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26,49
26,78
23,79
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Suggestions for

RHUBARB CULTURE

**BY STAFF MEMBERS
OF THE
DEPARTMENT OF HORTICULTURE**

**MICHIGAN STATE COLLEGE
COOPERATIVE EXTENSION SERVICE**

EAST LANSING

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Suggestions for Rhubarb Culture

Rhubarb or "pie plant" is an important perennial vegetable in many home and market gardens. In some sections the winter forcing of the crop is an important commercial enterprise.

In home gardens the rhubarb bed should be located along one side or end with other perennials where it will not interfere with the preparation of the remaining area. Commercial plantings should be in blocks by themselves or with asparagus or other perennials for convenience in tillage operations.

Varieties

MacDonald and **Ruby** are best either for forcing or outdoor culture. They produce large deep red stalks (leaf petioles) of excellent quality. **Linnaeus** or **Strawberry** is commonly grown, but the stalks are more slender and not so attractive as those of **MacDonald** and **Ruby**. **Victoria** is an old, vigorous-growing variety which produces very large stalks of a greenish color and inferior quality.

Soils

Rhubarb thrives best on deep, fertile, well drained sandy loams well supplied with organic matter. For the early market crop, a location with a southern exposure is best. Heavier soils which tend to adhere to the roots when the plants are dug are preferred for growing plants intended for winter forcing.

The soil should be freed of noxious weeds and the organic content built up by adding manure or turning under green manure crops before planting. Plow the soil deeply and prepare thoroughly before setting the plants. Home garden plots should be spaded deeply (12 to 16 inches). Mix in well-rotted manure, leaf mold, or peat moss.

Propagation and Planting

The plants are usually propagated by dividing the crowns, preferably when dormant in the fall or very early spring. The crowns may be cut into as many pieces as there are buds. Under favorable conditions a piece of root with one strong bud will produce a good plant in one season. Often several buds are left in each root piece. These grow more promptly into large vigorous plants

that will produce some stalks for pulling the spring after planting. When old crowns (6 to 10 years) are divided, use only the vigorous outer portions for propagating material. Discard the center of the crown. Always leave as much root as possible with each piece of crown.

Plant in early spring. Set the pieces of roots so that the uppermost buds are about 2 or 3 inches below the soil surface. Space the plants 3 to 4 feet apart in rows 4 to 6 feet apart, vigorous growing varieties on very fertile soils, 3 by 5 or 3 by 6 feet. Remove broken and badly bruised roots, and cut back long whip-like roots before planting. Firm the soil well around the roots. Leave surface soil loose.

Manure and Fertilizers

Rhubarb requires large amounts of moisture and mineral nutrients during the growing season. The crop is seldom, if ever, over-fertilized. Manure is valuable because it supplies organic matter which helps to conserve moisture, and also furnishes mineral nutrients.

When manure is applied in sufficient amount (20 to 40 tons per acre per year), the only commercial fertilizer needed is 600 to 800 pounds superphosphate (0-20-0), applied in the spring. If scarce, the manure should be supplemented with a complete fertilizer, the amount varying with the quantity of manure applied and the fertility of the soil.

Where no manure is used, annual applications of 1,000 to 1,500 pounds per acre ($\frac{1}{4}$ to $\frac{1}{2}$ pound per hill) or more of 4-12-8 or similar analysis fertilizer is recommended. Apply in early spring. One or two side dressings of ammonium nitrate (200 pounds per acre) should be applied at intervals of 10 to 14 days after growth starts.

Cultivation and Care

Begin cultivation before any growth is made in the spring. Harrow the bed quite shallow but thoroughly to destroy grass and weeds. Apply fertilizer at this time so that it will be thoroughly mixed with the soil. After harrowing, practice shallow cultivation between the rows as often as necessary to control weeds.

Remove seed stalks by pulling as soon as they form. It is important that they be removed while young. Fewer and more slender leafstalks are produced when seed-stalks are not removed. Poor strains or infertile soil may result in excessive seeding.

Harvesting and Marketing

The stalks should be pulled, not cut. They can easily be removed without breaking, by grasping them near the base and pulling or twisting to one side in the direction of growth.

No stalks are pulled until the second year. The first harvest should not exceed a period longer than 3 to 5 weeks. Later the season may be extended to 6 or 8 weeks, if the size of stalks remains satisfactory. Only the largest and best stalks should be harvested. If only small stalks develop, harvesting should stop and side-dressings of fertilizer should be applied. Old plantings may need to have crowns lifted, divided and replanted. No plant should at any time be stripped of more than two-thirds of its leaves and stalks. Harvesting in the fall is not advisable unless the planting is to be abandoned.

After pulling, the leaf blades should be trimmed off near the base and the stalks protected from sun and wind to prevent wilting. For local markets the stalks are sold loose, or they may be washed and tied in bundles containing 1 pound or more.

There is a limited demand by processors for rhubarb for canning and freezing. Rhubarb for processing is harvested only once each season. The stalks are cut by slicing across the hill with a shovel just above the surface of the ground.

