Rhubarb Cultural Guidelines for Michigan

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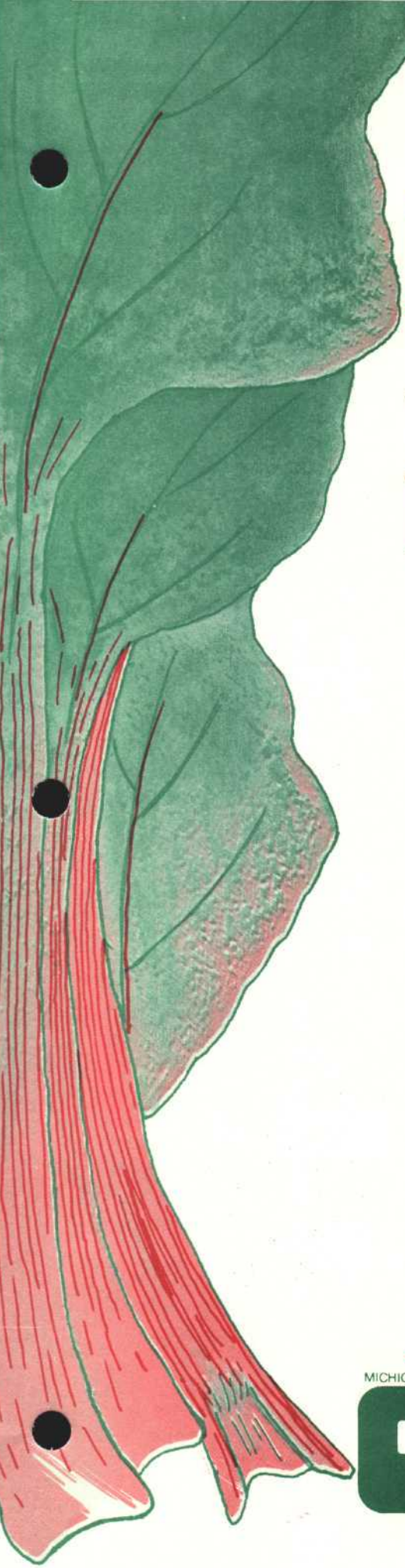

rhubarb

cultural guidelines for Michigan

By Diana Helsel[1], Dale Marshall[2], and Bernard Zandstra[3]

RHUBARB, a perennial vegetable, is low in calories and a good source of vitamin C and calcium. The leaf stalks (petioles) are the edible portion. The leaves contain oxalates, which are poisonous to humans if eaten.

Production— Michigan is the third largest producer of field-grown rhubarb in the United States. In 1980, Michigan produced 2,370 tons of rhubarb on 200 acres. The average yield of green types is 10 tons per acre; a good yield is 15 tons; and an exceptional yield is 18 tons per acre. Red varieties usually yield about 50% of the green types. If the crop is harvested twice in one year, total yields increase about 50%. About 90% of Michigan rhubarb is processed. Michigan also grows about 85 acres of rhubarb for forcing in hothouses.

Recommended varieties— Valentine (red petioles, few or no seed stalks produced); MacDonald (pink petioles, medium to heavy seed stalk production); Canada Red (red petioles, few seed stalks produced); Strawberry (pink petioles, medium to heavy seed stalk production); Victoria (green petioles, heavy seed stalk production).

Climate requirements— As a cool season, perennial crop, rhubarb requires temperatures below 40°F to break dormancy and stimulate vegetative growth. It is rarely grown where the summer mean temperature is above 75°F or where the winter mean is above 40°F. Consequently, the northern United States and Canada are well suited for rhubarb production. This includes all parts of Michigan. Rhubarb plantings remain productive for 8 to 15 years.

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Soil requirements—Rhubarb grows best on fertile, well-drained soils that are high in organic matter. Rhubarb can tolerate soil pH as low as 5.0, but maximum yields are attained at a pH of 6.0 to 6.8.

