



Parthenium hysterophorus as a Biocompost

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Abstract:

Parthenium hysterophorus is uncontrolled weed this plant is a defamed plant in view of its toxic and allergic properties. but they have nutritional value it contains two times more nitrogen, phosphorus and potassium. Its economic value is neglected because of its toxicity. It spread everywhere in this world for controlling better way prepare compost. *Parthenium hysterophorus* can be used for biocompost that increases physical, chemical and biological properties of soil and enhance the crop growth. The effect of *Parthenium* compost is later but better.

Key words: Biocompost, *Parthenium*, Heap method

Introduction:

Parthenium hysterophorus L. (Family: Asteraceae). It is inhabitant in the American tropic region. It is commonly known as “congress weed”. In India, it is commonly called “carrot grass”. In the mid 1950’s *Parthenium* was found in India through imported food grains (Dhawan 1996). After this, it has spread widely throughout India (Sivakumar et al., 2009) and can grow easily in any climatic condition in India. *Parthenium* weed is found in both natural and agro ecosystem. It completes about three generations in a year. It shows many adverse effects on biodiversity, agriculture, and the health of animal and human being. *Parthenium hysterophorus* plant or their pollen cause health problems like asthma, high fever, dermatitis, bronchitis, diarrhea and allergies to skin, eyes, nose and mouth. At present, *Parthenium hysterophorus* is one of the noxious weeds found in wastelands, forest, grass lands and agricultural lands in India and is spreading at a rapid rate all over India (Bakthavathsalam et al., 2004). Its economic value is neglected because of its toxicity. So, making compost using *Parthenium hysterophorus* is useful for soil conditioning as it contains two times more nitrogen, phosphorus and potassium than Farm Yard Manure (FYM) (Channappagoudar, 2007 and Angiras, 2008). Even though, it contains higher amounts of nutrients. *Parthenium hysterophorus* compost improve physical properties of soil which increase organic matter content and suppress soil borne disease (Sonawane and Ustad, 2016) *Parthenium* is used for manure purposes such as compost and green leaf manure (Biradar et al., 2006). *Parthenium hysterophorus* L. can be utilized effectively as organic manure by composting as this weed produces high biomass (Angadi et al., 1977). *Parthenium hysterophorus* is selected for the preparation of compost because it is easily available.

Materials and methods:

The weed plant *Parthenium* were collected from Baramati road side, college back side, before flowering stage or some flowering stage it is not practically possible to collect only flowerless plants therefore uprooted plants of every stage.

Preparation of raw materials for composting:

Material	Total Quantity
<i>Parthenium hysterophorus</i>	25kg
Cow dung	5kg
Dried fallen leaves	5kg
Saw dust	5kg
Curd	500g
<i>Trichoderma viride</i>	250ml

Methodology:

Heap Composting Method is used for preparation of *Parthenium* compost. In this method the compost was prepared in a systematic heap. Prepare bed for composting 4 by 4 feet and height 5 feet.

- Collect *Parthenium* weed plant
- The collected raw materials were chopped into small pieces, approximate 2 to 2.5cm in size.
- First spread 5kg soil
- Spread about 5kg *Parthenium* on the surface of the soil.
- Over this spread 1kg dried fallen leaves then 50ml *Trichoderma viride* and 100gm curd then spread 1kg cow dung slurry same as make five layers.
- Cover all material with polythene paper.

The compost temperature was recorded by thermometer. And moisture by moisture meter. After every equal interval of 4days compost was mixed properly for aeration. When the composting process was completed, whole compost was having fine particle size, dark in colour, no termites were present and it gave all sign of good compost. The duration to complete compost process was 90days. Obtained composting value is 20kg.

Result and Discussion:

Analyzed Physical and Chemical properties of *Parthenium* compost

Paramater	Unit	Test Value
pH	-	7.8
E.C	dSm ⁻¹	0.33
Moisture	%	5.02
Organic Matters	%	19.94
Nitrogen	%	0.29
Phosphorus	%	0.25
Potassium	%	0.48
Calcium	%	5.36
Magnesium	%	0.36
C:N Ratio		39.96:1
Organic Carbon	%	11.59

Parthenium compost had more test value of Nitrogen, Phosphorus, Potassium, Calcium and Magnesium as other biocompost. It does not have any harmful effects on humanbeings, soil, and crops.

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