



Rhubarb

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Introduction

Rhubarb (*Rheum rhabarbarum*) is a winter-hardy herbaceous perennial grown for its edible leaf stalks. The tart-flavored stalks are most commonly used in pies, often in combination with strawberries for added sweetness. The leaves themselves are not eaten, either cooked or raw, as they contain toxic levels of oxalic acid.

Marketing

Fresh market options for Kentucky-grown rhubarb include direct markets, especially farmers markets, on-farm markets, Community Supported Agriculture, and roadside stands. There is wholesale market potential for rhubarb, especially at local grocery stores and restaurants. Some producers add rhubarb to value-added products including pies, sweet breads, fruit cups (mixed with strawberries), jams/jellies, and candy-type products. Rhubarb is also used in winemaking.

Market Outlook

Rhubarb is a vegetable crop used as a fruit, and it has the advantage of being harvestable in early summer when most fruits are not yet ripe. Although a cool-season crop, rhubarb can last far into the summer and provide variety at a farmers market or roadside stand. There is modest wholesale market potential for rhubarb, but direct sales to restaurants or local and specialty grocers may be possible. In general, the market for rhubarb is limited and growers should begin with a small planting and expand as the demand increases. Possibilities also exist for niche and organic markets for rhubarb.

Production Considerations

Cultivar selection

There are many named hybrids available that can be used in commercial production. Most of these have been around for a number of years since few new varieties are being developed in the U.S. Cultivars



vary in stalk color (red to pink, speckled, and green) and flavor; however, there is no known correlation between stalk color and sweetness. While consumers often prefer the deep red petioles, these cultivars may produce thinner stalks and may be less productive. Other traits, such as stalk thickness, stalk length, plant vigor, chilling requirement, and disease resistance, can also differ between cultivars.

Site selection and planting

Rhubarb is a cool-season crop, thriving on a well-drained soil that is deep and high in organic matter. Fields should be free of perennial weed problems and deeply plowed. Applications of aged manure are very beneficial to rhubarb. Plantings are established vegetatively from vigorous, disease-free crown pieces, each with two or more buds. Rhubarb should be transplanted in early March in Kentucky. Rhubarb seed does not produce

plants true to the parent, so direct seeding is not recommended. Traditionally, plantings were rejuvenated every eight to 10 years by dividing crowns and resetting; however, it is now difficult to get rhubarb



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plantings to last this long because of disease, so research is underway to develop an annual production system.

Irrigation is usually not needed during the spring harvest; however, it is occasionally needed late in the season to insure good growth the next spring. Irrigation is also important to help keep the plants cool in the summer. Rhubarb will suffer from heat, and the life of a planting can be impacted severely by temperatures over 85° F. Rhubarb production is more difficult now than in the past. This may be related to more fluctuations in temperatures and more extreme temperature extremes.

Pest management

Rhubarb leaf spots/blights can occur. Crown rot will be a serious problem in sites that do not have excellent soil drainage. Planting into well-drained sites and practicing good sanitation are critical disease control measures. Remove all leaf material in the fall to reduce pathogen populations. Stalk borer and rhubarb curculio are the main insect pests that are encountered. Controlling weeds within fields and along borders is critical for effective insect and disease management.

Harvest

Harvesting should be delayed until the second or third year, at which time stalks may be removed during a short period (about 4 weeks) in the spring. A full harvest period (8 to 10 weeks) begins during the subsequent growing season, and thereafter. Stalks are hand-harvested by pulling, not cutting, when they are 10 to 15 inches long.

Labor requirements

Labor requirements for rhubarb production will vary according to production system. For commercial production, labor needs per acre are approximately 35 hours for production, 150 to 200 hours for harvest, and 15 to 20 hours for packing. A 2015 university estimate for one-half acre of rhubarb production, in British Columbia, estimated approximately 80 hours of labor required for the establishment year and 65 hours (for production and harvest) in the year after planting. A full production year of ½-acre of rhubarb grown using organic or sustainable techniques will require about 45 hours for production and 70 hours for harvest, according to the Canada estimate.

Economic Considerations

Initial investments include land preparation, purchase

of crowns, machinery and irrigation equipment, and planting labor costs. A rhubarb crown can cost \$4 to \$8, depending on variety, quantity purchased, and freight expense. The crown will begin contributing toward the cost of its purchase the year after it is planted. Depending on yields and rhubarb sale price, a small-scale rhubarb planting will begin to generate positive returns above establishment costs two to three years after planting.

For 300 crowns planted in Kentucky (2017), total costs for the establishment and first harvest year are estimated at \$2,600 to \$3,000. Approximately half of this expense is the cost of the crowns. Sale of 450 to 600 pounds of rhubarb in the year after planting will recoup \$675 to \$1,200 of this cost, assuming rhubarb is direct marketed at \$1.50 to \$2 per pound.

Total costs (fixed and variable) are estimated at \$1,400 to produce 1,500 pounds from 300 crowns in a full production year. A 1,500-pound yield marketed at \$1.50 per pound would return about \$850 to land and capital. This is based on superior management and production; production may vary considerably depending on the year and production methods. Well-managed, small-scale rhubarb plantings appear to be potentially economically profitable for Kentucky producers able to market rhubarb at prices starting in the range of \$1.50 per pound.

Selected Resources

- Vegetable Production Guide for Commercial Growers, ID-36 (University of Kentucky, 2016-17) <http://www.ca.uky.edu/agc/pubs/id/id36/id36.htm>
- Specialty Crop Profile: Rhubarb (Virginia Cooperative Extension, 2009) <http://pubs.ext.vt.edu/438/438-110/438-110.html>
- Rhubarb (Oregon State University, 2010) <http://horticulture.oregonstate.edu/content/rhubarb-0>
- Rhubarb Compendium (2010) <http://www.rhubarbinfo.com/about>
- Southwest British Columbia Small-Scale Farm Enterprise Budget (Kwantlen Polytechnic University, 2015) <http://www.kpu.ca/isfs/enterprise-budgets-specialty>

The inclusion of a commercial Web site as a resource does not represent an endorsement of the company or its products by the University of Kentucky.

Reviewed by Shawn Wright, UK Extension Specialist *Photo courtesy of John Strang*

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