

Growing Your Own - Esculent Brassicas

By Anne-Marie Walker

There is a remarkably varied plant species native to the Mediterranean seaboard called *Brassica oleracea*, the wild or sea cabbage. In its native habitat, the wild cabbage grows one to two feet high with fleshy, shining, waved-lobed leaves, large yellow flowers, elongated seed pods and conduplicate cotyledons. Plants in the cabbage family (cruciferae) are characterized by the four petal flower arranged in the shape of the cross and containing various pungent oils. Cultivated since ancient times, the common forms departed widely from the original type and include today among others the red and white cabbage, kale, kohlrabi, bok choy, broccoli, cauliflower, brussels sprouts, rocket (also known as arugula), mustard, horseradish, cress, collards, rutabaga, turnip, and oil seed rape.

This lovely family of plants is indeed both esculent (edible) and succulent (juicy). One of the oldest cultivars is broccoli, whose edible structure is entirely an active flower. The Romans, adept at cultivating broccoli, gave the variety its name - comes from the Latin word *brachium*, meaning arm or branch. Another popular cultivar is cabbage, whose name derives from the Norman French word, *caboché*. When you look at a cabbage, you are seeing the large terminal bud forming a head. In its salty, sunny Mediterranean habitat, conditions favored thick, water storing leaves characteristic of dry climates. The plant's ability to thrive in cold climates made it very popular in northern climates, including Britain where it was introduced by the Romans. The practice of pickling cabbage was brought to Europe by the Tatars. Pickled cabbage is, of course, the basis for German sauerkraut, French choucroute, Chinese Suan Cai and Korean kimchi. These dishes were originally prepared in large batches at home as a means of preserving food for winter.

Cauliflower is thought to have been developed in Cyprus and was already being eaten in Europe by the 16th century. Its solid head is a degenerate, sterile flowering structure. Its name comes from two Latin words; *caulis* (*thick plant stem, esp. cabbage*) and *flora* (*the Roman goddess of flowers*). One of the most recently cultivated forms of *Brassica oleracea* is brussels sprouts. A cool weather, slow growing, long-season member of the cabbage family, it was most likely developed in Belgium. Named after its capital city, all the leaf buds of brussels sprouts are active and form heads.

The pungency and odor found in Brassicas comes from an essential oil, a potassium salt and glucose. Strongest in the seed of *Brassica juncea* (mustard), the oil of mustard is strong because of the chemical action of myrosin (an enzyme) on sinigrin (a glucoside). Both as a table condiment and as a medicinal substance, mustard has been used for a very long time. In the Fourth century, BCE (before the Common Era), the Greek physician Hippocrates, advocated using mustard to increase the peristaltic movements of the stomach. Pliny, the Roman historian from the first century CE, records mustard was used in smelling salts, chewed for toothache and taken for various aches and pains. The Romans gave us the word mustard, from *mustum*, or grape juice with which the ground seeds of *Brassica juncea* were moistened into a paste.

When you plant members of the Brassica family, here are some growing tips:

	Days to maturity:	Planting time in Marin:
Broccoli	60 to 110 days	Feb to May
Cabbage	65 to 120	Jan –Apr and Jul - Sep
Cauliflower	90 to 100	Jun - Jul
Kohlrabi	50 to 60	Jul - Aug
Turnip	45 to 75	Jan – Aug

Most Brassicas taste best when grown in cool weather. Seedlings like rich soil that drains well. When planting, calcium and magnesium are good soil additives. Two to three weeks after planting, a supplemental feeding of fish emulsion or compost tea encourages good vegetative growth. It is important to follow good cultural practices when growing Brassicas including crop rotation (because diseases and insects build up including nematodes, cabbage maggot and harlequin bug), proper soil irrigation, select resistant varieties, and thin plants early and keep weeding. Because insects appear to be Brassica lovers, encourage beneficials, hand pick or wash off bugs (aphids, snails, slugs). To encourage beneficials, UC Davis' *Good Life Garden* recommends planting herbs such as dill, rosemary, sage, thyme and chamomile along with cabbage. To control cutworms living in the soil, a paper collar cut and placed around the base of the plant extending as far out as the head of the plant or row covers can be effective. And, if aphids attack and it is harvest time, put a little white vinegar in a pot of warm water and plunge broccoli into the pot. Don't soak for more than 15 minutes by which time all the aphids will have released and floated to the top of the pot. Rinse and proceed to cook.

Pollination in Brassicas is an interesting process. Within each Brassica flower, the male and female parts are very close. Some brassica species contain recognition compounds called *glycoproteins*. Unique to each plant, these compounds allow the brassica plant to recognize itself causing the abortion of the plant's own pollen. This is called *self-incompatibility*. This means that for fertilization to occur, the pollen from one brassica plant must travel to the stigma of another brassica plant, thus ensuring the genes are well mixed amongst the brassica population. Bees are perhaps the best pollinators for brassicas although other insects help fertilize too.

When you garden design with vegetables, remember that while all vegetables are beautiful, some are more beautiful than others. In the Brassica family, plants can vary greatly in height, volume and color.



For this reason, Brassicas offer great possibilities in garden design. The Sarth cabbage and Black Florentine are older varieties of cabbage that reach six feet or more. It's fun to group cabbages in squares with zinnias or chrysanthemums filling in with a backing of feathery fennel. And with broccolis, the most decorative is the lime green seashell of Romanesco. Finally, don't forget that brussels sprouts make great towers in red or green and look striking set off with asters.

Have fun growing, designing with and eating esculent Brassicas!