


Table Grape Varieties for Michigan



SAMPLE PAGES

Purchase a complete version
of E2642 from the MSU Bulletin
Office website.



Thomas J. Zabadal, G. Stanley Howell and David P. Miller
Department of Horticulture



Table of Contents

Introduction	3	Einset Seedless	10
I. Seedless Varieties	5	Reliance	11
White	5	Saturn	11
Himrod	5	Suffolk Red	11
Interlaken Seedless	5	Vanessa	11
Lakemont	6	II. Seeded Varieties	12
Marquis	6	White	12
Remaily Seedless	6	Seneca	12
Romulus	7	Kay Gray	12
NY65.479.2	7	Edelweiss	12
V64023	7	Golden Muscat	13
Blue	7	Blue	13
Concord Seedless	7	Buffalo	13
Glenora	7	Alden	13
Mars	8	Steuben	13
Venus	8	Sheridan	13
ES3-22-18	8	Red	13
NY46.290	8	Swenson Red	13
NY65.479.1	9	Yates	13
NY65.483.2	9	III. Sources of Vines	14
Red	10	Appendix A	15
Canadice	10		
Challenger	10		

Cover photo: Clusters of Romulus grapes that were manipulated with gibberellic acid sprays, cane girdling and cluster thinning. MSU Southwest Michigan Research and Extension Center, 1990.



Introduction

Table grapes are an important food category in the United States. Per capita consumption of table grapes has quadrupled over the past 25 years, with annual consumption now exceeding 7 pounds. Table grapes now rank fourth in fresh fruit per capita consumption after bananas, apples and oranges.

Portions of Michigan are conducive to commercial table grape production because they have a favorable growing season, well drained soils, an extensive infrastructure for fresh marketing of horticultural crops and proximity to a large portion of the U.S. population. Other areas of Michigan will support successful backyard table grape vineyards.

Over the past 50 years, a large number of table grape varieties with potential in Michigan have been released from several grape breeding programs. Reports and nursery catalogs often suggest that many varieties are excellent and worthy of culture. In reality, however, only a small percentage of them are actually worth planting in Michigan. This publication identifies varieties with potential in Michigan by summarizing years of evaluation of numerous named and unnamed table grape varieties.

Large quantities of the native American grape varieties Concord, Niagara, Delaware and Catawba were grown years ago in Michigan for table grapes. These and other seeded table grape varieties have become less important with consumers, who now tend to prefer seedless table grapes. Therefore, this publication emphasizes seedless table grape varieties. Presentation of seeded table grape varieties is limited to a list of "top 10" choices.

Descriptions of varieties include not only their physical characteristics but also their major strengths and weaknesses. There are no perfect table grape varieties! Fortunately, a weakness does not eliminate a variety from consideration for planting.

Vine hardiness is critically important to Michigan growers. Descriptions used in this publication may be interpreted as follows: slightly hardy = significant winter injury to vines occurs at -5 to -10 degrees F; moderately winter hardy = significant winter injury to vines at -10 to -15 degrees F; hardy = significant winter injury to vines at -15 to -20 degrees F; very winter hardy = significant winter injury to vines at temperatures from -20 to -35 degrees F. Winter minimum temperature data for several locations in Michigan (Fig. 1) indicate regional trends for suitability of table grape production. Areas along the Great Lakes shoreline are generally good to excellent for table grapes. Areas inland in the lower one-third of the Lower Peninsula are generally acceptable for varieties that are at least moderately hardy, and the Upper Peninsula and inland portions of the upper two-thirds of the Lower Peninsula are generally unacceptable for grapes. There are exceptions to these generalizations. Furthermore, even if a regional climate favors grape production, the characteristics of a specific vineyard site must be evaluated.

Time of fruit ripening in this publication is for grapes at the Southwest Michigan Research and Extension Center at Benton Harbor, which has a growing season of approximately 2,600 growing degree-days (base 50 degrees F) from April 1 to September 30. Fruit maturity classes are: early = fruit ripens from August 15 to September 7; midseason = fruit ripens from September 8 to September 22; late season = fruit ripens September 23 or later.

