

Biochar – An Alternate Method for Stubble Burning

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ARTICLE ID: 047

ABSTRACT-

Carbon in soil act with nitrogen and acts as a fertilizer to the plants, and helps soil to become healthier and more fertile by adding organic matter in it. Some Studies have stated that Biochar comes with natural benefits – it can store carbon and combat pollution on the ground and from the air. It is especially efficient because soil microbes cannot break it fast as compare to natural organic matter. Because it's porous & holds on water to increase moisture percentage in the soil along with the accumulation of nutrient pool in soil. So quite balanced and right approach requires while creating Biochar from farm wastes with different methods for its conversion as a beneficial product which is Buzz word on social media these days.

INTRODUCTION-

International Biochar Initiative (**IBI**) formed under the support of World Soil Science Congress,2006 with the mission of providing a platform to increase the collaboration among industry, environment, and Ethical Standard practices through the promotion of Biochar research and commercialization for safe& economically viable Biochar System.

Basically, Biochar is a solid black material obtained from pyrolysis of stubble or farm biomass in an anaerobic environment. This method can also be a solution for the frequently seen problem of Paddy stubble burning in Punjab and Haryana by converting stubble into Biochar and use it as a fertilizer because of its properties which shows increasing the water-holding capacity of the soil, enhancing soil fertility along with increased productivity of crop

and agroforestry. Biochar can also help in restoring the fertility of degraded and marginal soils.

Other Benefits are-

- Can contribute in combating global climate change through absorbing and reducing the greenhouse gases from stable soil pool and from the emission of GHG associated with decomposition of urban and rural waste.
- Can also substitute the fossil fuel as it's also an alternative source of bioenergy.
- Can become more sustainable option for farming as it reduces the usage of chemical fertilizer inputs slowly recycle agricultural and organic waste material and also improves the water quality by holding the nutrient and by preventing leaching into water bodies.

Importance of stubble management is important, as we can see in Delhi region sudden increase in smog due to the burning of millions of tonne of paddy straw which is also important for farmer due to up next sowing of wheat crop. Recently, the Indian Agriculture Research Institute (IARI), composed fungal composition named as Pusa Decomposer which claims that it can decompose the stubble on farm with 12-15 days synonymously can help in solving the issue of Air Pollution in Delhi.

Biochar created from pyrolysis of natural materials is a fine-grained charcoal, which is high in natural carbon and impervious to deterioration. It makes a refractory soil carbon pool that is carbon-negative, filling in as a net withdrawal of climatic carbon dioxide that is put away in profoundly unmanageable soil carbon stocks. It can give attractive advantages to crops for more than a few seasons.

A few strategies for Biochar application including broadcast and incorporation, banding, spot and ring have been suggested. In many cases, most Biochar field preliminaries answered to have utilized the broadcast and incorporation technique for application. Additionally, the adequacy of Biochar use could be impacted by the strategy utilized for application. Although, farmers prefer age-old method of stubble-burning to be simpler, ease and time-effective, contrasted with choices that request additional time, investment and work. This directly focuses that stubble management should divert into the private hands.

CONCLUSION-

There are different options in contrast to stubble-fire, and ranchers can pick between the innovations and machines that generally fit to their specific nearby conditions, with the goal of 'no burning'. The public authority should fill the role of an empowering influence by spreading mindfulness about the ups and downs of every choice, in order to dispense solution and facilitate the selection of advances tech-solution by eliminating financial hindrances. For this, the state governments can bind agrarian officials and authorities of rural market to help farmers and create a formalize complete 'no burning' strategy to overcome the problem and turn into the means of bio energy as a solution for farms fertility.

