



# The Berry Basket

Newsletter for Missouri Small Fruit and Vegetable Growers

Volume 3 Number 2

Summer, 2000

## Contents:

From the Editors.....	1
Nutrient Management.....	1
Blueberry Council News.....	3
Plant Propagation I: The Mist System.....	4
Weather-Wise Vegetable Production.....	5
What to Do With All the Fruit.....	6
Small Fruit Research at the Missouri State Fruit Experiment Station.....	7
Bird Control Update Y2K.....	8
Precious Moments Point-of-View.....	9

## From the Editors

by Marilyn Odneal

Bob Hershey mentions in the Blueberry Council News that it has been a “feast or famine” year for blueberry growers. It certainly has been feast or famine when it comes to water for many areas of Missouri, and Gaylord Moore has some interesting things to say about managing vegetable crops with our weather. Hope you have a great season!

### 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@mail.smsu.edu](mailto:mbo774t@mail.smsu.edu)  
internet: <http://mtngrv.smsu.edu>

## Nutrient Management

by Ben Fuqua

All plants require 17 nutrients (essential elements) for normal growth and development. Carbon, hydrogen, and oxygen are absorbed by plants in combined forms as carbon dioxide and water. Nitrogen, phosphorus, potassium, calcium, magnesium, and sulfur are classified as macronutrients, meaning they are required in relatively large amounts. Micronutrients, such as iron, boron, manganese, zinc, copper, molybdenum, cobalt, and nickel, are just as necessary as the other nutrients, but required in much smaller quantities.

While highbush blueberry plants have rather specific soil and cultural requirements, i.e., they require an acid soil and have a lower demand of most nutrients than other fruit crops, poor plant growth and low berry production will occur if any of the nutrients are lacking. Thus, a major challenge in growing blueberries is being able to provide the proper balance and sufficient, yet not excessive, amounts of these nutrients. Several “tools” are available to help growers manage plant nutrient problems.

### Visual Leaf Symptoms:

Without a doubt, visual leaf symptoms are the most widely used indicator of nutrient problems in blueberry plants. A deficiency is very easy to see and can often be identified by leaf color and the location or part of the plant showing the symptom. Listed below are some visual symptoms of the most common nutritional problems encountered in growing highbush blueberries in Missouri. Growers should be reminded that visual symptoms only appear when the nutrient shortage is severe.

Therefore, by the time the visual symptom becomes apparent, both plant growth and production have already been adversely affected.

*Nitrogen:* Inadequate nitrogen causes an overall reduction in plant growth. Plants are stunted, leaf size is reduced, and few, if any, new canes are produced. Leaves become pale green or yellow (chlorotic), beginning on the older leaves and progressing to the younger leaves. Leaves may turn a reddish color and eventually drop as the deficiency progresses. Nitrogen deficiencies are very common in blueberries and may occur at any time during the growing season.

*Phosphorus:* Leaves have a purplish color and generally have a leathery texture. Deficiency symptoms appear on older leaves first. Visual symptoms may be confused with other climatic and nutritional problems.

*Potassium:* Potassium deficiency causes dieback of new shoot tips. Leaf margins or edges become chlorotic followed by dead (necrotic) spots on older leaves. Younger leaves may develop chlorosis between veins.

*Magnesium:* Interveinal chlorosis of older leaves (with veins remaining dark green) is a characteristic deficiency symptom of magnesium. Leaves may turn red or brown as the deficiency becomes more severe.

*Iron:* Iron deficiencies are very common in blueberry plants in Missouri. Symptoms occur first on young leaves. Leaves show interveinal chlorosis and may turn brown and drop if the shortage is severe. Iron deficiencies can occur anytime during the growing season, but are most frequently observed during and after harvest. It is more of a problem in soils with a high pH.

*Boron:* Inadequate boron causes a dieback of the tip (growing area) of shoots. Flower and vegetative buds may fail to open properly on deficient plants. Winter injury is usually greater on plants with low boron levels.