Fruit appearance — cluster compactness, berry size, berry color and fruit maturity — greatly influences table grape marketability. Those characteristics that influence fruit appearance are highly influenced by cultural practices, which often must be uniquely tailored to each variety. Therefore, successful cultivation of table grapes involves not only choosing a good



Introduction

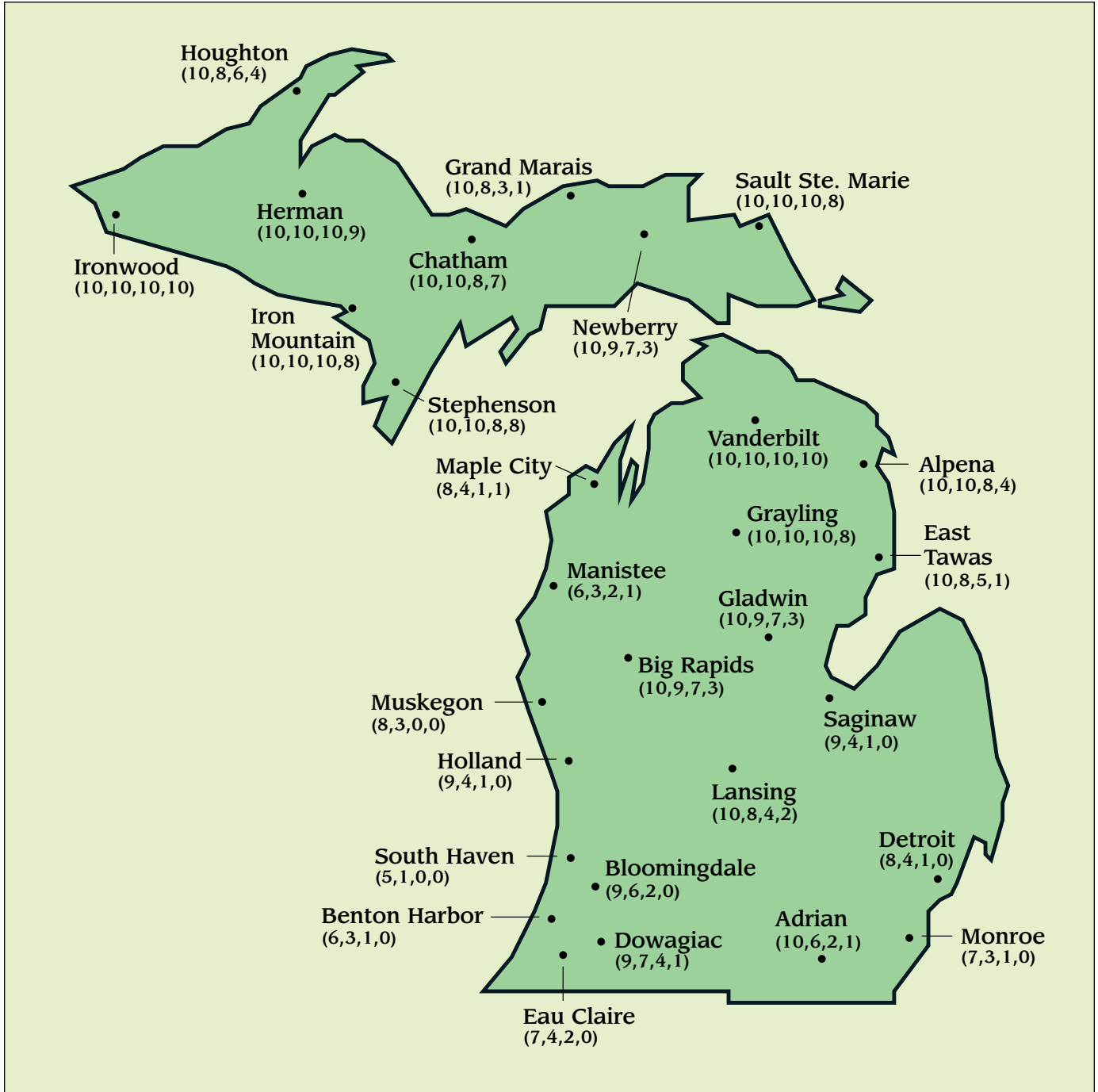


Fig. 1. The values in parentheses indicate the number of years per 10-year period when the location experienced -5, -10, -15 or -20 degree F temperatures. Values are averaged for the 30-year period from 1961 to 1990. Data courtesy of J. Andresen, Michigan State University Department of Geography.



1. Seedless Varieties

variety but also applying appropriate cultural practices. For this reason, comments on the culture of the most desirable varieties are included with their descriptions whenever possible.

Common cultural practices in the production of seedless table grapes are: applying gibberellic acid (GA) sprays, which can reduce berry number per cluster and/or increase berry size; girdling canes or trunk, which can increase berry number per cluster and/or increase berry size; and thinning, which reduces the crop level on the vine to ensure acceptable fruit quali-

ty. Detailed information on planting, pruning, training, pest management, harvesting, storage, packaging, etc., for table grapes is available in publications listed in Appendix A.

Storage life is another important characteristic of table grapes. A typical farm storage kept near 32 degrees F will allow at least fair storage of most varieties for two weeks if efforts are made to maintain high humidity. Some varieties are capable of good or excellent storage under such conditions and will maintain quality for 3 to 4 weeks or longer.

1. Seedless Varieties

White

Himrod (N.Y.) Vines are moderately hardy and moderately vigorous. Berries are round and small with an adherent skin. Flesh is soft with good flavor. Seeds are very small and soft. Clusters in their natural condition are long and loose. Fruit responds very well to gibberellic acid (GA) applications and girdling (Fig. 2). Necrosis of the terminal portion of the cluster rachis becomes more prevalent with increasing cluster size. Berry thinning, which involves removing the bottom half of the cluster, counteracts this fault. Himrod has moderate susceptibility to berry cracking and fruit rot. The fruit is early ripening and stores fairly well.

