

## Asian Vegetables

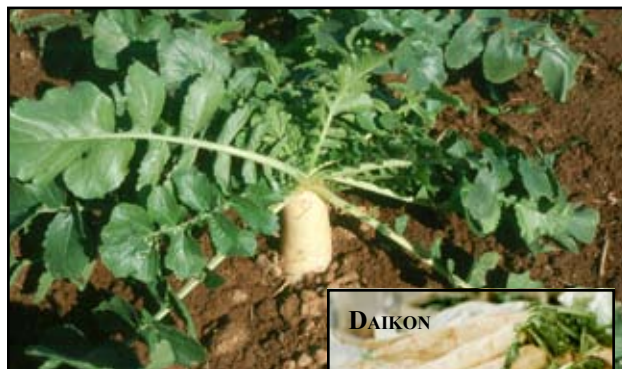
### Introduction

Asian vegetables are generally those vegetable crops which have originated from East Asia (China, Japan, and Korea) and Southeast Asia (Vietnam, Laos, Philippines, Thailand, Indonesia, etc). While often referred to as “oriental” vegetables, the term “Asian” is preferred. A number of these Asian crops could be grown and marketed in Kentucky.

### Marketing

Traditional Asian vegetables can be sold at farmers’ markets, at roadside stands, to specialty groceries, and to upscale supermarkets. Restaurants, particularly those specializing in Asian or vegetarian dishes, may also be interested in purchasing fresh, locally grown Asian vegetables. Growers could consider adding Asian produce, as well as other specialty vegetables, to a Community Supported Agriculture (CSA) or U-Pick mix. Some growers have successfully marketed Asian vegetables directly to ethnic neighborhoods in large cities.

One of the challenges of marketing Asian vegetables is presenting the crop in the correct language(s) for Asian buyers. Many of these crops have several names, depending on the language used. While certainly not required, knowledge of the prospective customers’ language, customs and dietary preferences will definitely be an asset in marketing Asian crops. Providing preparation instructions, along with recipes, will be an important aspect of promoting these vegetables to Caucasian customers.



Growers must be careful to identify specific markets even before ordering seed.

The type of market dictates which crops will be grown and what special cultural or post-harvest practices will be required. Determining what the customer wants is especially critical in finding niche markets for Asian vegetables, where various ethnic groups may prefer different sizes, colors, and other characteristics of the same vegetable.

### Market Outlook

The demand for ethnic and specialty vegetables is rapidly increasing in the U.S., with Asian vegetables as one of the most popular specialty groups. A larger ethnic Asian population, coupled with a more health-conscious public and American consumers’ desire for more variety in their diets, continues to fuel this trend.

A relatively small volume of each vegetable type is in demand at any one time or place, so this market can easily become saturated. To guard against this, the grower should develop a special niche. Kentucky growers could potentially discover local



market niches for dozens of Asian vegetables. Freshness of produce is the key to gaining the Asian market. Since these vegetables are often highly perishable, competition should be minimal from distant markets.

## **Production Considerations**

### *Potential crops*

Currently, the most frequently grown Asian vegetables in Kentucky are bok choy (a non-heading Chinese cabbage), daikon (Japanese white radish), eggplant, edamame (edible soybeans) and Asian greens. Kobacha squash (Japanese pumpkin) has performed well in University of Kentucky variety trials. Kobacha was also well-received by both Asian and Caucasian customers in a recent UK marketing research study. Kentucky consumers have shown interest in celtnce (asparagus lettuce), chayote, garlic chives, and wax gourd. Other crops with potential include asparagus bean (Chinese yard-long bean), bitter melon, Chinese kale, heading types of Chinese cabbage, Japanese greens, pea shoots and tatsoi (an Asian green). Prospective growers should investigate which crops may be suitable for their area and determine the market interest before production.

### *Site selection and planting*

Many Asian vegetable crops belong to botanical families that are well-known to the Kentucky grower, such as cucurbits, crucifers (cole crops) and legumes. Some ethnic vegetables are merely a different subspecies or variety of their western counterparts. Cultural requirements for these closely related crops are often very similar to traditional vegetable crops.

In general, choose a site that is well-drained and warms up quickly in the spring. Avoid low-lying fields that are subject to late frosts and high humidity. Cold-sensitive crops should not be planted until all danger of frost has passed and the soil has warmed sufficiently. Transplants can be grown in a greenhouse structure or hotbed, both for direct sales or on-farm use.

Some crops require a continuous supply of moisture, especially during fruit-set and development. UK research has reported greater yields, increased earliness and a cleaner harvest when growing most vegetable crops on raised beds with black plastic and drip irrigation. The moisture levels under the plastic must be carefully monitored when using this system.

