

Cabbage, Chinese—*Brassica campestris* L. (Pekinensis group), *Brassica campestris* L. (Chinensis group)¹

James M. Stephens²

Chinese cabbage has been grown in Asia since the 5th century but was not grown in the United States until about a century ago. It is now grown for sale primarily in California, New Jersey, Hawaii, and Florida. At one time in Florida, the principal production areas were the organic soils of the Everglades and Central Florida. Some production was scattered throughout other counties on sandy soils such as those in Martin County. Many home gardeners around the state include Chinese cabbage in their fall and winter gardens.

The name Chinese cabbage is applied to such a wide range of types and varieties of this vegetable that categorizing them is quite difficult. The confusion owes in part to there being two subspecies and to the fact that Chinese and Japanese plant breeders have spent hundreds of years selecting within them. Following are major types and varieties of Chinese cabbage.

Description of Types

Group I: Pe-tsai

B. campestris L. (Pekinensis group), sometimes referred to as *B. pekinensis*, is commonly called the pe-tsai group. In one place or another, common names include celery cabbage, Chinese white cabbage, Peking cabbage, pe-tsai, won bok, napa or nappa (Japanese), hakusai (Japanese), pao, hsin pei tsai (Mandarin), and bow sum and bok choi (Cantonese).

Pe-tsai includes the broadleaved, compact-heading varieties of which there are two major forms, Chihili and Che foo. Note, however, that there are some varieties of the pe-tsai group that have broad leaves but do not form a compact head, e.g. 'Santo.'

Chihili type forms a cylindrical head 18 inches long and 6 inches in diameter, with an erect, upright growing habit. Among the varieties having this form are 'Chihili,' 'Michihili,' 'Market Pride,' 'Shantung,' and 'Shaho Tsai.'



Figure 1. Chihili type
Credits: Blue Goose Inc.

1. This document is HS569, one of a series of the Horticultural Sciences Department, UF/IFAS Extension. Original publication date May 1994. Revised August 2015. Visit the EDIS website at <http://edis.ifas.ufl.edu>.

2. James M. Stephens, professor emeritus, Horticultural Sciences Department, UF/IFAS Extension, Gainesville FL 32611.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other UF/IFAS Extension publications, contact your county's UF/IFAS Extension office.

U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Nick T. Place, dean for UF/IFAS Extension.

Che-foo type forms a compact, round head of green-bladed, white-petioled leaves. Varieties represented in this category are 'Che-foo,' 'Wong Bok,' 'Spring Giant,' 'Tokyo Giant,' 'Tropical Pride,' 'Tropical Delight,' 'Early Top,' 'Tip Top,' 'China King,' 'Winter Giant,' 'Oriental King,' and 'Winter Knight.'



Figure 2. Chee-foo
Credits: Blue Goose Inc.

Group II: Bok Choy

B. campestris L. (Chinensis group) is sometimes called *B. chinensis*. The most commonly accepted designations are bok choy or pak choi. Many refer to it as Chinese mustard. Other names, some of which overlap those in Group I, are celery mustard, pe-tsai (Mandarin), pak choi (Cantonese), chongee (Japanese), and Japanese white celery mustard.



Figure 3. Kai choy
Credits: James M. Stephens

Bok choy is a nonheading form of Chinese cabbage, with several thick white leafstalks (petioles) and smooth, glossy, dark green, round leaf blades forming a celery-like cluster. There are not as many bok choy varieties available as there are of the pe-tsai type. Two are 'Canton Pak Choi' and 'Pai Tsai White Stalk.' There is a closely related flowering type of bok choy called choi sum (*B. chinensis* var. *parachinensis*). *Sum* in Cantonese means flower stalk. 'Chinese Tsai Shim' is a dark green variety of the flowering type, and 'Hon Tsai' is a purple variety of the flowering type. Both varieties have small yellow flowers borne on top of erect flower stalks.

Bok choy should not be confused with a similar but broader leaf Chinese mustard cabbage called kai choy (*B. juncea* var. *rugosa*). Other names for it are chieh tsai (Mandarin), gai choi (Cantonese), takana (Japanese), and oriental mustard. Popular varieties are 'Pau Sum Kaai Tsoi,' a wrapped heart mustard, 'Takana,' a red- and green-leaved Japanese variety, and 'Miike Giant,' a giant size mustard.

Culture

Chinese cabbage is a cool season annual vegetable. It grows best with short days and moderate to cool temperatures (60 to 70°F mean temperature). Although cultivars will vary in their response to temperature, premature seedstalks may form when the temperature falls below 60°F, and injury can occur during severe freeze.

In particular, some of the bok choy varieties, such as 'Canton Pak Choi,' will bolt quickly when grown in warm weather. Temperatures above 75°F cause soft, bitter heads. Many growers have reported that hot weather causes seed stalk formation (bolting); however, studies have shown that bolting is due to the longer day usually associated with the warm weather.

Chinese cabbage is fairly quick maturing. It varies from 40 days from sowing to harvest for some cultivars to 75 days for the longer maturing ones. Plant during the fall through early spring, either by direct seeding or transplanting. Space pe-tsai plants 18 inches apart and bok choy types 8 to 12 inches on 24-inch wide rows.

Use soil preparation, liming, fertilizing, and cultivation practices, as for regular cabbage. Keep soil moist for best results. Black plastic mulch offers advantages under some conditions.

The major diseases are downy mildew, black speck, virus, and bacterial soft rot. Insect pests are cabbage worms and aphids.

Harvesting

Most Chinese cabbage is harvested by cutting the entire plant just above the soil line. Old, ragged, and decayed outside leaves are removed. The heads or entire plants are then ready for washing, using, or storage. For flowering varieties, pick the tender young flower stalks leaving at least 3 to 4 young leaves on the plant. Successive stalks will grow from the leaf axils.

Use

Chinese cabbage of all types is used both fresh and cooked, with certain varieties being more suitable than others for some uses. A unique dish, kimchi, is prepared in Korea and elsewhere by fermenting Chinese cabbage and pickling it in salt solution.