Major weakness: Postharvest berry shatter.



Fig. 2. A 'Himrod' cluster from a vine that was manipulated with gibberellic acid sprays at bloom and fruit set, cane girdling at fruit set and cluster thinning of the vine.

Major strengths: High fruit quality; reliable responses to gibberellic acid sprays and girdling.

Recommendations: Commercial production and home production on good sites if girdling is used and gibberellic acid sprays will be practiced.

Interlaken Seedless (N.Y.) Vines are slightly hardy and moderately vigorous. Berries are oval and medium-sized with an adherent skin. Flesh is soft with a strong flavor. Seeds are soft and small. Clusters are medium-sized and compact. The fruit ripens very early.

Major weakness: Low hardiness.

Major strengths: Very early ripening; strong flavor.

Recommendations: Home plantings only if very early fruit production is desired on good sites and if gibberellic acid sprays will be applied.



1. Seedless Varieties

Lakemont (N.Y.) Vines are medium hardy and moderately vigorous. Berries are round and small to medium-sized with an adherent skin. Flesh is firm and mild-flavored.



Fig. 3. A well filled, large cluster of 'Lakemont' from a vine that was manipulated with gibberellic acid sprays at bloom and fruit set, cane girdling at fruit set, and postbloom cluster thinning of the vine.

Seeds are small and fleshy but become larger and occasionally woody with vine manipulation. Clusters are long, medium to large and moderately compact. Vines are moderately to highly susceptible to downy mildew. Fruit is subject to cracking and rot during rainy harvest periods. Vines tend to overbear and should be thinned after fruit set. Vines respond to gibberellic acid and girdling (Fig. 3), but these and prebloom thinning may increase

cluster compactness and fruit rot. The fruit stores moderately well.

Major weaknesses: Moderate hardiness; downy mildew susceptibility; fruit rot.

