



## Using seaweed to build your Keys Soil

The Keys soils are difficult to dig and have little organic matter. Seaweed offers us a cheap source of organic matter for enriching our coral rock soils.

The information provided in this publication is based on a publication penned by Ray Zerba, a past Monroe County Horticulture Agent who learned from local residents and experimentation.

In the Keys common seagrasses are turtle grass (Thalassia spp.), shoal grass (Halodule spp.) Sargassum, and manatee grass (Syringodium spp.). It is generally stated that seaweed found on U.S. shores, if taken as a mixture of several seaplants, has a nitrogen level of 0.5 to 1.5%. It is considered low in phosphorus (only about 0.1%), but it is high in potassium (4 to 10%). In addition, it may contain as much as 2% calcium and 4% magnesium plus other trace elements as boron, copper, iron, manganese, molybdenum, and zinc.

In gathering seaweed, it is suggested that the gardener attempt to collect seaweed that is farthest inland. This seaweed will have fewer oil blobs, and smells better. Another thing to be on the lookout for is germinating seeds that are intermixed with the seaweed. For the first few months after collecting the seaweed, it is a constant struggle to keep the gray nickerbean and mangrove seedlings from sprouting.

When you consider that the seaweed is free for the taking, however, this is probably a small cost for the material.

### Seaweed uses:

**Organic amendment.** Seaweed can be used as a substitute for peat moss in amending the soil, after it has gone through a short composting period. To compost seaweed rapidly pass it through a shredder or grinder to create small seaweed pieces. This material can then be mixed with other compost or rich garden soil. Place the mixture in a shady area of your yard to decompose. Turn the pile once after the second week and you should have decomposed seaweed in another two weeks, if the pile has been kept moist. If a shredder or grinder is not available, you can compost seaweed in 5 to 6 months by letting it go through one whole rainy season and adding a 6-6-6 fertilizer to the compost pile.

**Mulch.** When you first put seaweed down as mulch, it will have a tendency to blow away some as it begins to dry out. If you are in a high-wind location, you may need to cover it with bricks or some other material for a few weeks. Once it settles it resists blowing away. Seaweed functions as any other organic mulch in that it will slowly improve soil tilth, probably discourages nematodes, provides some minor elements, conserves moisture, shades the soil and creates a good media for plant roots to grow in. As the seaweed breaks down, other weed seeds quickly germinate. It is probably best to cover the seaweed with another mulching material, such as other wood mulches to lessen weed seed germination.

We are aware of people who mulch with seaweed right from the beach without leaching it of salt. We caution people against this practice except with the most salt tolerant plants. If you do not want to place it in an area where you can leach it with overhead irrigation before using it, we at least suggest washing it thoroughly in a garbage can filled with fresh water to remove surface salts.

**Vegetable Garden Soil.** Many Keys gardeners have successfully created a raised bed vegetable garden by using seaweed. First, build a bottomless planter at least 14 to 16 inches high with some rot-resistant material. Fill this box two-thirds full of seaweed and one third full of native soil screenings. It is suggested that this be done between April and June. Fertilize heavily with 6-6-6 and then let it sit through the rainy season. Keep all weeds pulled as they sprout. The action of the rains and fertilizer will compost the seaweed in place to create a good garden soil by the time most gardeners begin planting their winter garden, in the last part of September and the first part of October. By then, the rains will have thoroughly leached the seaweed of salts. This process is a form of green manuring.

The first year after you do this, it has been observed, the best vegetables to grow in this mix are tomatoes, potatoes, and peppers. Since the composting operation will have reduced the level of soil by four to six inches, you should mulch with some organic material once you have planted your seedlings. Because of the native soil you have added, there may also be a need that first year to spray periodically with a minor element spray containing at least iron, zinc, copper, manganese, boron, and if possible, magnesium.

During the second rainy season you will find that you have a good fertile soil base with which to work and the only thing needed to bring it back for the summer production is generous amounts of compost or composted manure. If you don't plant a summer vegetable garden, you could turn in more seaweed.