*Manganese:* Toxicity from excess manganese is normally more of a problem than a deficiency. Toxicity occurs more frequently in soils with a very low pH. Poor drainage and over-watering increases the potential of a manganese toxicity.

### **Soil Testing:**

Soil tests are used to predict the availability of nutrients in the soil for plant uptake. Since blueberry plants require an acid pH for maximum growth and production, monitoring the soil pH on a regular basis is essential. Measuring other soil nutrient levels at this time on the same sample can be very helpful in assuring that the proper amount and balance of nutrients are in the soil. While soil samples can be taken at any time during the year, it is recommended that soils be sampled the same time as leaf samples are collected. This allows growers to compare the nutrient levels in the soil with the corresponding concentration of nutrients in the plant tissue.

To secure a “good” soil sample, sub-samples should be randomly collected at several locations in the planting, preferably between plants within the row. Sub-samples should be taken from the soil surface to a depth of 6-inches and combined in a clean plastic pail. A composite sample of about 1 pound (1 pint) of soil is needed for testing. The Missouri Soil and Plant Testing Laboratory (coordinated through Missouri Outreach and Extension) can analyze the sample and determine the nutrient levels in the soil.

### **Foliar (Leaf) Analysis:**

A leaf or foliar analysis is a very valuable and necessary tool of good nutrient management in blueberry plants. A leaf analysis measures the nutrient concentration in the plant. A leaf analysis provides a much more accurate measurement of exactly what nutrients the plant has absorbed. Interpretation of the results is accomplished by comparing the nutrient concentrations in the plant sample with nutrient levels established for blueberry plants through research and long-time plant growth studies.

Leaf samples should be taken just after harvest, as nutrients levels are more consistent at this time of the year than during the early growth and production seasons. To secure a “good” composite sample, 50 to 100 fully expanded leaves from the current seasons growth should be removed from several plants in the sampling area. Leaves from different varieties should be kept separate and sent in as two different samples. Avoid collecting leaves from weak, diseased, or other unhealthy plant, unless they

---

are to be analyzed as a separate sample. Allow the leaves to air-dry before sending them to the laboratory. The Missouri Soil and Plant Testing Laboratory at Columbia now has foliar analysis available.

**Summary:**

Visual leaf deficiency symptoms, soil testing, and foliar analyses are all tools to aid growers in managing nutrient levels in blueberry plantings. While visual symptoms are easy to detect, they are the most inaccurate in diagnosing nutrient deficiencies. They are very valuable, however, in showing that something is definitely wrong with the plant and that soil and foliar testing are needed.

## Blueberry Council News

*by Bob and Ronnie Hershey*

This has been a year of feast or famine for blueberry growers across the state. Some growers had freeze damage in May, while others close by had none. The extreme dry spring did not help either. When the rains finally came, some growers found splitting damage to their blueberries. The "Show Me State" had a lot of unusual blueberry problems and surprises to show us this year.

This was the first time that I know of that the Blueberry Council received consumer complaints. Supermarket berries were labeled "Missouri Home Grown". Apparently the blueberries were picked prematurely, as they still had green or purple backsides. One of the growers in question stated that they picked fruit early to beat the birds and to prevent fruit loss on the ground. Folks, if the birds don't want your blueberries, then your customers won't either.

Dr. Ben Fuqua once stated: "Just because a blueberry is blue, doesn't mean it is ripe. You have to taste the fruit to see if it is sweet and palatable." Both growers in question are new and very small. Consumers know the AgMo labels, and "grown in Missouri" means quality on the table. I urge all Council members to assure we uphold the AgMo traditions. Neither of the growers in question are Council members. However, members or not, actions and attitudes like this hurt all Missouri blueberry producers.

### The Secretary's Notes

I'd like to refer members of the Blueberry Council of Missouri to review the Bylaws. Membership is due on January 1 of each year. Your dues of \$35 or \$15, no matter when paid, covers January 1 through December 31 of that year.

The secretary sends notices out in January requesting dues to be paid ASAP, allowing time for information to be prepared for the Annual Meeting conveniently held during the Small Fruit Conference in February.