Major strengths: High fruit quality; response to gibberellic acid and girdling.

Recommendations: For trial in commercial production, providing cluster thinning, gibberellic acid sprays and girdling will be used.

Marquis (N.Y.) Vines are hardy and vigorous. Berries are round and large with a somewhat tough skin. Flesh is soft with a pleasant flavor. Seeds are medium

to large and soft. Clusters are long, large and loose. Fruit ripens midseason and stores fair. Vine is susceptible to downy mildew. Gibberellic acid applications are phytotoxic to vines and cause crop failure. Vines respond well to flower cluster (Fig. 4) and berry thinning. Fruit is resistant to cracking during rainy harvest periods. Skin thickness becomes less noticeable as fruit ripens. Vines tend to overbear. Berry thinning is the preferred crop adjustment practice.

Major weaknesses: Thick skin; seed size; fruit storage limitation; downy mildew susceptibility.

Major strengths: Thick skin affords high resistance to berry cracking; hardness; flavor; berry size; cluster size; high vine vigor.

Recommendations: This is an excellent grape for both commercial and home plantings.

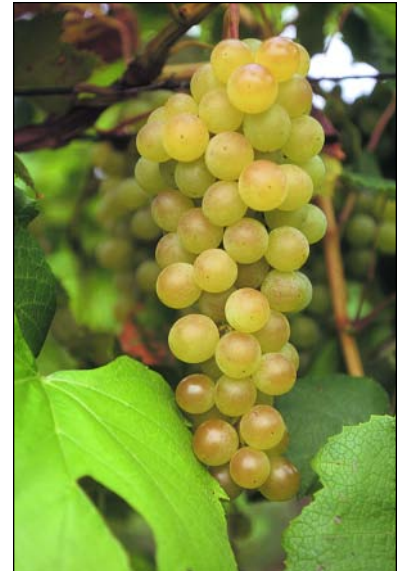


Fig. 4. A large, well filled cluster of 'Marquis' that was flower cluster thinned before bloom.

Remaily Seedless (N.Y.) Vines are slightly hardy and moderately vigorous. Berries are elliptical and medium to large with an adherent, often russetted skin. Flesh is firm and mild-flavored. Seeds are small and soft. Clusters are moderate to large and compact and often have shot berries (poorly developed, small, green berries). The fruit ripens late midseason.

Major weaknesses: Low winter hardiness; late ripening; russetting of berry skin.

Recommendations: None.



11. Seeded Varieties

Major weaknesses: Seed development; hardiness; fruit rot; possible GA toxicity.

Major strengths: Fruit flavor and texture; fruit storage life.

Recommendations: The quality of fruit of this variety is so highly valued by many that there is interest in growing it despite its variable productivity. Therefore, this variety is recommended on a trial basis with the following set of cultural practices:

- Do not use a GA berry-thinning spray at bloom.
- Apply a GA berry sizing spray, at a concentration of 25 ppm, when berries average 5 to 7 mm in diameter.
- Thin excessive clusters from the vine after fruit set. Clusters average 0.4 pound. Medium and large vines should be thinned to 25 and 35 clusters, respectively.
- Do not cane girdle.
- Apply trunk girdling only on a limited trial basis.
- Avoid planting on very light blow sands.

11. Seeded Varieties

Numerous seeded table grape varieties that are hardy enough to be grown in Michigan have been hybridized in several grape breeding programs over a period of several decades. The scope of these varieties offers growers plentiful choices among categories defined by berry color and time of ripening. Desirable characteristics that tend to focus one's choice of a variety include vine hardiness, disease resistance, fruit flavors and textures, as well as shipping and storage qualities of the fruit. Because there are numerous varieties potentially available to growers and yet limited demand for seeded table grapes, the authors have limited presentation to 10 varieties that provide the best combination of characteristics for successful culture of seeded table grapes in Michigan.

