Cavendish, Chambly, Governor Simcoe, Honeoye, Marmolada, Seneca, and Settler were the highest yielding cultivars. Miranda, Mohawk and Startyme were the lowest yielding cultivars. Annapolis, Delmarvel, Earliglow, Northeaster, Primetime and Sunrise were intermediate in yield. The New Jersey selections were intermediate to lower in yield. Leaf spot disease ratings were recorded each year (*Mycosphaerella fragariae*). Marmolada, Miranda and Startyme had the highest leaf spot ratings in 1997 and 1998. Cavendish often exhibited a white streak at the shoulder of the berry in our climate that could affect marketability. Based on this trial, Annapolis, Chambly, Delmarvel, Governor Simcoe, Primetime, Seneca, and Settler are recommended to Missouri growers for trial. Earliglow and Honeoye continue to be recommended.

## **Integrated Weed Management-Strawberry Site Preparation** *by Patrick Byers*

Recently I attended the annual meeting of the North American Strawberry Growers Association. Among the many excellent presentations was a talk by Leslie Huffman, weed management specialist for Ontario. The title of her talk was "Weed Control Programs for the Future", and Ms. Huffman emphasized Integrated Weed Management (IWM). The goal of IWM is to maximize strawberry yields by reducing weed competition during critical periods

of the production cycle. I would like to summarize a portion of her comments.

A critical period during the production cycle is site preparation. Crop rotation can be important during this phase. A production site is best rotated out of strawberry production for at least 5 years. Select an alternate crop with several things in mind. Use crops with alternate seasons to strawberries. Wheat is an example. Tillage practices and herbicide use with this crop can reduce winter annual weeds that are difficult to control in strawberries. If you use herbicides, select an alternate crop that has a wide choice of effective herbicides. You can then use these materials, which may not be labeled for strawberries, to reduce weed populations. Sweet corn is one example. Beware of possible residue problems with certain herbicides, however.

Another effective practice for reducing weed problems during site preparation is the use of green manures or cover crops. In addition to suppressing weeds, these crops supplement soil organic matter. Remember, however, that a cover crop may also have weed problems of its own. Reduce this problem by planting the cover at a high density. Properly prepare the seedbed before planting cover crops. Marigolds, for example, require a packed seedbed for best germination. Other cover crops, such as Sudan grass, require a loose seedbed. Certain cover crops, such as strains of annual ryegrass, suppress weed seed germination. Selective herbicides, such as 2,4-D for broadleaf weeds in grass cover crops, can also reduce weed problems in cover crops.

Cover crops are sometimes incorporated into the soil. Unfortunately, this disturbance of the soil can lead to increased weed problems. Another approach to avoid this situation is to kill down the cover crop through the use of herbicides. Be sure to use the proper rate for adequate burn down. Also, timing of burn down may be important. For example, if you are spraying in the fall, waiting until winter annual seedlings have emerged among the cover crop before applying the herbicide will give control of these troublesome weeds.

Remember that a clean field before planting is critical for long term success with strawberries. Some areas of a farm may be plagued with difficult

to control weeds. In the long run, it may be better to avoid these sites. Further information on site preparation for strawberries is available from the SMSU Department of Fruit Science, 9740 Red Spring Road, Mountain Grove, MO 65711, or email [plb711t@smsu.edu](mailto:plb711t@smsu.edu).

## Consumer Trends Drive Agriculture

*by Patrick Byers*

The Missouri Governor's Conference on Agriculture was held December 10-12, 2000. The theme of the conference was "Consumers of the Future Chart Our Course." This theme, along with the valuable information presented at the conference, certainly apply to Missouri's horticultural producers.

Two of the conference speakers, Phil Lempert and Elizabeth Sloan, focused on past, present, and future trends that have, had and will continue to impact Missouri agriculture. Phil Lempert, also known at the Supermarket Guru, discussed what he termed the "new era of consumers." Consumers are taking personal responsibility for purchases. Witness the explosion of e-commerce. Consumers have available at their fingertips a world of products. This doesn't mean that consumers will abandon traditional retail shopping, but it will force "bricks and mortar" retailers to adjust marketing strategies. Retailers are trying to turn shopping into an "experience". Supermarkets are hiring nutritionist and promoting the old "produce" and "dairy" sections as "whole health" centers. Successful retailers recognize that service is a critical component. People like to shop, but many report that they "hate" the checkout experience (often the only person-to-person contact at many retail outlets.)