We are a small farm group. We have very few avenues for income, except for membership dues. We are not chartered to be a money-making organization. Therefore, it is necessary to watch how we spend our member's money. There are times when members are asked for a commitment to purchase picking bags, cookbooks, brochures and so on.

If someone is not a member, we cannot sell to them. This is one of the benefits of membership. There are many people who receive this newsletter who grow blueberries. We have always encouraged every grower to join this state-wide organization . . . where else can you get statewide ads, be recognized as a valuable commodity group, receive timely research updates, and have the Department of Agriculture as a working partner for a mere \$35 each year.

We are making plans for a new brochure listing growers. If you are aware of any errors in past printings, please send your corrections ASAP. Make a copy of the printed information, then state what needs to be changed. When we print, we want information pertaining to your farm location and how to get to it. (Some members don't live at their farm, so we may have a mailing address and phone number different than the farm, and this needs to be noted.) Send changes to: 2607 PCR 616, Perryville, MO 63775.

### Classified

A 22 acre berry farm for sale in north-central Arkansas. Call 870-425-7028 or go to <http://www.smittysupick.com>.

## Plant Propagation I: The Mist System

by John Avery

Propagation is a broad term that covers a lot of methods to increase the numbers of a plant cultivar. When dealing with fruit crops you are generally dealing with cutting propagation or grafting propagation. Small fruits are predominantly propagated by cuttings. This is the first of two articles on propagation. Part I is setting up a mist system, the components of the system, and where the system can be placed. The second article will deal with summer propagation under a mist system and procedures to insure the best rooting success.



*Mist nozzles are installed in PVC pipe and suspended over a greenhouse propagation bench.*

Mist systems are used for one purpose and that is to control the loss of water in the leaves of the cutting until roots have had a chance to form. The primary component of the mist system is the mist nozzle. The nozzle is designed to control the amount of water sprayed for a given time, the size of the droplets formed, and the coverage area. There are many nozzles on the market that range in droplet size from a fine fog to a course spray for coverage of large areas. As a rule the smaller the droplet size, the less coverage and the more susceptible to air movement. Very fine fog nozzles will only cover a small area, must have very low air movement and use low volumes of water. They are useful with plants which can be damaged by excessive moisture

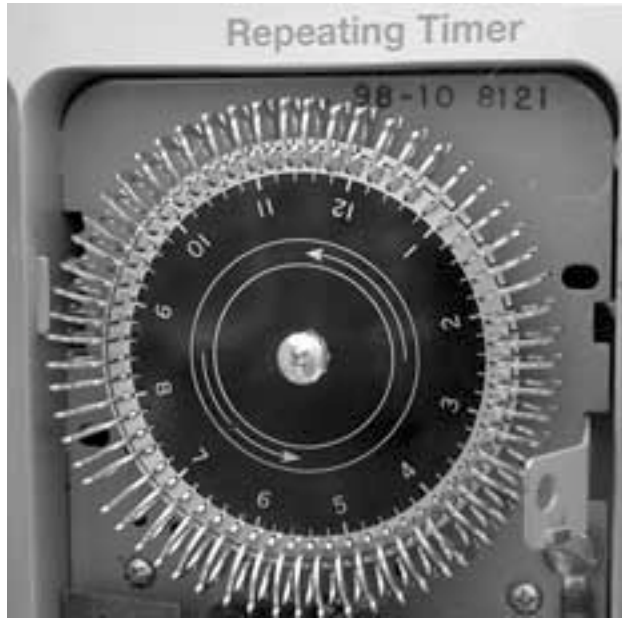
on the leaves or around the stem where rooting will occur. Nozzles with large droplet size are useful in areas of high air movement such as outside or to cover large areas with a minimum number of nozzles. Plants to be rooted under these systems must be able to withstand a lot of water on the leaves and around the stem in the rooting zone. Generally rooting media must be well drained.

