



Jicama in the Garden

Michael Greenland and Dan Drost

Summary

Jicama (*Pachyrhizus spp.*) grow best in sunny locations and in fertile, well-drained soils. Incorporate organic matter and a complete fertilizer into the area before planting. No additional nitrogen fertilizer is needed for this nitrogen-fixing legume. Start jicama seeds indoors 4-10 weeks before the last spring frost. Transplant through black plastic for earlier maturity and use row covers or hot caps to protect the plants when planting before the frost-free period. Irrigation should be deep and infrequent. For best root development, remove flowers and trim vines back to 3 to 5 feet long. Harvest the tuberous root before the soil freezes. Jicama are

members of the legume family, are relatively pest free, and can be stored for a long time after harvest. Currently, there are few available varieties in the market and seed may only be available online.

Recommended Varieties

Jicama (also called Yambean) come in two types: *Pachyrhizus tuberosus* or *Pachyrhizus erosus*. The *tuberosus* type produces big tuberous roots and takes more than 180 days to reach maturity or full size. However, cultivars exist that only take 120-180 days. The *erosus* type produces a smaller root and matures in 90-150 days. The *erosus* types include “jicama de leche” (milky juice) and “jicama de agua” (watery juice). “Jicama de agua” is usually sold in local grocery stores and by seed companies. Search for Jicama or Yambean seed sources online as few local garden centers or nurseries stock seed or plants.

How to Grow

Climate: Jicama grow best in warm to hot climates with a long frost-free period. Plants can be damaged by temperatures below 50°.

Soil: Jicama needs well-drained soil and does poorly in heavy, wet soils. If planting in an area that does not drain well, plant in a raised bed. Optimal pH is 6.5-8.0, but it can tolerate more acidic soils.

Soil Preparation: Choose a garden site that receives full sun. Before planting, determine fertilizer needs with a soil test and then follow the recommendations given with the test report. If fertilizer applications are warranted, work the fertilizer into the top 6 inches of soil. If you fertilize with compost, apply no more than 1 inch of well-composted organic matter per 100 square feet of garden area. Form 6-8 inch tall raised beds to improve drainage and create a place for root development.



Plants: Allow 4-10 weeks to grow transplants. Transplants should be at least 3 inches tall and have a well-developed root system before planting. Germinate seeds at 80°F until the seed root emerges, then transfer seeds to sterile seeding mix and grow out at 68-86°F. Adequate light is essential to produce quality transplants. Cool white fluorescent tubes placed 2-3 inches above the plants, lit for 14-16 hours per day will ensure plants grow large and healthy. Water regularly and feed weekly with a half strength soluble complete fertilizer before planting into the garden. Jicama transplants are recommended for Utah to ensure sufficient time to grow the root.

Planting and Spacing: Transplant jicama when soils are warmer than 50°F and all frost danger is past. Plant transplants 8-12 inches apart within the row, with rows 2-3 feet apart. Water regularly after planting to help the plants establish.

Mulches: Black plastic mulch warms the soil, conserves water, and helps control weeds. Plastic mulches allow earlier planting. After laying out the mulch, secure the edges with soil and cut holes for transplants. To avoid heat injury to the transplant, the stem should not touch the plastic mulch. Do not apply organic mulches (grass clippings, straw, newspapers, etc.) until soils are warmer than 75°F.

Row Covers: Row covers enhance early growth. Hot caps, plastic tunnels, fabric covers, and other devices help protect transplants from cool air temperatures. Plants grown under row covers require ventilation when

air temperatures exceed 85°F. Use a thermometer to help determine the temperature under the row covers. Remove covers when weather has stabilized.

Water: Water jicama deeply and infrequently, applying 1 inch per week. Use drip irrigation if possible. Use mulches to conserve soil moisture, reduce weed growth and cool the soil in summer. Irrigate so that water goes deeply into the soil. Jicama is quite drought tolerant so do not over water. Irrigation should stop 2 weeks before harvest since late watering causes root cracking.

Fertilization: Avoid over-fertilizing jicama. Too much fertilizer causes excess leaf growth and reduces root growth. No additional nitrogen fertilizer is necessary during the growing season since jicama is a legume that produces its own nitrogen.

Pruning: Jicama should be encouraged to put energy in the edible root. Remove flowers as they appear and cut back the vines to 3-5 feet. Trellis jicama vines to keep them from spreading into other garden areas.

