

# Edamame

## Introduction

Edamame is a name applied to several specialty varieties of edible green vegetable soybeans. While it is the same species as the traditional grain soybean, edamame has a sweet, nutty flavor and a larger seed with better digestibility. Edamame is a popular vegetable in Asia, where it is harvested and eaten in the green stage. The popularity of this crop in America has grown with the popularity of Asian cuisine and with recently reported health benefits of soy foods.

## Marketing and Market Outlook

Edamame producers will need to creatively investigate market channels that are different from those of traditional row crops. The market for edamame in Kentucky begins with specialty produce and high-end farmers' markets. Produce brokers have cooperated with early production efforts and indicate they are willing to handle uniformly packaged, high quality edamame. Development of a niche market for edamame in Kentucky has been promoted on a small scale by soybean and commercial vegetable producers near Owensboro in Daviess County (West Kentucky). There are also producers in Central Kentucky that are successfully marketing fresh edamame in Louisville and Lexington farmers' markets.

The primary production areas of edamame for freezing are on the West Coast and Upper Midwest. Rising transportation costs have stimulated an interest from some eastern U.S. frozen food packers in sourcing more edamame farther east.



## Production Considerations

### *Production*

Edamame production is similar to that of traditional grain soybeans. Because of the larger seed size, green edible soybeans may require changes in planter plate size or planting technique. Kentucky producers have also successfully started edamame in greenhouses for field transplanting.

### *Pest management*

Reports currently indicate that the range of disease and insect pests affecting edamame is the same as for grain soybeans. However, since edamame is harvested when green, growers will be able to avoid many of the late season problems that occur on traditional soybeans. *Pesticides registered for use on soybeans harvested as a vegetable crop; however, each product label should be examined to determine this.* Because there are no herbicides approved for edamame production, growers in Kentucky are using mechanical and hand cultivation for weed control.



### *Harvest and storage*

Vegetable soybeans have a very short harvest window of only a few days. Immediate post-harvest cooling is essential to maintain product freshness for market. Cooling may be accomplished using forced air, vacuum, or hydrocooling. Fresh edamame will retain flavor and appearance for up to two weeks when it is properly stored.

Fresh edamame can be marketed in the pod or bunched on the stalk, depending on the market channel. Asian customers prefer to purchase edamame on the stalk. Early marketing efforts in an upscale Louisville produce market showed that customers there were not very interested in edamame on the stalk. Farmers' market customers, on the other hand, did not seem bothered by purchasing the product "on-stalk."

### *Labor Requirements*

Kentucky growers have effectively used careful hand picking, grading, and field packing to harvest the crop and prepare it for market. An unskilled, supervised worker should be able to harvest, grade, pack, and transport at least one box (25 pounds) of edamame per hour. A yield of 6,000 to 10,000 pounds per acre can be expected. Marketing the whole plant (bunched on the stalk) requires the least amount of time and labor.

### **Economic Considerations**

Edamame is in its fledgling stage in the United States, especially east of the Mississippi River. For this reason, basic information about varieties, production practices, and harvest technique is still needed. While there are substantial payoffs for early producers of edamame in Kentucky, there are also significant risks.

The main costs involved in production are harvesting (especially when hand labor is used) and post-harvest handling. Hand harvest is the most viable technique for small-scale production. Machine harvest, however, is necessary for

commercial wholesale production in the U.S. Some estimates indicate machines can cut edamame production costs by up to 25 percent.

Total expenses per acre, including annual fixed costs, are projected to be \$7,300 to \$10,860. Edamame has the potential to return \$400 to \$1,300 per acre to land and management on the fresh, wholesale market. For those producers with access to a direct local market for fresh edamame, returns can reach \$2,500 per acre. Edamame returns have great potential to increase to higher levels depending on harvesting technique and local fresh market development. Budget projections indicate a greater likelihood for edamame profitability in either direct-marketed, hand harvested plots of an acre or less, or larger plots wholesaled directly to a frozen foods packer.

### **More Information**

- Edamame Marketing Fact Sheet (University of Kentucky, 2002)  
[http://www.uky.edu/Ag/HortBiz/pubs/mktfs\\_edamame.pdf](http://www.uky.edu/Ag/HortBiz/pubs/mktfs_edamame.pdf)
- Edamame Soybeans: Kentucky Estimated per Acre Costs and Returns (University of Kentucky, 2000)  
<http://www.uky.edu/Ag/HortBiz/pubs/budget2000.pdf>
- Marketing Challenges for Emerging Crops in KY: Vegetable Soybeans (University of Kentucky, 2001)  
<http://www.uky.edu/Ag/HortBiz/pubs/mktvegsoy.pdf>
- Marketing New Crops: Edamame (University of Kentucky, 2001)  
[http://www.uky.edu/Ag/HortBiz/pubs/edamame\\_marketing.pdf](http://www.uky.edu/Ag/HortBiz/pubs/edamame_marketing.pdf)
- Edamame PNW0525 (Washington State University Extension, 2000)  
<http://cru.cahe.wsu.edu/CEPublications/pnw0525/pnw0525.pdf>
- Edamame Production for SW Washington (1995-1996, updated 2004)  
<http://agsyst.wsu.edu/edam.html>