Duration of Planting

With good care, rhubarb plantings will persist and produce for many years. Commercially, the best profits are made from plantings not more than 5 to 7 years old. After that time, the plants usually become crowded and the stalks so small that it is advisable to renew the planting by dividing and resetting the roots.

If it is desirable to leave the bed in its original location, renewal may be accomplished by plowing or spading away parts of the crowns. The parts removed may be used for extending the planting or making new plantings if desired. If the crowns are thinned every 3 or 4 years and manured heavily, a bed may produce satisfactorily for 15 to 20 years.

Diseases and Insects

Ordinarily, few control measures are necessary to prevent damage from diseases and insects.

Crown rot or foot rot is the most serious disease. It attacks the crown and lower portions of the leaf stalks causing them to fall over and often kills the plant. Preventive measures are to secure

disease-free plants, and to plant in soil that has not grown rhubarb for 3 to 4 years.

Rhubarb curculio, a rusty snout beetle about $\frac{3}{4}$ inch long, may cause trouble. It bores into the stalks, crowns and roots. It may be kept under control by hand picking, by destroying wild dock growing in the vicinity of the rhubarb patch in July after the beetles have laid their eggs, and by dusting plants during harvest season with $\frac{3}{4}$ percent rotenone.

Early Outdoor Rhubarb

In the home garden earlier rhubarb may be obtained by placing small barrels or boxes open at both ends over the hills in early spring, and surrounding them with fresh unfermented horse manure. Burlap or some other material may be used for covers. Heating takes place as in a hot-bed and results in a forced rapid growth of stalks. Later the covering is removed and the plants allowed to develop naturally.

Winter Forcing

In some sections large areas are devoted to the production of roots exclusively for winter forcing. Home and market gardeners often find winter forcing a means of using surplus roots when an old planting is renewed. The crop may be forced in any place where proper conditions may be maintained. Specially built forcing houses or cellars, basements, cold frames, or the space under greenhouse benches may be utilized.

Light is not essential or desirable. The forcing structure should be so constructed that all direct light is excluded. When forced in darkness or semi-darkness, the leaf blades are very small and undeveloped, and the stems develop good color and quality.

Temperature. A temperature of 50° to 60° F. should be maintained for best color, quality and yields. Lower temperatures near 50° F. produce a highly colored product, and growth is retarded. High temperatures (70° or above) produce the crop more quickly but reduce the yield and color of the stalks and shorten the harvesting season.

Water. Rhubarb contains over 95 percent water, and a certain amount is necessary for maximum yields. Keep the soil moist but not extremely wet during the forcing period. Watering increases yields and has little, if any, effect on the color of the stalks. Water thoroughly at each watering. Avoid light sprinklings which tend to maintain a moist surface and favor the

development of disease organisms.

Ventilation. Many commercial forcing houses lack facilities for adequate ventilation. Ventilation is necessary to prevent losses from leaf rots. Some commercial forcing houses use ventilating fans to help control disease.

Age of Roots. Roots that have been grown as outlined for field culture are used. Two- and three-year-old roots are generally used. Older roots are sometimes used, but lighter yields and smaller stalks are obtained. No rhubarb should be harvested from plants intended for forcing.

Digging and Freezing the Roots. The roots used for forcing should not be dug before the tops are killed by frost. Plow or dig out late in the fall and allow to freeze before forcing. A rest period of from 6 to 8 weeks after the roots are frozen is essential for maximum yields. Light freezings are better than severe freezings. Freezing 2 weeks at 20° F. followed by a dormant period of 4 weeks at 30° F., where temperatures can be controlled, is an effective treatment. If left outdoors to freeze, cover the roots with a little soil or straw to prevent water loss by evaporation. If desired, the roots may be packed in boxes of soil before freezing and may remain in the boxes during the forcing period. In commercial operations root clumps may be placed in the house, but the roof left off until time to force growth.

Forcing the Roots. Place roots rather close together in the forcing structure, usually one crown to each square foot of space. Cover with 2 or 3 inches of soil and work in soil, sawdust, peat moss or other moisture holding material around the roots. Water thoroughly. Walks should be provided every 5 or 6 feet to facilitate harvesting the crop. When a succession of stalks is desired, new lots should be started at intervals of one month.

With a temperature of 50° to 60° F., marketable stalks will be ready in from 25 to 30 days. Production will usually continue for 4 or 5 weeks.

Harvesting and Marketing. Harvest stalks when 18 inches or more in length. Pull in the same manner as the outdoor crop. Handle carefully in harvesting as the stalks are very brittle. Grade according to size and color. Do not wash. Remove any soil adhering to the stalks with a brush or cloth. Wrap in oil paper and pack in 5-pound cardboard boxes. Pack these in heavier containers which hold 10 of the 5-pound cartons.

Yields are variable. The average is 2 to 4 pounds per square foot, although yields as high as 5 to 6 pounds per square foot may be obtained.