Problems

Weeds: Control weeds when the plants are young. Use a mixture of cultivation and mulches. Plastic and organic mulches (straw, leaves, and grass clippings) effectively control weeds. Healthy vigorous plants outcompete weeds once they are established. Cultivate shallowly to avoid root damage if weeds are a problem.

Insects and Diseases: There are very few pest problems with jicama.

Insect	Identification	Control
Aphids	Green or black soft-bodied insects that feed on underside of leaves. Leaves become crinkled and curled. May transmit Bean Common Mosaic Virus. Secreted honeydew makes plants appear shiny, wet, or sticky.	Use insecticidal soaps or strong water stream to dislodge insects.
Bean Weevil	The bean weevil is a brown flecked beetle with a short, broad snout. Adult females lay eggs on young bean pods and the larvae burrow into the pod and feed on the seed.	Apply appropriate chemicals if populations are high. Destroy infested plants. Dispose of legume plants after harvest. Rotate legumes.
Disease	Symptom	Control
Bean Common Mosaic Virus (BCMV)	Irregular yellowing on leaves, brittle young shoots downward cupping, and bluish-green mosaic patterns on leaves.	Control aphids. Destroy infected plants.
Root Rot	Fungal diseases that cause decay and root rot. Causes sunken lesions on young and mature roots. Plants often stunted or wilted.	Rotate planting areas and do not over water.



Harvest and Storage

Jicama requires 4 months to grow an edible tuberous root. Roots may be small since Utah's climate is marginal for jicama. For the best yield, harvest roots when the foliage starts to turn yellow or after the first frost has damaged the leaves. Use a spading fork or shovel and carefully dig up the swollen roots. Be careful not to bruise, cut or damage the root. Roots store best when cured for 1-2 weeks at 80°F and then stored in a cool, dry location (55-60°F). When properly cured, jicama will keep for 3-4 months. Roots chill by cold temperatures. Do not refrigerate jicama or store at less than 50°F to avoid chilling injury.

Productivity

Jicama produces very large roots when grown in locations with a long growing season. Expect 1-2 pounds

of roots per plant in locations with shorter growing seasons. Plant 5-10 plants per person to have sufficient for fresh and storage purposes.

Nutrition

Jicama are very nutritious and low in calories. One raw tuberous root (4 oz.) provides 45 calories, is low in fat and is an excellent source of vitamin C and dietary fiber.

Frequently Asked Questions

Are there other uses for the jicama plant? The flowers are quite attractive and plants can be grown as an ornamental vine. While the tuberous root is edible, don't eat the leaves, stems or flowers. They are poisonous.

Can I grow these organically? Yes. Since there are few pests or diseases, organic production is quite easy. Jicama also fixes its own nitrogen and needs little additional fertilizer.

Why are the roots cracked when I dig them up? Heavy rain or over irrigation during the 2-3 weeks before harvest causes root splits. Jicama likes a dry period before harvest to cure the roots and prepare them for storage.

Additional Resources

- Schroeder, C.A. 1967. The jicama, a root crop from Mexico. *Proceeding of Tropical Region, ASHS* 11:65-71.
- Sørensen, M. 1996. Yam bean (*Pachyrhizus DC.*). Promoting the conservation and use of underutilized and neglected crops. Institute of Plant Genetics and Crop Plant Research, Gatersleben/ International Plant Genetic Resources Institute, Rome. https://www.researchgate.net/publication/242472844_Yam_bean [accessed Aug 27, 2019].

Utah State University is committed to providing an environment free from harassment and other forms of illegal discrimination based on race, color, religion, sex, national origin, age (40 and older), disability, and veteran's status. USU's policy also prohibits discrimination on the basis of sexual orientation in employment and academic related practices and decisions. Utah State University employees and students cannot, because of race, color, religion, sex, national origin, age, disability, or veteran's status, refuse to hire; discharge; promote; demote; terminate; discriminate in compensation; or discriminate regarding terms, privileges, or conditions of employment, against any person otherwise qualified. Employees and students also cannot discriminate in the classroom, residence halls, or in on/off campus, USU-sponsored events and activities. This publication is issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Kenneth L. White, Vice President for Extension and Agriculture, Utah State University.