The secondary component of the system is a set of timers to control the duration of misting. The first timer is a 24-hour timer to control the day-night cycle and then there is a short cycle timer to control the misting time. These timers are connected in series so that the 24-hour timer controls the short cycle timer. The 24-hour timer should be set to correspond to the daylight hours. During the night hours the mist can be turned off to allow the leaves to dry out. This will help reduce the incidence of fungal disease on the plants.



*The 24-hour timer to control day/night cycle*

The short cycle timer controls the duration of misting as well as the frequency of misting. The short cycle timer is set to minimize water application to the plants. The mist should just keep the leaves moist without excessive moisture. The most common short cycle timers used in plant propagation have a six minute cycle with a misting time that can be adjusted in six second increments.



*The short cycle timer to control misting time*

The last component to a misting system is the electric solenoid valve to open the water supply to the misting lines. A “normally open” solenoid is used in propagation because of the need for misting even if there is a power failure. The valve remains open when there is no electric current and closed with the application of a current. This will insure that the mist is on in the case of a power failure.

The standard three-quarter inch water line can support several hundred feet of mist line. The exact number will depend on the output of the misting nozzles.

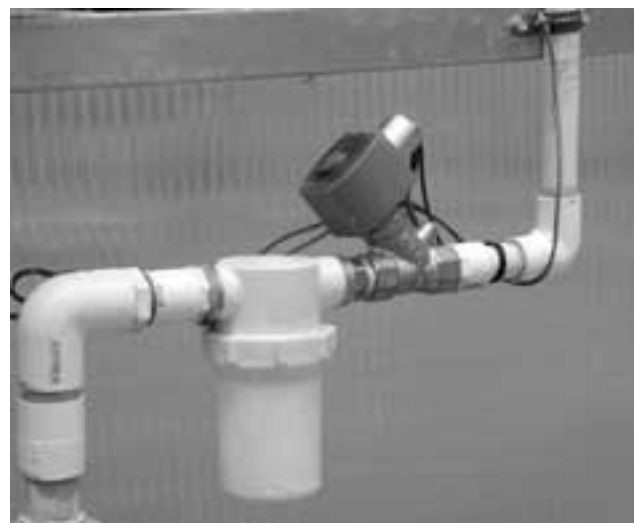
Generally misting beds are set up in some kind of structure which will protect from the wind. A greenhouse is the most common structure to house a propagation system but outdoor beds can be used for propagation. Some lath or fencing can be used to make a wind break for the system. Even in greenhouses the cooling fan can create problems with a mist system, therefore air movement patterns must be considered when setting up the system, and barriers around the mist area are sometimes used to

## Weather-Wise Vegetable Production

*by Gaylord Moore*

Missouri weather is always unpredictable and this season is no exception. Depending upon where you live in Missouri, weather conditions have been very dry to very wet with every moisture level in between. Lack of moisture available for vegetable crops can be overcome with a good water supply and irrigation system. The amount, duration, and time of rainfall during a rainy season is beyond our control. In fact, with irrigation, dry seasons that are not heat intensive produce higher quality vegetables with reduced incidence of fruit, foliar and root diseases.

In many areas of Missouri, summer crops have been hit very hard with excessive moisture. High soil moisture, increased humidity plus high temperatures spells: D-I-S-E-A-S-E. This has been the year that a good disease prevention program with all vegetable crops has paid dividends. Bacterial diseases have been evident in tomatoes this year. Bacterial speck and bacterial spot have been prevalent in several locations. Copper compounds such as copper hydroxide, copper sulfate, and copper resinate are suggested for control of most bacterial problems. Other tomato diseases generally associated with wet soil conditions are fungal



*Electric solenoid valve to regulate water supply to lines.*

diseases – late blight and phytophthora blight. Materials such as Ridomil Gold/Bravo that work better in wet conditions are suggested. Of course, the disease, early blight, is always a problem, especially without the assistance of fungicides. A fairly new fungicide, Quadris, has been very effective with many foliar vegetable diseases. It is highly effective on the various blights with tomatoes. However, growers should not spray exclusively with Quadris because of the risk of the fungus developing resistance to this excellent new fungicide. Alternating Quadris with Bravo every 5 to 7 days is often recommended during the harvest season.