Lempert also identified health concerns as a trend to watch in the future. Baby boomers are getting older (a boomer turns 50 every 7.5 seconds), and this huge chunk of the population is afraid of aging. Health is of utmost concern, especially when food is concerned. Retailers have responded with a plethora of "healthy" foods – vitamin-enriched water, organic produce, vegetables with enhanced

levels of antioxidants, to name a few. Another recent development is “smart packaging,” plastic products that change color or appearance in response to unsafe foods. This concern can also take a negative turn, such as the resistance to irradiated food and genetically modified products.

Elizabeth Sloan, president of Sloan Trends and Solutions, focused on trends related to “positive eating.” The major determining factor in choosing a market for food products is freshness. Surveys identify cleanliness (90%), fresh fruits/vegetables (88%), fresh meats (86%), and freshness dates (79%) as important to consumers.

Consumers are also interested in “natural” foods, which are perceived to be “close to the farm.” Natural foods include but are not limited to organic products. Consumers perceive natural foods as having long-term health benefits. Locally grown foods are “natural”, and “natural” meats are produced under humane conditions with a minimum of environmental pollution. Consumers want to know where foods come from, and “branded” foods, such as those labeled with a state or region of origin, are becoming commonplace in markets. Sloan commented on the influence that chefs have on food trends. At present this influential group is focusing on lighter, fresher, more natural foods produced under sustainable farming practices.

Another trend is increased consumption of fruits and vegetables. Fresh cut vegetables are a 20 billion industry today, one dish meals are common, 15% of college students are vegetarian, and 50% of families had meatless meals at least twice a week. Surveys suggest that growers may realize premium prices for Asian vegetables, heirloom cultivars, baby vegetables, peel-free vegetables, and anything that can be promoted as “unique.”

Sloan reported on several surveys related to biotechnology. Acceptable goals for biotechnology included foods that prevent diseases, foods that taste better, foods lower in fat, and foods that stay fresh longer. Examples of acceptable biotech-engineered foods include eggs with higher levels of vitamin E and carrots with higher levels of vitamin A and calcium.

Finally, Sloan suggested that consumers are focusing on foods as the key to health. Vitamin and mineral fortified foods, foods consumed as treatment

for conditions, herbal supplements, and whole grain products are examples. According to surveys, most bananas are purchased as a source of potassium. Beekeepers report a tremendous demand for saw palmetto honey, which may have potential for preventing prostate cancer. Consumer demand for rye, oats, brown rice, flax seed, and native-American grains such as amaranth is on the increase.

## Value Added Promotion

*by Suzi Teghtmeyer*

In order to sell fruit and fruit products producers need to tailor advertising to entice the buying public. Content of the ads, the medium, design and timing of the ads, and just making the products accessible to the consumer are keys to a successful advertising campaign. The sites listed below can help you plan and implement a profitable campaign.

All of the websites listed below are listed on the page Fruit Science and Industry Links

<http://library.smsu.edu/paulevans/frtlinks.htm>

### From Harvest to Health

<http://extension.missouri.edu/hes/fn/harvesttohealth/>

From the webpage: “From Harvest to Health is a program developed by University Extension and the Missouri Department of Agriculture to promote locally grown products. The Harvest to Health brochures are designed to help consumers select, store, prepare and preserve a variety of fresh, delicious, and nutrient-packed Missouri produce.” The site links to four berry sites where you’ll find information on selection, uses, preserving, nutrition, and more links to additional information.

### Fruitnet.com

<http://www.fruitnet.com/>

This is an international site devoted to the global fresh produce business. You can choose which int’l market to peruse, and a search engine allows you to conduct a fruit-specific search. Although the site may not be directly related to your marketing campaign, it can give you an idea of the techniques used by the “big boys” in the industry.



