

Biochar for Rotarian Gardeners

by David A. Nuttle

As proven by agricultural research in seven nations, the ancient Amazonian tribal practice of making and using biochar as a farmland soil additive greatly increases soil fertility long-term and acts to double crop yields in most cases. A process of pyrolysis is used to make a char while limiting the oxygen supply. Wood or agricultural waste (cobs, stalks, hulls, etc.) have their bio-oils & biogas removed by pyrolysis and when placed in the soil nutrient producing soil microbes make their home in the cavities thus created in the biochar. The microbes pay space “rent” by producing an array of plant nutrients. Technical details are available from the Intl. Biochar Institute (IBI).

To enhance the benefits provided by biochar it is best to soak it for 10 days in a tub of clean water with soil microbes, reasonably fresh cow manure, and Ag zinc sulfate (about 1-cup each to every 20 gal. of water). Most farmlands and gardens are now deficient in zinc after years of plant production. The zinc is needed to truly have the highest crop yields. After the soaking process to bio-activate the biochar it should be added to crop-row root-zone soils at a rate providing about 10 percent biochar to these soils with good mixing to distribute the biochar.

You can buy or make a variety of biochar kilns for a few hundred dollars. For the typical home gardener, it is far less expensive to buy what you need to make your own bio-activated biochar. Several box-stores sell Wakefield Biochar in 1 cu. ft. bags for \$29.99. Cultured mixes of good soil microbes are available from Real Growers, a Boulder, Colorado company, selling 8 oz. bags of these microbes for \$29.95. Sea World makes and sells Ag zinc sulfate for \$18.77 per 5 lb. bag. The prices may vary over time and for different locations.

With food prices increasing and some food shortage occurring at times of crisis such as a pandemic. It might be wise for every Rotarian family to have a good home garden. You may grow crops all year long with an all-season greenhouse or by using indoor crop production. For the means to do the latter see my “Healthy Foods Handbook,” posted on the website for my charity, NPI ([www. needfulprovision.org](http://www.needfulprovision.org)) ... see the 3rd topic on the upper left of this site. If you have questions about any of the above information, please contact me via my email:

npiinc2000@aol.com. In the event you would like to consider an all-season greenhouse for your home food production, I have plans for such a greenhouse I have developed. It is fully biosecure, environmentally-controlled, solar-powered and has innovative crop production means. For groups of home gardeners who seek a collective means of safe food processing, I recommend a Russell Concessions mobile, self-sufficient USDA/FDA food processing trailer that has the means to can, freeze, dry, make value-added food products, and provide temporary cold storage for a variety of food crops. This trailer was engineered, developed, and fully tested by Kentucky State University.

Good luck with your home food production!!!