

Selecting Optimal Berry Bushes for a Community Garden



SOIL, WATER, AND ECOSYSTEM SCIENCES

Hailey Muchnok¹ and Ann C. Wilkie²

¹ Sustainability Studies Major

² Faculty Advisor, Department of Soil, Water, and Ecosystem Sciences, University of Florida-IFAS

Abstract

Maintaining a fruit garden can have multiple benefits for human health and nutrition, as well as ecosystem benefits such as attracting pollinators and increasing biodiversity. However, prior to establishing a fruit garden, there are many factors to consider such as site selection, local climate and temperature, soil type and textures, irrigation methods, and exposure to sunlight. When selecting cultivars, one must consider which fruits will propagate best in the aforementioned conditions, as well as nutrient requirements, space, time of bloom, susceptibility and resistance to pests, and chill requirements. The community fruit garden located at the University of Florida's BioEnergy and Sustainable Technology Laboratory contains fruits such as blueberry and blackberry bushes, and can be accessed by students and faculty who wish to connect with local nature. Optimal berry bushes for this community garden were selected based on available space and time to fruiting.

Introduction

- The selection of berry cultivars is paramount in the health and success of a berry garden, as berry plants that are not adapted to local conditions will not grow or produce fruit no matter the care they receive.
- Florida has multiple gardening seasons. Planting for the winter season begins in late August through September, and planting for the summer seasons begins in mid-February through March.
- Berries for this garden were selected on the basis of a multitude of criteria, such as climate requirements, available space, and time to fruiting so as to best propagate plant growth and health.
- All berries selected, although they have specialized requirements, will be able to grow in proximity to one another.
- The berry bushes that will be planted in the garden will be transplants, which are young plants that have grown in a container prior to their planting; containers are located in the site's greenhouse.

Objectives

- The objectives of this project were to establish and cultivate a berry garden at the University of Florida BioEnergy and Sustainable Technology Laboratory site.
- The establishment of the berry garden requires site preparation and research on cultivars and their various requirements, whilst accounting for available space and time of planting.

Methods

- The first course of action in the establishment of the berry garden was to remove weeds from the area upon which the fruit garden will be constructed.
- The garden is a square shape that is 20 feet on each side.
- While weeding the fruit garden, research was also conducted pertaining to Florida growing conditions and berries best suited for the growing conditions.
- Berries selected for cultivation include blueberries, blackberries, and Goji berries.
- After the removal of all weeds and grass, the area was leveled in preparation for the placement of a weed cloth.
- Weed cloths act as a barrier to the sun to suppress weed growth; not only do cloths inhibit photosynthesis, but weeds that are able to sprout are not able to penetrate the cloth. This aids in maintenance of the garden, as weed growth will be minimal, if there is any at all.
- After installing weed cloth, mulch the garden to improve soil moisture, reduce erosion, and regulate soil temperatures.