Pumpkins are always vulnerable to disease throughout the summer especially now with the existing weather. High moisture, heat and humidity coupled with dense foliage is a perfect incubator for downy and powdery mildew. Symptoms of downy mildew include upper surfaces of leaves showing angular, pale green lesions bound by leaf veins. Purplish, velvety appearing spores occur on the underside of the infected leaves. Within 2-3 days of infection, the entire leaf turns brown and hangs limp on the end of the petiole. Manage this disease by alternating sprays of Bravo or Maneb early and later with Ridomil Gold/Bravo and Bravo.

Powdery mildew occurs from midsummer until the end of the season. Symptoms begin as circular, yellow spots first on the crown leaves and shaded lower leaves. Eventually, a white, talcum powder-like growth completely covers the lower and upper surfaces resulting in death of infected leaves. Whenever possible, grow powdery mildew resistant varieties. Bayleton, Benlate, Topsin and Quadris are recommended fungicides for control. Alternating these fungicides will increase efficacy and reduce resistant fungal strains.

Phytophthora blight occurs from midsummer to the end of the season. Infected plants completely wilt and die. Brown lesions that are 1-3 inches in length girdle the stem at the leaf axil. Infected fruit turn soft and collapses. Saturated soils following warm rainfalls promote the development of the disease.

Black rot is another disease that occurs from midsummer through harvest and storage. Symptoms include a reddish-brown, ring spot pattern that becomes bleached white and is covered with black

specks in a ring pattern. Fruit lesions turn black and infected fruit rots.

Where diseases have been a problem in the past or if you anticipate a potential problem, a preventative spray program is highly recommended. For all your pest control recommendations, the University of Missouri provides the Midwest Vegetable Production Guide for Commercial Growers that is available through your University Extension Center. This guide is very inexpensive and has the latest pesticide recommendations that are updated each year. Most diseases are easier to control with preventive measures versus eradication after the disease becomes a problem. Therefore, be aware of what to expect with various pest problems in your planting and plan accordingly.

## What to Do with All the Fruit

by Suzi Teghtmeyer

Harvests are coming in and I admit those first four pecks of blackberries fresh off the cane were great, but what can you do with those remaining bushels when the whole family is sick and tired of pies, cobblers and compotes? Why not venture out onto the Internet and find some new “fruitful” ideas!

*Low-Fat Vegetarian Archive*

<http://www.fatfree.com/recipes/fruits/>

Do not be afraid! These recipes are just as delectable as the fattening ones. (By the way – the five-fruit-salad recipe is delectable!)

*SOAR – Searchable Online Archive of Recipes - Fruit*

<http://soar.berkeley.edu/recipes/fruits/>

The SOAR website offers 215 “fruitful” recipes including “Avocados With Strawberry Salsa And Crispy Tortilla Strips.” This site also provides diabetic and low/no sugar recipes, among them are sugar-free apple and blueberry pies, blueberry torte dessert, and peach melba layer cake supreme.

*My-Meals*

<http://www.my-meals.com/>

Fruit: not just for snacking! This searchable database lets you pick the food (i.e. apple) and the type of meal (i.e. main dishes) to find new and tasty ways of combining traditional ingredients.

(This sounds delicious! Apple-Stuffed Turkey Tenderloins)

*YumYum*

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

The name says it all! Search on the keyword of fruit and get 300+ recipes, including "Breakfast Fruit Chimichangas" and "Cheese and Fruitwich"

*Fresh From Florida*

<http://www.fl-ag.com/flckbk/fruit.htm>

Among traditional fruits, interesting offerings here include watermelon recipes including "Watermelon Muffins" and favorites like "Watermelon-Strawberry-Mint Salsa".

*Southern U.S. Cuisine*

<http://southernfood.about.com/food/southernfood/>

Searching this site for you particular fruit or berry will reward you with classic as well as innovative combinations. For when it's too hot to cook you can also find neat recipes for fruit cooking in your crock pot.