Fertilization—Rhubarb responds well to fertilizers. The crop harvested each season depends to a large extent on the care and fertilization received the preceding year.

Manure is a valuable source of organic matter. It helps conserve moisture, preserve soil structure and make nutrients more readily available. Fifteen tons of manure per acre should be applied before planting.

When a soil test is not available, follow these general recommendations:

Before planting, broadcast and disc in 200 lb. N, 100 lb. P_2O_5, and 200 lb. K_2O per acre.

One month after growth starts in the spring, sidedress with 50 lb. N per acre. (Large quantities of potash and nitrogen are removed from the soil by the stalks, while a comparatively small quantity of phosphate is removed.)

Beginning the second spring after planting, cultivate and sidedress with 50 lb. N per acre when rhubarb is 6 ot 8 inches tall. Every 3 to 5 years, apply 100 lb. K_2O per acre as a sidedressing in the spring.

Planting and spacing—A clean planting site is essential. Small areas of perennial weeds can quickly build up to serious proportions. Therefore, perennial weeds should be killed the year before planting.

Propagation from seed is not recommended because rhubarb seedlings do not retain the characteristics of the parent plants. It is best to propagate with planting divisions obtained by splitting the crowns. Crowns formed during previous growing seasons may be divided. After digging, split dormant crowns between large buds or "eyes" so that at least a 2-inch cross section of storage root is left with each bud. Very small buds will give small plants for the first few years after planting. Four to ten new roots can usually be obtained from crowns that have been grown a few years. Protect root pieces from drying or freezing before planting.

If you intend to divide your own crowns for replanting, mark vigorous plants in June and use these as planting stock the following spring. A number of viruses and other diseases reduce plant vigor and yield. Do not divide crowns from diseased plants.

Rhubarb can be planted in spring or fall. In areas where the soil freezes deeply, it is best to wait until spring. Plant the crowns so that buds are just below the soil surface. Cover with soil and press firmly around the root. Air pockets left around the crown will cause excessive drying. Rows should be 4 feet apart, with plants 4 feet apart in rows. Plant on a grid so that the field can be cultivated in several directions.

Preliminary research results indicate that 4-foot rows with plants 18 inches apart in the row is optimum for mechanical harvest.

Harvest—Stalks should not be picked the year of planting, since food from the leaves is needed to nourish the roots for the next year's growth. One light picking may be taken during the year following planting if the plants are vigorous. Beginning the second year following planting (when the plants have been in the ground for 2 years), you may harvest the entire plant. Cut stalks at the soil line or pull them out individually. All the stalks of a plant can be cut at one time, or pulled selectively over a 4- 6-week period. Cut leaves off after cutting the stalks.

Time of harvest depends on the variety as well as location and temperature. With varieties that produce many seed stalks, begin harvest before the seeds start to turn color. Generally, harvesting begins in late May or early June. When rhubarb stands are vigorous, a second harvest may be made in late August. Approximately 25% of Michigan's rhubarb is harvested twice. Stalks should be firm at harvest; when harvested too late, the stalks become pithy and tough.

A commercially available mechanical rhubarb harvester developed by the USDA group in Michigan State University's Agricultural Engineering Department, can recover 60 to 70% of the crop in a once-over harvest. Research is improving recovery in conjunction with spacing and variety studies.

Postharvest—Harvested rhubarb stalks must be protected from rain since unprotected ends will "broom" (split). Fresh rhubarb stalks in good condition can be stored for 2 to 4 weeks at 32°F and 95% relative humidity. The stalks should be packed in crates which are stacked to allow ample air circulation.

Weed control—Since no herbicides are registered for use on rhubarb at this time, clean culture is important. Cultivate fields in the spring and after cutting. Hand hoeing may also be necessary.

Pests—Rhubarb is relatively free of insect and disease problems. Leafhoppers and rhubarb curculio may occasionally cause damage. Since the curculio also feeds on curly dock, eliminate this weed in and around rhubarb fields.