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GRAPE GARDENER

Newsletter for the Backyard Grape Grower
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The following articles appearing in this issue of "Grape Gardener" are authored by Maurus Brown:

"Disease and Insect Control for Late Summer"
"Harvest Parameters"
"Dry Season Effect on Fruit Quality"
"Leaf Petiole Analysis"

WEBSITES:

2002 Small Fruit and Grape Spray Guide
http://www.hort.purdue.edu/hort/ext/sfg/

Small Fruit Plantings For the Backyard
http://www.urbanext.uiuc.edu/fruit/index.html

C. Wayne Ellett Plant Pest Diagnostic Center (PPDC)
http://ohioline.osu.edu/~plantdoc/cweppdc/cweppdc.html

Disease and Insect Control for Late Summer

As the growing season progresses it is necessary to watch the days to harvest in order to discontinue the use of certain pesticides. Gardeners should read the label of all pesticides being applied to their grapevines for the preharvest interval (PHI) dates to determine when to discontinue their use prior to harvest.

Once the grapevines have been harvested, you should resume spraying vines to assure that no leaf loss will occur due to diseases and insects. If you are on a "non chemical" program, then use only the appropriate insect and disease control strategies.

Fig. 1 Table Grape Variety Himrod

It is not uncommon for gardeners to forget the importance of maintaining disease and insect control after harvest. The grapevines must have a good canopy of leaves to produce photosynthate (sugars) to store in the vines root system. Stored sugar compounds allow the vines to maintain plant viability over winter and to produce new shoot growth the following spring.

Always read and follow label directions when applying pesticides.

Harvest Parameters

It is important to monitor your table grapes each day as harvest nears. If you have experienced loss of berries due to birds, try to cover the canopy of the grapevines with bird net. This will help to protect against birds feeding on the clusters as the berries ripen. When fruit enters veraison (period of fruit coloring), try to have the netting in place. Birds will start pecking each day to test for ripe fruit.

Fig. 2 Bird Netting

Once fruit has changed color to the point of "looking ripe," it is a good idea to start taste testing to determine the level of fruit maturity. A refractometer (instrument used to measurer soluble solids) is used to determine the level of sugars (sweetness) in fruit. Fruit that is near 18 to 20 Brix° (measured as grams of soluble solids per 100ml of liquid) can be harvested. Fruit is often left on the vine until it reaches 21 to 22 Brix° (very sweet flavor). Caution should be taken not to allow fruit to hang too long as the pulp begins to break down. You will lose some crispness of fruit texture if this happens.

As with any fruit crop, harvest will depend on the variety of the grape grown. Some varieties' fruit will remain crisp allowing the fruit to stay on the vine to ripen longer. However, this years drought conditions may cause the fruit to deteriorate sooner than normal.

Dry Season Effect on Fruit Quality

Fruit quality of table grapes, overall, has been good given the long dry period in Ohio this growing season. Some gardeners have been actively watering their vines along with other garden plants to alleviate dry conditions, and others have chosen not to water, allowing the plants to survive on their own.

During drought events, grapevines will produce smaller berries with less pulp. The pulp to surface ratio is dramatically decreased allowing for a concentration of sugars in the fruit. This leads to very sweet flavor in the berries, although a reduction in the normal yield. Some smaller (shot) berries that did not fill properly may exhibit a “raisin” appearance due to lack of moisture.

Leaf Petiole Analysis

Most gardeners take soil tests to determine what, if any, fertilizer and lime applications need to be made to amend their garden soil. This is a good first step to monitor and improve any garden if noticeable deficiencies in plant growth have been observed.

Fig. 3 Leaf Petioles Used for Analysis

One other important method of monitoring plant nutrient abnormalities is the use of leaf petiole analysis. A gardener can take a set of petiole samples (generally 40 to 60 petioles) per variety to find any possible deficiencies or over abundance of an element in the vine's tissue. Collecting this many petioles, however, may be difficult as you do not want to strip vines of foliage. It may be necessary to substitute leaf tissue for petioles to obtain adequate amount of plant material. When selecting which leaves to harvest, choose the fully-expanded leaves and try to avoid older leaves.

Tissue analysis should not be the sole method of monitoring your grapevines, but it works very well as a means of tracking whether or not the plant is taking up the proper amount of nutrients. Therefore, plant analysis is a very useful companion to traditional soil testing.

If deficiencies are detected, a gardener could, if necessary, make foliar applications of the element that is lacking in the vine. A foliar application will only work for the immediate growing season. For a long-term solution the proper amendments must be made to the soil itself.

OSU Bulletin 458 (Agdex 206/11) has good information on soil and plant tissue analysis of grapevines. Also, refer to Chapter 6 of the OSU Extension Bulletin 861 entitled **"Midwest Small Fruit Pest Management Handbook"** for more details on appropriate levels of plant and soil nutrients as they relate to grapes.

Contact your local Extension Office for assistance on finding a lab for plant and soil testing and interpreting results.