*John Avery marvels at the characteristics of a native elderberry under test at Mountain Grove .*

## Small Fruit Research at the Missouri State Fruit Experiment Station

*by Patrick Byers*

Several projects of interest to Missouri small fruit producers are underway at Southwest Missouri State University's Fruit Experiment Station.

Recently released blueberries are featured in the blueberry cultivar trial. This project will compare the standard cultivars Bluecrop and Collins with 11 recently developed cultivars. These cultivars include Reka, Nui, Duke, Summit, Toro, Ozarkblue, Brigitta Blue, Sierra, Chandler, Nelson, Legacy, and Darrow. We will evaluate yield, berry size, plant growth, and disease susceptibility for at least 5 harvest seasons. The first harvest from this study was during 2000. Martin Kaps heads the blueberry project.

Newly developed blackberries are included in a similar trial planted in 1998. We are evaluating both semi-erect cultivars (Chester, Triple Crown, and Loch Ness) and erect cultivars (Shawnee, Choctaw, Kiowa, Navaho, Arapaho, and Illini). We also have expanded the trial to include Apache and Chickasaw, as well as observational plots of several advanced University of Arkansas blackberry selections. We have collected two years' of harvest information, which includes yield, fruit size, and fruit quality. Patrick Byers is the project leader for this project.

Elderberries are in demand for winemaking and processing in Missouri, and a cooperative project between the Fruit Experiment Station and the UMC Southwest Research and Education Center is evaluating the characteristics of native elderberries. Andy Thomas and Patrick Byers are collecting superior wild plants from Missouri and Kansas for evaluation at Mountain Grove and Mount Vernon. We have included 27 plants in the project. We are also developing a pruning study with three elderberry selections, which we hope to have planted by Fall 2000.

Annual strawberry production is a hot topic today. After several years of trials with fall planted

Chandler, we are shifting directions and investigating annual production of eastern cultivars. The present trial will compare fruit production of late spring dormant planted plants with fall planted plugs for the cultivars Earliglo, Prime Time, Jewel, Honeoye, Allstar, Northeast, Sweet Charlie, and Chandler. The planting will feature raised beds covered with black plastic. We will harvest the trial next spring. Martin Kaps directs this project.

The projects described above are multi-year in nature, and Missouri fruit growers are encouraged to contact the project leaders for current progress reports. These projects are also featured during field days and tours at the State Fruit Experiment Station. If you would like to learn more about small fruit research at the station, contact Patrick Byers at 417-926-4105, or email plb711t@mail.smsu.edu.

## Bird Control Update Y2K

by *Bob Hershey*

Just when I thought I had figured out how to control birds, another problem shows up. The controls used this year consisted of the following: We had our visual devices in place before any fruit started to color. For visuals, we used scarecrows, flashing bird line, big eye balloons, wind socks, and moveable owls. I finally found a source for hawk and eagle kites. We used three hawks and one eagle on 20 to 30 foot poles. We also had our pyrotechnic materials ready . . . 12 gauge shot shells, screamers, bird bangers, etc. along with three AV bird distress alarms.

Re-Jex It was applied at the rate of 1 gallon per acre with 4 ounces of crop oil as a wetting agent. Sixty gallons per acre of diluted mix was applied with a conventional sprayer and hollow cone tips. This mix was applied just as each of the eight varieties of berries started to show color, followed by another cover spray a week later. This way none of the fruit was sprayed within 7 – 10 days of harvest. When you have eight varieties ripening in sequence as we do, this means a lot of trips with the sprayer keeping records of what has been covered and when. The lack of rain helped by not breaking down the Re-Jex It. I feel Re-Jex It works if

applied in a timely manner and used in conjunction with scare devices.

