**Track D: Soil Science Simplified**

**Session D.2 The Rest of the Story: Soil, Carbon, Gardening and Biochar. Dale Hendricks, Green Light Plants, LLC, Landenberg, Pennsylvania**

Opening with the question: How is good high carbon soil created in the first place? Mr. Hendricks gave a general overview of the exchange of atmospheric carbon through forest litter and into the soil via mycorrhizal fungi. He discussed the role of modern farming in the degradation of soils through heavy tilling which ultimately releases the same soil carbon through oxidation and erosion. He outlined the importance of sustainable grazing practices in building good carbon soils and preventing overall degradation. In addition he discussed the beneficial role of black carbon in the form of biochar (charcoal) in maintaining carbon rich, well balanced soils.

Biochar benefits:

- supports the mycorrhizal health of soil
- reduces the soil emissions of carbon
- increases water filtration and water holding
- increases cation exchange capacity
- reduces leaching of nitrates & chemicals into watersheds
- increases pH buffering and stability

Mr. Hendricks discussed how to create biochar in a sustainable way and passed around a few pieces of bamboo that he had converted to biochar. He emphasized that it is best used as a part of the composting process and then added to the soil also that it is excellent when mixed in small pieces with animal waste and he emphasized that it is not be used as a substitute for fertilizer but as a source of structural carbon.

See handout for additional links and information.