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54 Title of invention

A NOVEL SYSTEM FOR WIND-POWERED IOT BASED SUSTAINABLE ORGANIC COMPOST MACHINE

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A NOVEL SYSTEM FOR WIND-POWERED IOT BASED SUSTAINABLE ORGANIC COMPOST MACHINE

FIELD OF INVENTION

The present invention relates to a field of organic farming more particularly, to a novel system for wind-powered IOT based sustainable organic compost machine

BACKGROUND OF THE INVENTION

In a developing economy where the strain on agriculture production is great due to a huge population, sustainable organic farming is an urgent necessity. Utilization of inorganic fertilizers rises in tandem with demand for agricultural productivity increasing the use of compost and artificial fertilizers, which deteriorates the soil fertility on the long run.

In recent years, the government and policymakers have put more emphasis on organic composting as a way to deal with waste. India makes about 1.5 million tonnes of solid waste every day, and the amount that can be broken down ranges from 30 to 70 percent in different cities. Compost has two uses: first, it develops fertiliser, and second, it manages waste to improve soil fertility. The biological and physico-chemical characteristics of the soil are improved by composting by using plants and organic waste that is rich in nutrient. In order to replenish the nutrient-depleted soil, wet waste plays a vital role in replacing chemical fertilizer.

In India, the Wind Power Development program was introduced in the final year of the Sixth Five Year Plan (1983–1984). Following that, the first wind energy facilities were built in Ratnagiri (Maharashtra), Okha (Gujarat), and Tuticorin (Tamil Nadu).With a total installed wind power capacity of 37,669 MW (February 2020), India has surpassed China to rank fourth in the world. With a capacity of 9231.77 MW as of the end of October 2019, Tamil Nadu is thought to be the highest producer, followed by Gujarat (7203.77 MW), Maharashtra (4794.13 MW), Karnataka (4753.4 MW), and Rajasthan (4753.4 MW) (4299.73 MW). The largest wind farms with more than 500MW of production include Brahmanvel Wind Farm

(528 MW) in Maharashtra, Jaisalmer Wind Park (1064 MW) in Rajasthan, and Muppandal Wind Farm (1500 MW) in Maharashtra (4794.13 MW), Karnataka (4753.4 MW) and Rajasthan (4299.73 MW). The major wind power plants with greater than 500MW production are Muppandal Wind Farm. Due to their physical position, northern states have no power generation whatsoever.

A variety of Alfa Therm Composting machines, including fully automated, semi-automated, and user-friendly machines, are offered. For the creation of compost, they use food scraps or other organic waste. Several hotels employ these devices for waste management and to make compost, which is utilized in gardens or organic farming.

A tractor-mounted compost aerator developed by Mr. Gurmail Singh Dhonsi. The Union Minister aided the innovation in 2011, and it also earned the competition's innovation prize in the sixth biennial competition that year. Under NIF's MVIF plan, the innovation is supported.

Excel Industries Private Limited, based in Mumbai, invented the Bioneer. Compost made from organic waste may now be made within only 24 hours thanks to an innovation. In-vessel composters, a pioneering, ground-breaking technology, are offered for sale.

The delivery of fertiliser in India operates on three levels which is categorizes as the Government agencies, the cooperative agencies, the private agencies. The cooperative societies and the state agricultural department sold chemical fertiliser up until the end of the first five-year plan. The government allowed licensed production facilities to sell 70% of the fertilisers on their own in the 1960s, with public agencies selling the other 30%.Input for agricultural production was promoted by the National Development Council in 1956. The National Development Council urged cooperative groups to provide the input for agriculture in 1956. In order to handle the fertiliser distribution route, cooperative societies received government support in the form of funding for the building of inventory buildings, staff management, and other costs.

To help different marketing cooperatives in the nation secure working money from the RBI, SBI, and commercial banks, Rs. 12.36 crores were given to them in the fourth five-year plan. In India most of this land is forest, but 1.8 million acres can be used for farming. But it is expected that the global market for organic fertilisers will grow at a CAGR of 9.1% from 2018 to 2023, when it will be worth USD 4,606.7 million.

Under the "National Mission for Sustainable Agriculture (NMSA)" Capital Investment Subsidy Scheme (CISS), the government is helping to make natural fertiliser from bio waste. State government offices can receive funding at a rate of up to one hundred ninety lakh rupees per unit under this plan, while individuals and private entities can receive funding at a rate of up to 63 lakh rupees per unit for capital projects. To be used instead of agro-waste compost or mechanical fruit harvesting, and funded by NABARD 3000 TPA production unit capacity. The usage of natural or bio compost is empowered by government through different plans. The government offers a variety of assistance programs that provide funding for the development of use of organic fertilisers such as National Project on Organic Farming, Paramparagat Krishi Vikas Yojana (PKVY), Mission for Integrated Development of Horticulture, National Project on Management of Soil Health and Fertility (NPMSHF) and Rashtriya Krishi Vikas Yojana (RKVY).

Composting organic materials can be done in a number of ways:

Indoor Composting: Indoor Composting takes lot of time for composting.