The hawk and eagle kites proved to be very effective. Most birds would avoid getting around them at all. With everything in place and Re-Jex It on the fruit . . . we still had a problem. About 30 – 40 Golden Finches, along with a small group of Purple Finches began destroying fruit. Finches are not fruit eaters; they feed on seeds alone. They peck a hole in the skin and rake the flesh away with their beak to get the small seeds within the blueberries. By not eating the skin of the fruit, they do not get a taste of the Re-Jex It. Certain varieties of blueberries attract finches more than others. Blue Jay, Collins, and Jersey seem to be the finches' favorites. After cutting the various blueberries in half, I have observed that some varieties have darker, more distinct seed than others. Blue Jay especially has a more pronounced seed than other varieties.



*Finch damage to blueberry fruit.*

Finches do more damage than other birds by pecking holes in the fruit just for the seeds. Robins, thrush, and others are fruit eaters. They take the fruit and fly off. Finches are not deterred by visual devices. You have to continue to harass them with rockets, bird bangers, etc. Most of the time when you shoot a banger, they will just take flight, circle and return. If you are persistent, and can have your field help use the scare gun, you can deter them



somewhat. I have very good slides and photos I will bring to the 2001 Missouri Small Fruit Conference for "Show and Tell".

Remember you need a federal permit from the Department of the Interior, US Fish and Wildlife to destroy birds. If anyone needs help in applying for a permit or wants to know what it is you are expected to do before a permit is issued, please call me. This agency cannot hand you a permit, you have to prove "JUST CAUSE" before they consider issuing you a permit.

## Precious Moments Point of View

by Marilyn Odneal

I am sure that many of you are familiar with the tear-drop eyed children created by Samuel J. Butcher known as "Precious Moments". The Precious Moments Chapel center opened in 1989 at Carthage, Missouri and has been visited by millions since then.

Jay Chism is the grounds maintenance supervisor for the Precious Moments Chapel. Jay earned a bachelor's degree in horticulture from Southwest Missouri State University and owns and operates Chism's Harvest Farm. Three seasons ago, he decided to scale back the farming operation to work at the Precious Moments Chapel. "This change has worked out very well for both me and my family. My son Patrick and I love the campgrounds here."

I visited Jay this spring to see the plantings and get some pointers on grounds maintenance that could be applied to our campus at Mountain Grove. Looking at the beautiful flowerbeds, hanging baskets and containers gardens, well managed ground covers, trees, fountains and lovely sculptures, I knew I would be getting the best possible advice.

Jay says he "micromanages". "The grounds here are large and diverse. You can't manage everything the same way. It is important to learn about each area; its soil, drainage, how compacted it is, what the weed population is. You have to keep good maintenance records, take soil tests, and note your observations for all areas as well." Selecting a herbicide based on the weed population in the area and applying it when it will be most effective to

manage those weeds is micromanaging. Micromanaging takes more time in planning and management, but it saves hours of labor and money on materials.

When discussing equipment, Jay stressed the importance of a corer-aerator for turf health. He also uses a slit seeder to reseed sparse areas.



*Jay Chism in front of a courtyard planting at the Precious Moments Chapel.*

Trees are mulched at the base with a hardwood bark. Flower and ground cover beds are either edged with pavers or walkways or are maintained with an edger twice a month. Flowers are planted when they are blooming, since the bed has to look great as soon as it is planted. This is also the reason larger trees are used for planting as well.

Greenhouses on the grounds produce the succession of flowers used in the beds and hanging baskets. Jay is trying a newer plant he saw at Disney World this year, Penta. "I want to see if it works for us." The Precious Moments Grounds is a wonderful place to get great landscaping ideas. I appreciate Jay taking time out of his very busy schedule for this great tour.

---

**COOPERATIVE EXTENSION SERVICE  
U.S. DEPARTMENT OF AGRICULTURE  
UNIVERSITY OF MISSOURI  
CLARK HALL  
COLUMBIA, MO 65211**

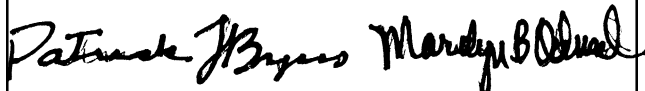
OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300

**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@mail.smsu.edu](mailto:mbo774t@mail.smsu.edu).

---