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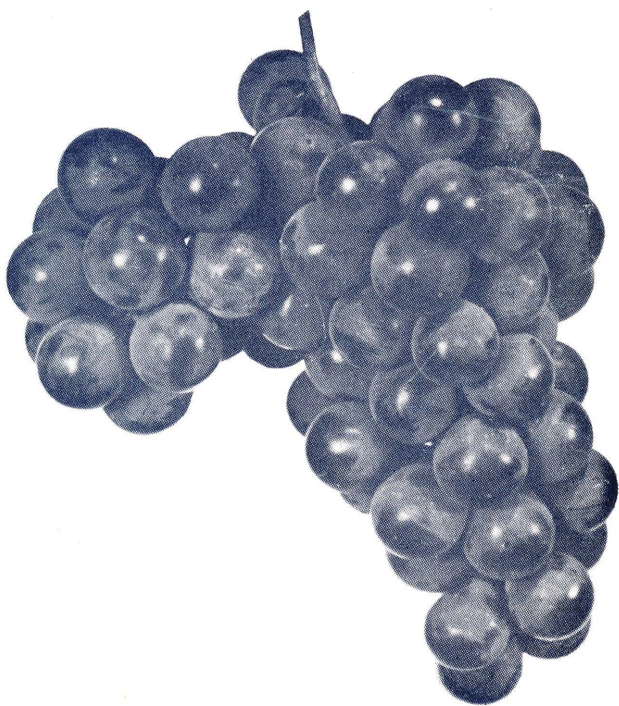
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EXTENSION FOLDER 71

GRAPES

in the

HOME FRUIT GARDEN



MICHIGAN STATE COLLEGE
COOPERATIVE EXTENSION SERVICE
EAST LANSING

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GRAPES IN THE HOME FRUIT GARDEN

By R.E. Loree

Grapes for home use may be grown in most of the counties of lower Michigan, provided proper care is taken in the selection of site and soil, and that adapted varieties are grown. The successful commercial culture of this fruit is confined to a few counties, chiefly Berrien, Van Buren and Kalamazoo, in the southwestern part of the state. Concord is the principal variety grown. Farther north, the growing season is often too short and the summers too cool to develop Concords of the best flavor and quality. However, the vines are hardy, and in localities where the climate is not favorable for the ripening of grapes of good dessert quality, the fruit matures sufficiently to make it suitable for jelly and other culinary uses.

This folder is intended for those who are interested in growing grapes primarily for home use.

VARIETIES

The varieties should be adapted to the climate of the locality in which they are grown. *Concord* is the best general purpose variety for the southern counties. *Worden* ripens a few days earlier than Concord and is higher in quality. *Portland* (green) and the blue varieties, *Van Buren* and *Fredonia*, ripen 2 or 3 weeks earlier and are more reliable for the central and northern portions of lower Michigan. *Niagara* (green) and *Delaware* and *Brighton* (red) ripen about the same time as Concord.

WHERE TO PLANT

Grapes should be planted in a warm sunny location. Fairly level land, or a gentle slope that will permit cultivation and not be subject to erosion, is best.

The site should be enough higher than the surrounding country to insure good air drainage. Frosty sites should be avoided.

In localities where the fruit does not always ripen well, a warm southern exposure is desirable.

THE SOIL

The soil should be deep, porous, well-drained, moderately fertile and contain an abundance of humus.

Sandy loams are best. The vines do not thrive well on light sands or heavy clay.

On very deep fertile loams, the vines often make too much growth and the fruit ripens late. On lighter soils the vines are not as productive, but the fruit ripens earlier, which is an advantage in localities with a short growing season.

PLANTS AND PLANTING

Either one-year or two-year-old vines may be used for setting. Vigorous well-rooted one-year vines are preferred.

The best time to set the vines is early, as soon as the soil can be properly prepared, in the spring. The soil should be plowed or spaded deeply and carefully fitted, the same as for any garden crop.

The vines are usually set 8 feet apart in rows 10 feet apart. In the garden, a distance of 8 feet

between the rows will be sufficient, but on good soil vines of vigorous growing varieties should never be closer than 8 feet in the row.

HOW TO PLANT

Before planting the young vine, remove all but one of the most vigorous stems or canes and trim off any broken or long straggling roots.

Dig the hole large enough to permit spreading the roots without twisting or bending them.

Place rich top soil in the bottom of the hole and be sure that the soil is packed firmly around the roots.

After the vine is set, shorten the cane which was left to two strong buds.

The vines should be set deep enough so that the two buds left on the cane are just above the surface of the soil.

FIRST SEASON CARE

Commonly, the vines are allowed to grow at will, sprawling over the ground the first season. In the home garden it is best to train one of the most vigorous shoots to a strong stake about 5 or 6 feet high. Any suckers which may arise from the roots are removed in order to divert all of the growth into the main cane.

Cultivate often and thoroughly enough to control weeds.

Strawberries or some intensively cultivated annual crop may be grown between the rows the first season.

THE TRELLIS

The trellis should be established at the end of the first season or the next spring. The vines may be trained on a wooden trellis or lattice or on arbors, fences or porches if desired.

Usually the trellis consists of two No. 10 or No. 11 wires stretched on posts which are about 25 feet apart. The lower wire is stretched at a height of $2\frac{1}{2}$ feet above the ground and the upper wire about 2 feet above the lower one. The end posts must be well anchored to prevent the wires from sagging.

TRAINING YOUNG VINES

When the young vines are trained to the trellis, only one of the most vigorous canes is left on each vine. Those which have made enough growth are tied and cut off just above the upper wire. Less vigorous vines which do not have canes long enough to reach the upper wire are trained so that the longest cane will extend just above the lower wire. Weak vines are again cut back to a single cane with two buds. When the new shoots start to grow, all but one is removed, and this one is tied to the trellis as soon as it is long enough to reach the lower wire. The canes should be straightened and tied tightly to the wires to keep them taut, and thus develop a straight trunk.