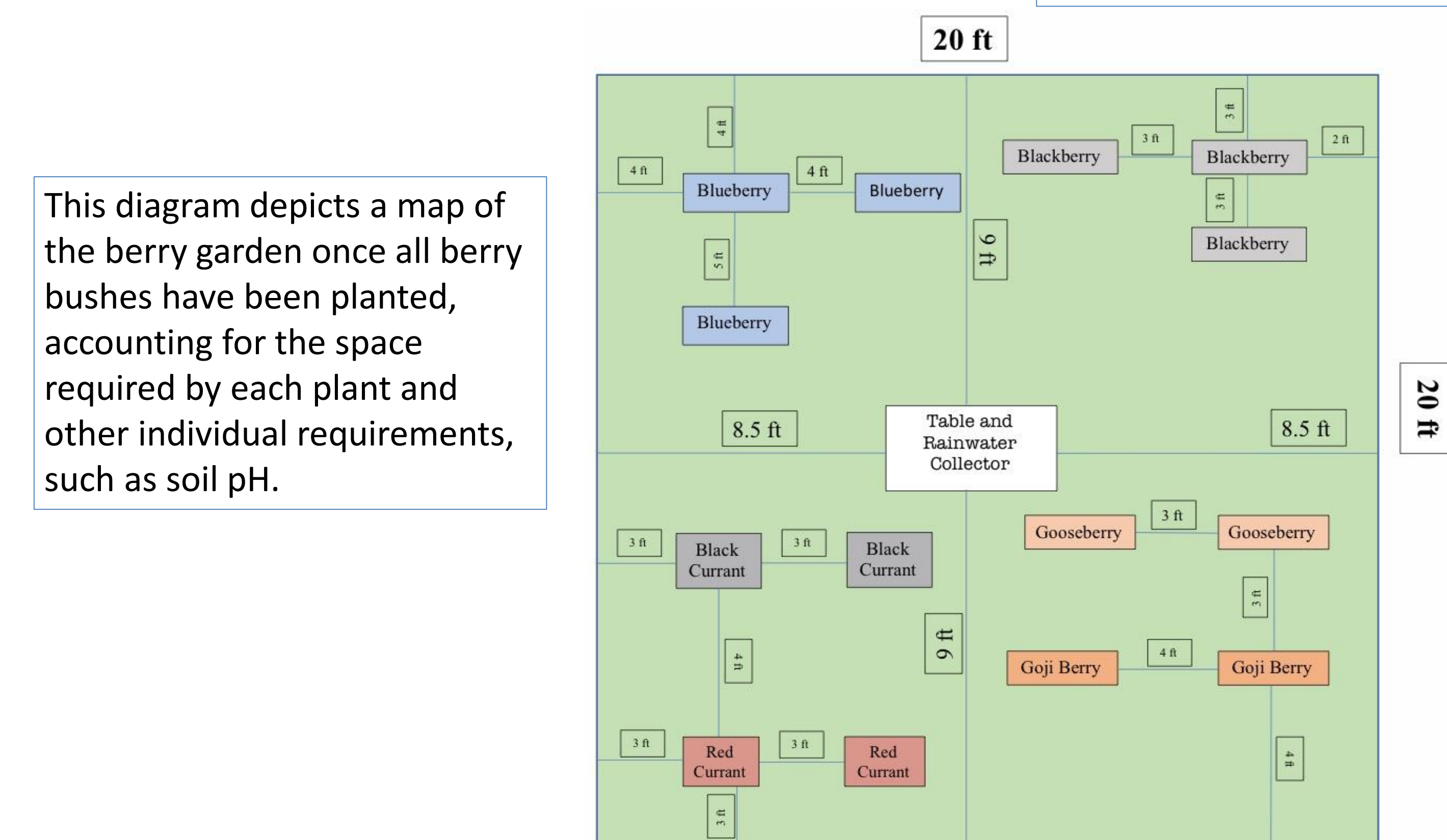
Results

- The berry garden at the BioEnergy and Sustainable Technology Laboratory has not yet been fully established; a proposed site diagram with cultivars is presented below.
- The berry garden has a rain harvester located in the center for irrigation purposes, and will be accessible via mulch walkways in the garden.

Berry Type	Soil Type	Sunlight	Space Requirement	When to Plant	Bloom Time
Blueberry	Acidic, well-drained soil with pH of 4.0-5.5	4-5 hours of full sun daily	4' x 4' area; plant 5' apart for hedge-grow effect	mid-December through mid-February	May and June
Blackberry	Deep, well-drained soils with a pH of 5.5-6.5	6-8 hours of full sun daily	Space plants 2-5 feet apart	December through February	May and June
Goji Berry	Sandy and loamy soils with a pH of 6.8-8.1	8 hours of full sun daily	Space plants 3-5 feet apart	late-February through early March	July through October
Black Currant	Moist, rich soil with pH of 6.0-6.5	Full sun in the morning, partial shade in the afternoon	Space plants 3 feet apart	January through March	April through May
Red Currant	Loamy, well-drained soil with organic matter and a pH of 6.2-6.5	Full sun in the morning, partial shade in the afternoon	Space plants 3 feet apart	Early spring (mid-February through early March)	late June through mid-July
Gooseberry	Well-drained, sandy or loam soils with a pH of 5.0-6.5	Full sun	Space plants 4-6 feet apart	Winter through early spring	late June through mid-July



Pictured is the site of the berry garden at the University of Florida BioEnergy and Sustainable Technology Laboratory. When completed, the garden will include a pathway toward the center of the garden, and a rain harvester in the center to irrigate the berry plants.



This diagram depicts a map of the berry garden once all berry bushes have been planted, accounting for the space required by each plant and other individual requirements, such as soil pH.

Conclusions

- While the berry garden has not been fully established, much time and research has been dedicated to enhance the growing conditions for the berry bushes once they have been planted.
- All plants chosen have been carefully selected based on criteria so as to best promote a healthy berry garden for UF students and faculty.

References

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