Windrow composting: Windrow a land demanding composting process and also need costly blower for process.

Vermi composting: Vermi composting, makes use of worm to produce a nutrient-rich organic fertiliser. Hence there is need to design a system for wind-powered IOT based sustainable organic compost machine.

OBJECTS OF THE INVENTION

Some of the objects of the present disclosure, which at least one embodiment herein satisfies, are as follows.

It is an object of the present disclosure to ameliorate one or more problems of the prior art or to at least provide a useful alternative

An object of the present disclosure is to provide novel system for wind-powered IOT based sustainable organic compost machine

Another object of the present disclosure is to provide novel system for wind-powered IOT based sustainable organic compost machine that will analyze the distribution of wind power across the states of India.

Still another object of the present to provide novel system for wind-powered IOT based sustainable organic compost machine that will estimate the growth of composting in India with regard to policy consequences.

Another object of the present disclosure is to provide novel system that will understand the mechanism for wind-powered IOT based sustainable organic compost machine.

Still another object of the present disclosure is to provide novel system for wind-powered IOT based sustainable organic compost machine for highlighting its benefits.

Other objects and advantages of the present disclosure will be more apparent from the following description, which is not intended to limit the scope of the present disclosure.

SUMMARY OF THE INVENTION

The following presents a simplified summary of the invention in order to provide a basic understanding of some aspects of the invention. This summary is not an extensive overview of the present invention. It is not intended to identify the key/critical elements of the invention or to delineate the scope of the invention. Its sole purpose is to present some concept of the invention in a simplified form as a

prelude to a more detailed description of the invention presented later.

The present invention is generally directed to provide novel system for wind-powered IOT based sustainable organic compost machine.

An embodiment of the present invention is to provide novel system for wind-powered IOT based sustainable organic compost machine. The system (100) comprises a controller unit, wind power unit, power supply unit and compost machine unit. A controller unit is connected with wind power. A mixer unit connected with DC motor used to mix browns and shredded garbage. The mixer unit is connected with converter unit through wind powered heater configured to eliminate moisture from compost. After converter unit the compost is allowed to cool for 6 to 8 days .Further an air discharger unit configured to repeatedly pump out gas from the organic waste. A power supply unit is connected with windmill configured to run DC motor, heating chamber, IoT integration, exhausts both in and out direction.

Another embodiment of the invention is to maintain the soil's nutrients and natural fertility by utilizing sustainable organic compost machine. Composting is a sustainable agriculture production process that keeps the soil's minerals and natural fertility intact while making use of organic matter. Composting employs nutrient-rich plant material and organic waste to improve soil structure and function on both a biological and a physical level. The land used for farming gains naturally from the ongoing practice of sustainable agriculture based on organic composition. Because of this, the soil's qualities have improved.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig 1: illustrates novel system for wind-powered IOT based sustainable organic compost machine, in accordance with an embodiment of the present invention.

Fig 2: illustrates the BreezSlim SLM70 70 CFM Exhaust Fan, in accordance with an embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

The following description is of exemplary embodiments only and is not intended to limit the scope, applicability or configuration of the invention in any way. Rather, the following description provides a convenient illustration for implementing exemplary embodiments of the invention. Various changes to the described embodiments may be made in the function and arrangement of the elements described without departing from the scope of the invention.

Fig 1: illustrates a novel system (100) for wind-powered IOT based sustainable organic compost machine, in accordance with an embodiment of the present invention. . The system (100) comprises a controller unit, wind powered unit, power supply unit and compost machine unit. A controller unit analyzes data from plurality of sensors installed on the wind power and adjusts its operation accordingly. The wind powered unit is connected with controller unit configure to generate electricity from wind. The wind powered unit is connected compost machine unit. A compost machine unit configures to do stirring operation on shredded trash and browns with the help of dc motor. A compost machine unit can be changed into a heating chamber (with a temperature of 70 degrees) by using a wind-powered heater. It can then remove any moisture from the compost in two days. The finished compost is then left to cool for 6 to 8 days. From 120 kilo units, it is possible to make 70 kilos of ready-to-use compost. This cost-effective machine will be as good as any other compost machine on the market.

Fig 2: illustrates the BreezSlim SLM70 70 CFM Exhaust Fan, in accordance with an embodiment of the present invention. BreezSlim SLM70 70 CFM exhaust fan is used to pump out the gas that is constantly being made by organic compost. Windmill generates alternate current, which is changed to direct current (DC) by a battery and an inverter. This allows a DC motor, heating chamber, IoT integration, and exhaust to go both in and out.

In accordance with an embodiment of the present invention, the system (100) includes:

Increase Agricultural Productivity: Organic farming with the use of organic waste can be a big part of India's plan to raise its per capita income.

Increase in Farm Income: The organic compost machine would reduce and reuse biodegradable farm waste. It would also increase farm productivity by lowering the marginal cost of farm products and boosting farm income by lowering farmers' debt.

Reduction in Carbon Emission: Implementing an organic composting machine would help green farming and improve soil and land fertility while limiting the use of chemical fertilisers. If the soil's fertility and health got much better, greenhouse gas emissions would go down and the water table would get higher. This would lead to sustainable growth in agriculture.

