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THE POWER OF WEEDS – PARTHENIUM AND CROTON

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Weed composting is the process of turning unwanted weeds into nutrient-rich compost. It has several benefits, such as reducing weed growth and the need for herbicides, while improving soil fertility and plant health. However, there are challenges, such as persistent weed seeds and potential pathogens. Further research is needed to refine and expand its application in different agricultural, horticultural and gardening contexts.

Weed compost, also known as composted weeds or weed-based compost, is a type of compost that is made primarily from weeds. Composting is the process of decomposing organic matter, such as plant material, to create a nutrient-rich soil amendment known as compost. When it comes to weed compost, the weed plants are collected and allowed to decompose over time. During the composting process, the weeds break down and undergo microbial activity, resulting in the transformation of the organic matter into a nutrient-dense material. The heat generated during composting helps kill weed seeds and potential pathogens, making the final product safe to use. It enriches the soil with organic matter, improving its structure, moisture retention, and nutrient content. The compost releases nutrients slowly, promoting healthy plant growth. It also enhances the soil's ability to hold water, reducing the need for frequent irrigation.

Current Scenario of Composting In India

The Swachh Bharat Mission had committed to ensuring that all organic waste produced in Indian cities is processed into making compost by October 2019, but it doesn't seem likely. To meet the ambitious target, the Ministry of Chemicals and Fertilizers had announced a policy on promotion of city compost to promote in February 2016. India currently produces close to 1.5 lakh tonnes of solid waste every day and its biodegradable fraction ranges between 30 per cent and 70 per cent for various Indian cities. This means

there is a huge potential for compositing, the most natural form of processing wet waste. But, uncontrolled decomposition of organic waste in dumpsites and also leads to emission of potent greenhouse gases. So, it is imperative that necessary actions be taken to promote appropriate disposal mechanisms for solid waste management.

Utilization of Weeds to Make Compost

- We can make bio-fertilizer from abundantly occurred biomass of Parthenium. By making use of this weed, at one hand we can increase the productivity of our crop land by weeding out of this weed while at other hand we can even earn money by making compost on commercial basis from this waste material.
- Croton, also known as the rushfoil or sweatbush, is a plant species native to North and Central America. While it is primarily known for its medicinal properties, it can also be used in composting. Composting with Croton can help enrich the compost pile and improve the overall quality of the compost.

Materials Used In Weed Compost

Cow dung, Parthenium, Croton and Gunny Bags

Methods to Make Compost from Weed

- Make a pit of 3x 6x10feet (depth x width x length) at a | place where water dose not stagnate. Pit size can be increased or decreased but depth cannot be compromised.
- If possible, cover the surface and sidewalls of the pit with stone chips. It will protect absorption of essential nutrient of compost by the soil surface.
- Arrange about 100 kg dung, and one drum of water near the pit.
- Collect all the Parthenium andCroton plants from your field and nearby area.
- Spread about 50 kg of the weeds on the surface of pit.
- All the above constituents will make one layer.
- Like first layer make several layers till the pit is filled upto 1 fit high from the ground surface.
- Fill the pit in dome shape.
- While making layers, apply pressure by feet to make weed biomass compact.
- When pit is full with above-described layers then cover it with mixture of cow dung, soil and husk.

- After 4-5 months we can get well decomposed compost.
- We can get 37–45% of compost from 37-42 quintals of Parthenium biomass.

Benefits of Using Weed Compost

Nutrient-rich soil amendment:

When weeds are composted properly, they break down into a nutrient-dense material that can improve soil fertility and provide a balanced mix of macronutrients and micronutrients

Soil structure improvement:

When these weeds are composted and added back to the soil, they contribute to soil aeration and drainage. This improves water infiltration, root development, and overall soil health.

Weed suppression:

It helps suppress the growth of new weed seeds by creating a barrier that blocks their access to sunlight and nutrients. This can reduce the need for chemical weed control methods.

Environmental sustainability:

Composting weeds reduces waste and promotes a sustainable approach to gardening and farming.

Cost-effective solution:

Producing weed compost can be a cost-effective alternative to purchasing commercial fertilizers or soil amendments.

Limitations of Using Weed Compost

Weed Seeds:

Weed compost may contain viable weed seeds that can survive the composting process and potentially germinate when the compost is used in gardens or landscaping.

Persistent Weeds:

Some weed species have resilient characteristics that allow them to survive composting. As a result, these weeds can potentially reestablish themselves when the compost is used.

Chemical Residues:

If the weeds being composted have been treated with herbicides or other chemicals, there is a risk that residues of these substances may persist in the compost. These residues can potentially affect the growth of desired plants when the compost is applied.

Imbalance of Carbon and Nitrogen:

Weed material can be high in nitrogen, which can lead to an imbalance in the carbon-to-nitrogen ratio (C/N ratio) of the compost.

Precautionary Measures

However, it is crucial to follow proper composting techniques to ensure the effectiveness and safety of the weed compost. This includes maintaining the right balance of carbon and nitrogen, monitoring moisture levels, and ensuring the compost reaches adequate temperatures to kill weed seeds and pathogens. Additionally, it is important to use healthy weed plants and avoid including plants that have gone to seed or are infected with diseases or pests.

By adhering to these guidelines and being mindful of potential risks, weed compost can be a valuable tool for improving soil health, reducing weed growth, and promoting sustainable gardening and farming practices.

Conclusive Remarks

Weed compost offers several benefits for gardeners and farmers. By composting weed plants and other organic materials, it can provide a nutrient-rich soil amendment that improves soil fertility, enhances plant growth, and promotes environmental sustainability. Weed compost can help control weed seeds, reduce waste, and minimize the need for synthetic fertilizers, making it a cost-effective and eco-friendly solution.

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