For efficient positive composting, use EMPOWER at the rate of 1 litre per ton for composting. For more details check Empower brochure.



MORE ABOUT BENEFITS OF BIOCHAR CAN BE SOURCED IN BIOCHAR INTERNATIONAL

#### www.biochar-international.org

#### **Dossage:**

3 -5 % of Black Gold (biochar) as soil amendment when directly used as soil additive.

Volume of land can be calculated for the land preparation for 2 feet depth with farm yard manure application. For instance for preparation one acre land, 10 tons of FYM is mixed with 300-500 kg of Black Gold mixed thoroughly before trilling the land. Mfd. & Mkt. BY: M/s BCX BIOORGANICS, 11,Survey No.38/1, Krishnasagara,, Attibele, Anekal Taluk, Bangalore-562107 E-mail: bcxbioorganics@gmail.com website: www.bcxbioorganics.in Ph: +91 9080103913;7349233700



### Representation of Biochar Composting

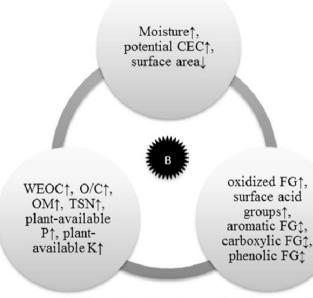






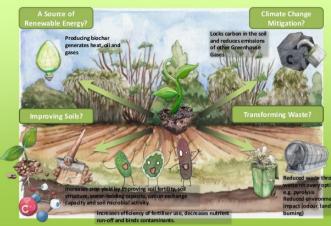
WWW, BCXBIOORGANICS.IN Producer of Certified Organic inputs suitable for Organic and sustainable agriculture

## What does Biochar do in compost?



Above picture depicts the effect of composting on biochar. CEC: cation exchange capacity; WEOC: water extractable organic carbon; O/C: O/C ratio; OM: organic matter, TSN: total soluble nitrogen; FG: functional group

### The Potential Benefits of Biochar

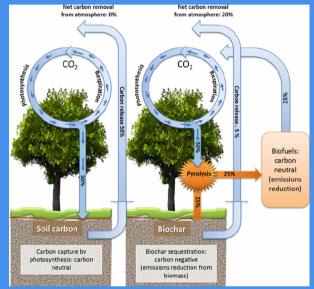


- Improves tilth and reduces soil bulk density
- Increases soil water holding capacity
- Increases cation exchange capacity (CEC

   the ability to hold onto and transfer nutrient cations: ammonium, calcium, magnesium, and potassium)
- Suppressed methane emission
- Supports soil microbial biodiversity
- Reduced nitrous oxide emission
- Reduced fertilizer requirement
- Reduced leaching of nutrients
- Stored carbon in a long term stable sink
- Soil enhancement that lasts a lifetime
- Enhanced plant growth
- Stored carbon in a long term stable sink
- Reduces soil acidity: raises soil pH
- Reduces aluminum toxicity
- Increased soil aggregation due to increased fungal hyphae
- Increased soil microbial respiration
- Helps plant resist diseases & pathogens
- Stimulated symbiotic nitrogen fixation in legumes
- Increased arbuscular mycorrhyzal fungi

# How it enhances Plant

### Photosynthesis?



Photosynthetic rate increases in plants grown in biochar treated soil and it improves further when biochar and compost was used together, while stomatal conductance and respiration rate remains the same. It leads to the stimulation of biomass production in treated soil. Plants treated with biochar are known to minimize substantial water loss through stomatal closure and transpiration. This helps maintaining water balance and leaf turgidity when plants are cultivated in low quality soil. Thus, improvement of soil ultimately supports

photosynthetic performance.