Several Asian vegetables are suitable for successive plantings, allowing the grower to produce as many as three cropping sequences on the same land. Less land is required with successive plantings and more crops can be produced annually. For example, bok choy planted in early spring can be harvested in time for a summer planting of yard long beans, which in turn can be followed by daikon transplants in early fall. Potentially higher returns for specialty vegetables often justify the more intensive production methods and exacting management practices that may be required.

### *Pest management*

Disease and insect pressure for Asian vegetables can vary depending on the crop, the cultivar and the season. Chemical control methods may be limited since few pesticides are registered for many of these specialty crops. Integrated pest management (IPM) strategies, including frequent scouting to monitor pests, may be needed to prevent or reduce losses. Bt is a microbial insecticide that can be used for effective pest control on certain Asian vegetable crops. A number of Bt products can also be used in organic production. Controlling weeds, following a good rotation system, and the use of beneficial insects can aid in pest control.

### *Harvest and storage*

Freshness is the key in marketing Asian vegetables; therefore they should be harvested at their peak. Limiting the market radius to easy traveling distance will help ensure the freshest specialty produce. Little storage time is needed for crops to be sold within a few days of

harvest. Asian greens and Chinese cabbage can be stored for two to several weeks at the proper temperature and relative humidity. These crops are usually vacuum-cooled or cooled with cold water (hydrocooled); although forced-air and room cooling can also be used.

#### *Labor requirements*

Many Asian vegetables are produced using methods similar to comparable vegetables already grown in Kentucky. Producers can refer to New Crop Opportunities Center crop profiles to estimate labor requirements for these specific vegetables. Plasticulture will add 10 to 20 hours more per acre for the removal and disposal of the plastic.

A producer often begins with small amounts of a new crop for a niche market. Small amounts of Asian vegetables can potentially be added to existing plots requiring similar cultural techniques. This could help minimize additional labor requirements.

### **Economic Considerations**

Initial investments include land preparation and purchase of seed or transplants. Producers need to closely manage costs of key inputs, especially seed, when producing specialty vegetables. Seed for some Asian vegetables can be more expensive, so purchasing a variety that does not meet a customer's preference can be a costly miscalculation. Additional costs are incurred with the installation of an irrigation system and plastic mulch.

Pricing a new or specialty crop is also a key consideration. Producers should access available wholesale and retail market prices for Asian vegetables to determine what price the market can bear. Wholesale prices for many Asian vegetables are reported daily or weekly through the USDA Agricultural Marketing Service (AMS) in their Fruit and Vegetable Market News. Visiting Asian food stores or specialty retailers can also provide producers with an idea of what prices to ask for specialty crops.

### **More Information**

- Bt Basics for Vegetable Integrated Pest Management, ID-156 (University of Kentucky, 2005)  
<http://www.ca.uky.edu/agc/pubs/id/id156/id156.pdf>
- Growers' Guide to Bt, ID-156A (University of Kentucky, 2005)  
<http://www.ca.uky.edu/agc/pubs/id/id156a/id156a.pdf>
- Growing and Marketing Chinese Vegetables in Central Kentucky (University of Kentucky, 1996)  
<http://www.hort.purdue.edu/newcrop/proceedings1996/v3-496.html>
- Marketing Asian Produce (University of Kentucky, 2005)  
<http://www.uky.edu/Ag/NewCrops/marketing/asian.pdf>
- Vegetable Production Guide for Commercial Growers, ID-36 (University of Kentucky)  
*Especially: greens, cole crops & specialty melons*  
<http://www.ca.uky.edu/agc/pubs/id/id36/id36.htm>
- Around the World at Farmers' Market: Opportunities in Growing and Marketing of Ethnic and Old-fashioned Fruits, Vegetables and Herbs (Kerr Center for Sustainable Agriculture, 2002)  
[http://www.kerrcenter.com/publications/2002\\_proceedings/ethnic\\_fruits\\_veggies\\_herbs.pdf](http://www.kerrcenter.com/publications/2002_proceedings/ethnic_fruits_veggies_herbs.pdf)
- Asian Vegetables: Selected Fruit and Leafy Types (University of California-Davis, 1996)  
<http://www.hort.purdue.edu/newcrop/proceedings1996/V3-488.html>
- Chinese Cabbage and Related Oriental Crops, C-809 (University of Georgia, 1999)  
<http://pubs.caes.uga.edu/caespubs/pubcd/C809-w.htm>
- Fruit and Vegetable Market News (USDA Agricultural Marketing Service)  
<http://marketnews.usda.gov/portal/fv>
- Specialty and Minor Crops Handbook, 2<sup>nd</sup> edition (University of California-Davis, 1998)  
*Information on handbook contents and ordering:*  
<http://www.sfc.ucdavis.edu/Docs/publications.asp?view=5>
- Specialty Vegetables (ATTRA, 2002)  
<http://www.attra.org/attra-pub/specialtyveg.html>