**Missouri Alternatives Center (MAC)**

<http://agebb.missouri.edu/mac/mac.htm>

The MAC serves as a resource for the Missouri small and new farm owner. They provide information on new crop start-ups, marketing strategies, organic certification assistance, and new ideas on how to profit off of small acreages.

**Planning For Profit Enterprise Budgets, Value Added and Food Processing**

<http://fbminet.ca/bc/pfp/value.htm>

These guides, in pdf format, show how to create profit from value-added products, including fruit pie production, fruit leather, jam production, apple juice and salsa. A sister site, <http://fbminet.ca/bc/pfp/berry.htm>, covers more topics on berries and vines.

**2001 Missouri Spring Horticulture Conference**

The Missouri Spring Horticulture Conference is planned for Saturday, March 31st, 2001 at the Southwest Center, Mt. Vernon. The program Includes:

- Gardening With Native Plants
- Growing Roses in the Ozarks
- Water Gardening-Nuts & Bolts
- Water Gardening with Native Plants
- Introduction to Beekeeping
- Home Greenhousing
- Organic Greenhouse Production
- Grape Growing
- Growing, Harvesting, and Using Herbs
- Container Gardening
- Nut Crops for Missouri
- Extended Vegetable Production
- Advanced Tomato Gardening
- Grafting

The cost of the conference is \$10 per person, which includes lunch. Attendance is limited to the first 100 who register, therefore pre-registration is highly recommended. Sessions will be held indoors and out, so please dress appropriately. The

Southwest Center is located 4 miles Southwest of Mt. Vernon on Highway H and can be reached from 1-44 via exits 44 or 38.

For more information, please call 417-466-2148 or go to <http://mtngrv.smsu.edu/calendar.htm>.

The Spring Horticulture Conference is sponsored by the following organizations:

- Southwest Missouri Nut Growers Association
- Ozark Chapter of the North American Fruit Explorers
- SW Regional Chapter of the Missouri Organic Assn
- Springfield Water Garden Society
- Springfield Area Herb Club
- Master Gardeners of Southwest Missouri
- Ozark Gateway Master Gardeners
- Sustaining People through Agriculture Network
- State Fruit Experiment Station-SMSU
- Southwest Research Center-University of Missouri

**Reminder! Missouri Small Fruit Conference**

Here's a reminder that the 2001 Missouri Small Fruit Conference is scheduled for February 19-21, 2001 at the Clarion Inn and Convention Center, Springfield, Missouri. On Monday, February 19, join us for Back to the Basics with the "Basics of Small Fruit Production" in the morning followed by an afternoon tour of Sunshine Valley Farm with Jan Wooten. The conference continues on Tuesday, February 20 with the keynote Presentation – Sustainability and Small Fruit Production by Fred Kirschenmann, of the Leopold Center, Iowa. The keynote presentation is followed by the General Session, Table Grapes / Alternatives Session, Blueberry Session, and the annual meeting of the Missouri Blueberry Council. On Wednesday, February 21, the Strawberry Session and Blackberry/Raspberry Session will be held. A complete schedule is available at <http://mtngrv.smsu.edu/calendar.htm>. We hope to see you there! For information or registration materials, contact: Patrick Byers, SMSU Department of Fruit Science, 9740 Red Spring Road, Mountain Grove, MO 65711; telephone 417-926-4105; email [plb711t@smsu.edu](mailto:plb711t@smsu.edu).

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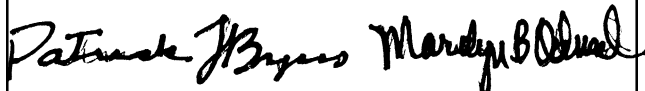
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**Your editors of The Berry Basket:**

**Gaylord Moore**, Area Horticulture Specialist,  
University Extension, Springfield, Missouri.



**Patrick Byers**, Fruit Grower Advisor, and  
**Marilyn Odneal**, Research Associate, Dept. of  
Fruit Science, State Fruit Experiment Station,  
SMSU, Mountain Grove, Missouri.



Send address changes and comments to:  
Dept. of Fruit Science, 9740 Red Spring Road,  
Mtn. Grove, MO 65711 or [mbo774t@smsu.edu](mailto:mbo774t@smsu.edu).

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