During the second season all suckers and lateral shoots which may develop below the first wire are removed in order to confine the growth to the upper portion of the vine. By the end of the second season the vines should have developed a main cane or trunk extending to the upper wire. These vines will bear some fruit the third season, and from then on they are treated as mature vines.

CARE OF BEARING VINES

Grapes usually require some cultivation. In the home garden a mulch of straw, leaves, lawn rakings, may be used. If the mulch is sufficient to keep down weeds, no cultivation is necessary.

Cultivation should be shallow, not deeper than 3 or 4 inches. Start early in the spring, continue until about August 1 and then sow an annual crop,

such as oats, barley, millet or sudan grass between the rows. This crop is worked into the soil the next spring.

FERTILIZERS

Stable manure is best. Apply during winter or early spring.

Poultry or rabbit manure may be used. Apply in the spring at the rate of about 5 pounds per vine. Do not apply in large quantities close to the vines.

Commercial fertilizers are not necessary if animal manures are applied in sufficient amount. Ammonium sulfate or ammonium nitrate may be used at the rate of $\frac{1}{4}$ to $\frac{1}{2}$ pound per vine. If mixed garden fertilizers are used, 1 to 2 pounds per vine will be required. Apply in early spring about the time growth begins.

When the vines are making a strong vigorous growth no fertilizer should be applied.

PRUNING

Pruning may be done any time the vines are dormant. It is usually done during February and March, but it may be done as late as April before the buds start to swell. Bleeding of the vines is not harmful. It is better to prune late than not at all. No summer pruning, other than the removal of suckers and water sprouts from the base of the vine, should be done.

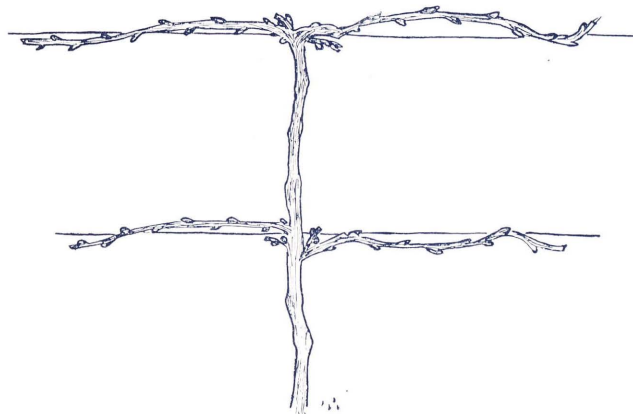
The annual pruning of a bearing vine when trained to a two-wire trellis is as follows:

1. Select 4 straight unbranched one-year-old canes about $\frac{1}{4}$ inch in diameter. These should originate near the main trunk of the vine and should be trained one each way on each wire.

2. Remove all other wood from the vine, being careful not to break or injure the canes retained for fruiting.

3. Shorten the canes which are left to 6 to 10 buds (or nodes) each. If the vines are very vigorous, leave 10 buds, but if they seem to be weak leave only 6 or 8 buds on each cane.

4. Tie the canes firmly to the trellis with a soft pliable twine.



PRUNING OLD AND NEGLECTED VINES

A young vigorous vine which has been neglected for one or more seasons may have several stems or canes arising from its roots. One of the strongest of these should be selected and used to establish the trunk of the vine. The remaining stems should then be removed and any canes which may be saved for fruiting cut back and tied to the wires according to the directions given above. Old vines which have been neglected or improperly pruned usually carry too much old wood, and most of the new wood is borne far from the roots. When pruning such vines, remove as much as possible of the old wood to encourage the growth of new wood nearer the main body of the vine. If there are several trunks all except one should be removed and the remaining branches or arms should be headed to a new cane originating as near as possible to the trunk. In some cases the old trunk has become crooked and partially dead or weakened by disease. Such vines may be invigorated by a renewal of the trunk. This may be

accomplished by selecting a strong-growing stem or cane arising from the base of the vine and using it to develop a new trunk.

SPRAYING

Insects and diseases which are most likely to cause serious damage are the berry moth, rose chafer, leaf hoppers, black rot and mildew. These may be kept in check by using the following spray schedule.

Time to Apply	Materials	Amount to Use in:			Diseases and Insects to be Controlled	Remarks
		1 gal.	5 gal.	50 gal.		
1. Just as blossom buds open	Low-soluble copper.....	4-5 T.	1¼ C.	2 lb.	Black rot, berry moth, downy mildew, rose chafer	This spray must be applied if you expect to benefit from a spray program
	Lead arsenate.....	2-3 T.	½ C.	1½ lb.		
	DDT 50% wettable powder.....	1 T.	½ C.	1½ lb.		
2. About time berries are beginning to touch each other.	Low soluble copper.....	4-5 T.	1¼ C.	2 lb.	Same as above	
	DDT 50% wettable powder.....	1 T.	½ C.	1½ lb.		

A dust containing 7 parts copper, 10 parts arsenate of lead, 3-5 parts DDT, and enough flowing agent such as pyrex or talc to make 100 parts, may be used as a substitute for sprays on grapes.

Dust materials should be applied when the plant is wet from dew or following a rain and when there is little or no breeze. A thorough, even dust coverage is necessary to be effective.

Mixed dusts may be purchased ready for application or they may be prepared at home. A hand-blended dust requires careful mixing in order that each controlling material in the dust be spread evenly throughout the entire mixture.

Wettable DDT may be added to an already prepared dust when one containing DDT is not available.