Cost-Efficient and Technologically Integrated Organic Compost Machine: Organic Compost Machines can help make farming more sustainable. So, the innovative product has a huge market potential and can give its customers something they can't get anywhere else.

Agriculture practices that are resilient and sustainable are the only way to keep the ecosystem from being upset and to keep growth and prices stable in the economy and world market. Soil fertility goes up when organic fertilisers are used. The fertility of the soil increases the amount of food that can be grown on a farm. This leads to more money for the farmers and less debt. So, there is a huge market for the product.

The system being developed is one that is efficient with respect to cost.

The organic nutrients added to the soil by composting boost crop yields.

The compost will be marketed and sold in areas with a high potential for the use of wind power.

Farmers are the primary target market, thus the compost will be sold either directly to farmers or through agricultural supply retailers in the area.

Initial product promotion will center on giving away free samples.

Farmers' continued feedback on the product's efficacy is essential to its

development.

Websites showcasing the product's use and benefits to customers will be used for marketing purposes.

While considerable emphasis has been placed herein on the specific features of the preferred embodiment, it will be appreciated that many additional features can be added and that many changes can be made in the preferred embodiment without departing from the principles of the disclosure. These and other changes in the preferred embodiment of the disclosure will be apparent to those skilled in the art from the disclosure herein, whereby it is to be distinctly understood that the foregoing descriptive matter is to be interpreted merely as illustrative of the disclosure and not as a limitation.

CLAIMS:

1. A system (100) for wind-powered IOT based sustainable organic compost machine comprising:

   a controller unit connected with wind powered unit configured to analyze data from plurality of sensors;

   an organic compost machine unit connected with a wind powered unit comprising :a mixer unit connected with DC motor configured to mix browns and shredded garbage; a converter unit connected with wind powered heater configured to eliminate moisture from compost; an air discharger unit configured to repeatedly pump out gas made of organic waste;

   a power supply unit connected with windmill configured to run DC motor, heating chamber, IoT integration, exhausts both in and out direction.

2. The system (100) as claimed in claim 1, wherein kilos of compost can be prepared from biodegradable waste; therefore, the compost is allowed to cool for some days.
3. The system (100) as claimed in claim 1, wherein BreezSlim SLM70 70 CFM exhaust fan is used for air discharging.
4. The system (100) as claimed in claim 1, wherein the productivity of the system (100) increases within 8 to 10 days of process and it is efficient method in terms of cost.

Signed on this 15th day of JULY 2022

Leon Pierre Susan

Patent attorney for the applicant

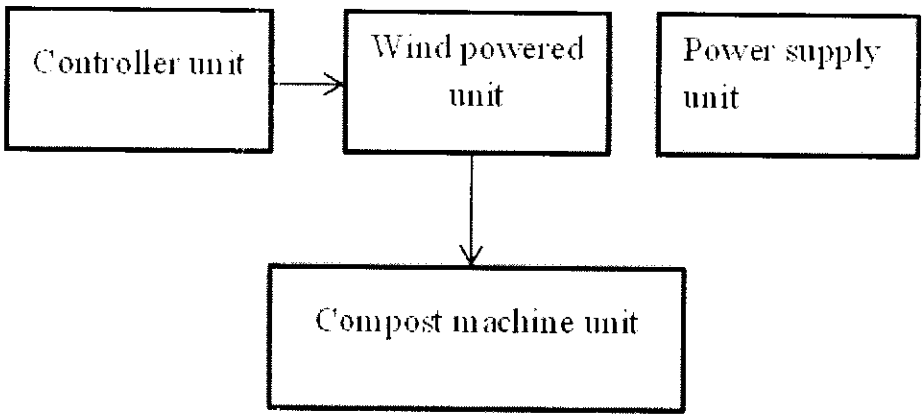

Figure 1

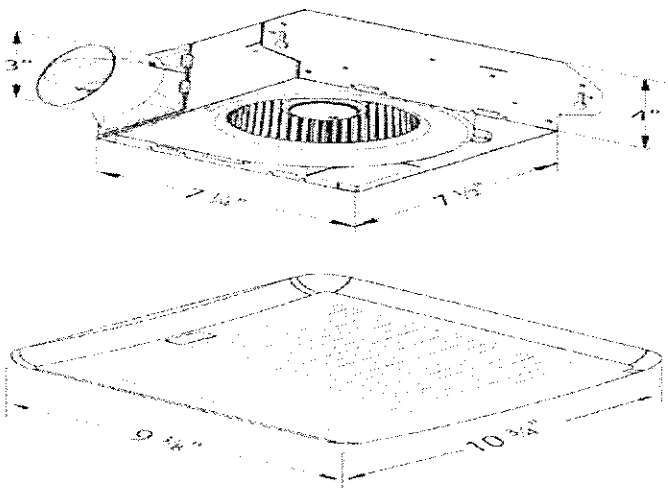

Figure 2

Leon Pierre Susan
Patent attorney for the applicant(s)

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