

## **A WORD OR TWO ABOUT GARDENING**

### **Leafy green vegetables and more**

There is no denying the health benefits of eating leafy green vegetables, but I have to admit that it is often a struggle for me to overcome an aversion to the taste. At least there is some consolation in the fact that there is scientific evidence this is an inherited condition. Some people develop taste buds that are especially sensitive to certain phytochemicals naturally present in many leafy green vegetables. If this is a problem for you there are a number of ways to prepare “greens” to make them more palatable (contact Jackie Gibson at 305 888-5010, Family and Consumer Sciences Agent with the Miami-Dade/UF-IFAS Extension Office).

The purpose of this article is to briefly review how and what to grow when considering leafy green vegetables for the Miami-Dade home garden. First let us define what types of vegetables are referred to as ‘greens’. There are boiled greens, more commonly known in the past as pot herbs, comprising plant stalks and leaves that are cooked before being eaten, either added to soups and stews, or boiled or steamed separately. This would include cabbages, collard greens, kale, spinach, root tops (i.e. turnip greens and beet tops) and many less familiar items of local interest such as callaloo and chaya. Salad greens include the various types of lettuce, Swiss chard, endive and arrugula, as well as items less commonly consumed such as purslane and dandelion leaves. Some greens, principally broccoli and cauliflower, are used less for the leaves but more for the immature florets and stems.

Botanically most of the cooked greens, including cauliflower and broccoli, are forms of the polymorphic species *Brassica oleracea*, and commonly referred to as cole crops. Other species of *Brassica* are important as vegetable crops, different forms of *B. rapa* for instance are grown as Chinese cabbage (bok choy and pe tsai) and turnip. One other plant family, Chenopodiaceae (goosefoot family) contains another widely used cooked green vegetable, spinach, as well as table beets (tops) and orach. Of those plants used for salad greens, the different varieties of lettuce are the most important. All are derived from *Lactuca sativa*, a member of the Asteraceae, a family of plants that also includes many well-known weeds and popular ornamentals from dandelions to chrysanthemums.

All of the commonly grown leafy greens require cool temperatures, especially during their latter phase of growth before harvesting. Cabbages for instance will grow at temperatures as low as 42°F, but cease growing above 76°F. Temperatures that are too high also interfere with germination of seeds, 75°F causing dormancy of lettuce seeds. As temperature increase, most of these vegetables develop a more pronounced bitter taste. Rising temperatures, in concert with increasing day length, makes it more likely that plants will bolt - develop flowering stems thereby ending production. As an approximate guide, mean daily temperatures of 65-70 are optimum for most greens. The more exposure there is to temperatures above 75°F, the poorer the quality of the produce. For Miami-Dade this means setting out plants

so that they reach maturity during the months from December to February. The further into March plants are allowed to grow the more likely day time high temperatures will approach or exceed 80°F. The earliest to be starting cabbage, collards and mustard greens is October/November if starting from seeds, 2-3 weeks later if using transplants. Crops such as lettuce and spinach will benefit from being set out further into November.

Where it is possible to grow from seed allow extra time in order to develop vigorous transplants – some crops, for instance cabbage, can be sown directly into the planting bed. You will need to prepare an area of the yard that has organically enriched soil to a depth of at least 6". This may be best achieved by building a raised bed, especially if you have thin topsoil over hard limestone. Raised beds simplify intensive planting systems such as square foot gardening, which are especially useful for maximizing garden productivity where space is a limiting factor. Leafy green vegetables do not require quite as much direct sunlight as vegetables grown for their fruit - tomatoes and peppers for instance require at least 6-8 hours/day. Some greens, such as Chinese cabbage, collards, endive and turnip greens, will take shade for part of the day, or day long dappled sunlight amounting to as little as 4 hours of direct sun per day. Nevertheless, where possible try to select a garden area receiving as close to 6 hours of direct daily sun as possible.

It is especially important with these crops to maintain even soil moisture and this will entail mulching, as well as provisions for watering as required. Soil that is too wet will encourage root and stem disease, while too little water will induce wilting, with plants that becoming stunted and yellow. Where soil has become excessively dry, supply water gradually to crops such as cabbage and broccoli to prevent the heads from splitting. Further information on irrigation is available in the publication 'Irrigation of the home garden: vegetables and bedding plants in south Florida', available from the U.F./Miami-Dade Extension Office. Mulching has the added benefit, in addition to conserving soil moisture, of preventing leaves from coming into contact with soil thereby reducing the risk of disease.

Practically all of the vegetables in this article can be started from seed – those with short growing periods (spinach, kale, Chinese broccoli and root tops) are often best sown directly into the garden. You should follow directions on the seed packet as to depth of planting, thinning out and spacing. Cabbage, and collard greens can be directly sown or alternatively first raised in seed flats, then transplanted out into the garden. Broccoli and cauliflower are more reliable, and lettuce easier to space, if first grown as transplants. Whatever vegetables you grow from seed, use varieties recommended for Florida. When set out in the garden, the transplant should be growing vigorously, neither spindly nor root bound. The same is true if you decide to purchase transplants from a garden center – choose healthy vigorous plants putting them into the vegetable garden as soon as possible. The use of garden center transplants is more reliable, especially if you are a first time gardener, and avoids the extra time and care required in growing from seed. Many stores guarantee their plants, so there may be some recourse if they fail. Try to stagger the planting dates so that you are not harvesting more produce than you can consume at any one time. For further information on recommended vegetable varieties for Florida plus

additional information including soil preparation, fertilizer use, pests and diseases, see the University of Florida/IFAS Vegetable Gardening Guide: go 'on-line' (<http://edis.ifas.ufl.edu/VH021>), or copies are available from this office (305 248-3311). Call this office for current recommendations on disease and insect control in the vegetable garden. Various types of caterpillars are the main pest insects, while snails can also cause significant chewing damage. Since disease and pests can build up in the soil, avoid planting cole crops in the same part of the garden for more than two years –rotate with tomatoes, squash or beans for instance.