White

Seneca Vines are slightly hardy. Berries are medium-sized with an adherent skin. Flesh is firm with a very pleasant flavor. Vines are susceptible to powdery mildew, which should be controlled to ensure maximum winter hardiness. This variety is included

because of its very high fruit quality. Fruit is very early ripening.

Recommendations: Grow only in traditional fruit-growing regions and use a fungicide spray program to control powdery mildew.

Kay Gray Vines are very hardy and disease resistant. Berries and clusters are small. Fruit is very early ripening.

Recommendations: Suitable for trial in non-traditional grape-growing areas.

Edelweiss Vines are hardy, vigorous and productive. Berries have a sweet, pleasant flavor. Fruit ripens mid-season.

Recommendations: Suitable for trial in all locations.



11. Seeded Varieties

Golden Muscat Vines are moderately hardy. Berries are large. Flesh is very juicy with a very distinctive, pleasant muscat flavor. Clusters are very large and compact. This is a good backyard grape if the growing season is long enough — fruit is late ripening.

Recommendations: Suitable for trial in fruit-growing regions.

Blue

Buffalo Vines are hardy, vigorous and productive. Berries are medium-sized with a slipskin. Clusters are typically loose and medium-sized. Vines are susceptible to powdery mildew. The fruit is early ripening.

Recommendations: Suitable for trial in all fruit-growing areas as an early ripening Concord-type grape. Requires fungicide sprays to control powdery mildew.

Alden Vines are moderately winter hardy, vigorous and productive. Berries are large and oval with an adherent skin. Flesh is firm, meaty and pleasant-tasting. Vines are susceptible to downy mildew in some years. Vines overbear and require postbloom thinning to ensure adequate fruit maturity.

Recommendations: Suitable for fruit-growing regions. Requires fungicide sprays to control downy mildew.

Steuben Vines are hardy, vigorous and productive. Berries are medium-sized with a slipskin. Flesh is soft with a distinctive, spicy flavor. Clusters are long, large and compact. Vines may need thinning to avoid overcropping. Fruit is late ripening.

Recommendations: Suitable for trial in the lower half of the Lower Peninsula.

Sheridan Vines are hardy. Berries are medium-sized with a slipskin. This is a late-maturing Concord-type grape. Clusters are attractive, medium-sized and compact. Vines overbear and require cluster thinning to ensure fruit maturity. This is a good backyard grape if the season is long enough to ripen fruit.

Recommendations: Suitable for trial in the lower half of the Lower Peninsula.

Red

Swenson Red Vines are hardy. Berries are medium to large. Flesh is firm with a pleasant flavor. Problems with downy mildew are possible. Fruit is early ripening.

Recommendations: Suitable for trial in all locations. Requires fungicide sprays to control downy mildew.

Yates Vines are hardy, vigorous and productive. Berries are medium to large with a tough slipskin. Vines tend to overbear. Thinning after bloom is required to ensure full coloration and maturity of the fruit. Fruit is late ripening. This variety is included because it stores extremely well. Though fruit quality may be considered average at harvest, it will often seem excellent when brought out of storage at Christmas.

Recommendations: Suitable for trial in the lower half of the Lower Peninsula.



III. Sources of Vines

Below are the known sources of vines of cool-climate table grape varieties at the time of printing. The table grape varieties listed for each nursery are those listed in catalogs. Reference to nurseries on this list does not imply endorsement by Michigan State University or bias against those not mentioned.

Bailey Nurseries, Inc. - 1325 Bailey Road, St. Paul, MN 55119. Phone: 800-829-8898. Varieties: Beta, Bluebell, Canadice, Concord Seedless, Edelweiss, Interlaken, Kay Gray, Reliance, Swenson Red, Valiant, Vanessa, Worden.

Bear Creek Nursery - P.O. Box 411, Northport, WA 99157. Varieties: Canadice, Himrod, Suffolk Red, Van Buren.

Boston Mountain Nurseries - 20189 North Hwy. 71, Mountainburg, AR 72946. Phone: 501-369-2007. Varieties: Mars, Reliance, Venus, Remaily, Glenora, Himrod, Vanessa, Lakemont.

