

Engineering Interventions to Mitigate the Agricultural Waste in India



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Abstract India produces more than 620 million tons of agricultural waste annually. Out of that only 25–30% is utilized as livestock fodder and energy production and the remainder is waste. For next crop sowing, most of the farmers practice incineration to clean the fields in the rice-wheat crop system and others. This practice releases harmful gases like CO₂, CH₄, N₂O, H₂S, O₃, and smog, which cause air pollution. It also affects public life and disturbs soil physical, biological, and chemical properties by destroying beneficial soil microorganisms. Along with crop production, other enterprises like dairy, fishery, poultry, agro-forestry, goat, and sheep rearing produces huge agricultural waste like crop residues, cow dung, and so on. Therefore, engineering interventions to mitigate the agricultural waste in India can be an option to solve the above problems and also provide better inputs to crop productivity.

Keywords Agricultural waste · Incineration · Pollution · Soil microorganism · Interventions

1 Introduction

Waste is unavoidably produced in all human activities including crop production, dairy, fishery, poultry, agro-forestry, and goat and sheep rearing. The quantity of waste is directly proportional to the consumption of resources with time. Waste is very often dumped in wasteland, since it is considered non-useful. Our societies' growing consumerism lifestyle has exacerbated the waste problem as it increases

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