With local gardeners, broccoli, cabbage and spinach as well as collard and turnip greens are popular cooked greens, while among salad greens lettuce, in particular romaine, is widely grown. Broccoli transplants should be ready to harvest within 45–60 days after planting, at which time the immature florets (which form the head) should be uniformly green and compact – if over mature the heads will be loose and yellowing with fibrous stems. First remove the central head along with 4-5" of stem, after which the side shoots can be harvested as they develop heads. These will be smaller, but can be removed about every 4-5 days. However, as the season progresses and temperatures rise they may well develop a more bitter taste. Varieties to try include Green Comet, Greenbud and De Ciccio (which are relatively heat tolerant) as well as Waltham 29, a later maturing variety but an old time favorite of many growers. Cauliflowers, like broccoli, are grown for the immature florets (curd) but are even more exacting in requiring cool weather (65 - 68°F) for development of a smooth even white head. As temperatures climb toward 80°F the head will become more uneven, bumpy and loose with a grainier texture (ricing). You will need to tie the outer leaves up to protect the developing head from sunlight and prevent it from yellowing (unless you grow a self-blanching variety). When the head is about 6" across remove it by cutting the stem just below the curds. Once harvested, pull up the remainder of the plant for the compost pile – unlike broccoli lateral shoots and further heads do not form. If you wish to try growing cauliflower try an early variety such as Snow King, or one of the Snowball series.

The types of cabbage first cultivated had an open whorl of leaves, not the compact head we are familiar with today and are referred to as non-heading cabbages. Collards, which are easy to grow, are sometimes referred to as a non-heading cabbage. The hard heading (occasionally called white) cabbages were developed later in cooler parts of Europe. The original types formed a rounded tight head of leaves, but later forms had flat, elongated, egg shaped or conical heads. Due to our mild winters these cabbages often do not develop a tight compact head. Still later came a group of looser heading cabbages with a milder flavor and crinkled leaves, the Savoy. Cabbages to try include Gourmet, King Cole, Rio Verde and Chieftain Savoy. Chinese cabbages, which are in fact more closely related to turnips than to the above cabbages, are of two main types: pe-tsai (Peking cabbage) and bok-choy (Chinese mustards). Pe-tsai contains two widely grown sub-types, Chihili and Che-foo, both of which form heads, whilst Bok-choy is a non-heading form. Chinese cabbages, especially bok-choy, can be successfully grown locally, and should be directly sown in the garden during November. Expect to harvest from 6 –10 weeks later, depending on the type grown.

Spinach requires an exceptionally cool winter to do well in Miami-Dade. Seed should be directly sown sometime in late November, and will be ready to harvest 6-8 weeks later. Malabar and New Zealand spinach (*Basella alba* and *Tetragonia tetragonoides* respectively) are unrelated to common spinach, but better adapted to south Florida's climate and not as prone to pest and disease. Malabar spinach, and the closely related red-leaved Ceylon spinach, are somewhat rank growing vines (best if trellised), that can be grown as herbaceous perennials providing they are regularly watered during dry weather. Start plants during late spring using either seeds or cuttings, and harvest young tender leaves as needed. New Zealand spinach is a spreading, semi-prostrate, much branched annual planted in spring using seeds pre-soaked overnight before sowing. After 6-8 weeks leaves should be ready to harvest, when a few 6-8" stem tips can be removed – this will stimulate further growth for a later harvest. New Zealand spinach has a milder flavor than common spinach and though more tolerant of drought than Malabar spinach, responds favorably to supplemental water.

Two less common cooked greens that are more familiar in the Caribbean are green amaranth (Chinese spinach, or callaloo in Jamaica) and Chaya (the leaves of a small rather rank shrubby tree, also known as tree spinach). Chaya leaves are poisonous and cannot be eaten unless first cooked – boiling for about twenty minutes renders them safe. The plant can be grown from 4-6" cuttings of fully mature stems taken during early spring. If directly planted in the garden ensure the site has excellent drainage to avoid rotting of the cuttings. While slow growing at first, they will make much more rapid growth after the first year once established. When harvesting the young tender leaves and shoots, use gloves to protect from any spines (avoid wild or seed grown plants which often have many spines and stinging hairs). Amaranth is a summer annual best started as transplants (seed germination is erratic), then set out in the garden with a 5" spacing between plants. About 5 weeks after seeds are sown, leaves can be removed for consumption cutting a 6" lengths of stem tips. This will stimulate new growth. Caterpillars can be troublesome pests of this crop.

There are four main types of lettuce: crisphead (iceberg - the type most often seen in produce stands), romaine (cos), butterhead (Boston) and loose leaf. Crisphead lettuce is not recommended for home gardens since it requires a prolonged period of cool weather in order to develop a full tight head. Leaf lettuce is the most heat tolerant and easiest to grow. Try varieties such as Prize Head, Salad Bowl, and Cocarde. Romaine lettuce is popular with local gardeners, though it develops a stronger flavor and tougher leaves with warming temperatures of early spring. Try Parris Island Cos, Jericho (especially heat tolerant) and Valmaine. With both types of lettuce you can harvest the whole plant or remove a few leaves as required. If you grow from seed avoid high soil temperatures (see above) and barely cover the seeds with soil - lettuce seed requires light to germinate. Use of transplants from a garden center is more reliable. Root nematodes can be a serious pest of lettuce – mulching and enriching the soil with organic matter can help control this problem.

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