Concord Nurseries, Inc. - 10175 Mile Block Road, North Collins, NY 14111-9770. Phone: 716-337-2485. Varieties: Beta, Buffalo, Captivator, Sheridan, Steuben, Valiant, Worden, Edelweiss, Golden Muscat, Price, Swenson Red, Canadice, Concord Seedless, Einset, Glenora, Himrod, Interlaken, Lakemont, Mars, Reliance, Remaily, Romulus, Saturn, Suffolk Red, Vanessa, Venus.

L.E. Cooke Co. - 26333 Road 140, Visalia, CA 93292. Phone: 800-845-5193. (Wholesale to growers only.) Varieties: Canadice, Glenora, Golden Muscat, Himrod, Lakemont.

Double A Vineyards - 10275 Christy Road, Fredonia, NY 14063. Phone: 716-672-8493. Varieties: Alden, Beta, Captivator, Edelweiss, Golden Muscat, Seneca, Sheridan, Steuben, Valiant, Van Buren, Yates, Worden, Canadice, Concord Seedless, Einset, Glenora, Himrod, Interlaken, Lakemont, Mars, Reliance, Saturn, Suffolk Red, Vanessa, Venus, Marquis.

Edible Landscaping - P.O. Box 77, Afton, VA 22920. Phone: 804-361-9143. Varieties: Swenson Red, Mars, Canadice.

Gurney's Seed & Nursery Co. - 110 Capital Street, Yankton, SD 57079. Phone: 605-665-1930. Varieties: Beta, Himrod, Reliance, Seedless Concord, Canadice, Edelweiss, Glenora.

Indiana Berry & Plant Co. - 5218 W. 500 South, Huntingburg, IN 47542. Phone: 800-295-2226. Varieties: Himrod, Lakemont, Reliance, Suffolk Red, Saturn.

J. W. Jung Seed Co. - 335 S. High Street, Randolph, WI 53957-0001. Phone: 800-247-5864. Varieties: Edelweiss, Swenson Red, Reliance, Fredonia.

Lake Sylvia Vineyard Nursery - 13775 51st Avenue, South Haven, MN 55382. Varieties: Swenson Red, Svelter, Espirit, ES-3-22-18.

Miller Nurseries - 5060 West Lake Road, Canandaigua, NY 14424. Phone: 800-836-9630. Varieties: Ontario, Van Buren, Seneca, Steuben, Fredonia, Buffalo, Alden, Schuyler, Concord Seedless, Reliance, Glenora, Saturn, Canadice, Golden Muscat, Sheridan, Himrod, Lakemont, Interlaken, Vanessa, Marquis.



Other Extension Bulletins in this series:

- E-2643, Wine Grape Varieties for Michigan
- E-2644, Vineyard Establishment I: Preplant Decisions
- E-2645, Vineyard Establishment II: Planting and Early Care

For copies of these titles or a catalog of available publications, contact your county Extension office (listed under GOVERNMENT in the white pages of your phone book) or the MSU Bulletin Office, 10-B Agriculture Hall, Michigan State University, East Lansing, MI 48824-1039 (fax: 517-353-7168).

MICHIGAN STATE UNIVERSITY EXTENSION

MSU is an Affirmative-Action Equal-Opportunity Institution. MSU Extension programs are open to all without regard to race, color, national origin, sex, disability, age or religion.

Issued in furtherance of Cooperative Extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Arlen Leholm, Director, Michigan State University Extension, E. Lansing, MI 48824.

This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by the MSU Extension or bias against those not mentioned. This bulletin becomes public property upon publication and may be reprinted verbatim as a separate or within another publication with credit to MSU. Reprinting cannot be used to endorse or advertise a commercial product or company.

Produced by Outreach Communications on recycled paper using vegetable-based inks.

New 12/97-3M-LJ/LP, Price \$0.00, for sale only (Fruit-Commercial)

