OPTIMISATION AND DEVELOPMENTOF BRIQUETTE MACHINE

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Abstract

In India every year millions of tons of agricultural wastes are generated. Agricultural wastes are waste from farming, forestry. horticulture and other farm operations. There is a rapid increase in the volume and types of agricultural wastes due to intensive agriculture in the wake of population growth and improved living standards, which are now becoming a major problem as rotten waste biomass emits methane and leach-ate. Open burning of these wastes by farmers usually generates carbon dioxide (CO_2) and other local pollutants. Most agricultural solid wastes are generated by the rearing of animals, and harvesting and processing of crops.

Keyword- *Design, Machine , Learning*

INTRODUCTION

Biomass briquettes are made from materials that have no cost such as agriculture waste, biomass waste or forestry waste canbe an alternate fuel to charcoal, black coal, firewood. These type of briquettes can mande through biomass briquetting machines without adding any chemicals and that's why thwy burncleaner than any fossil fuels. Briquettes are cheaper than black coal and any other fossil fuel. High sulphur content of black coal and oil, when burn, pollutes theenvironment. and there is no sulphur in briquettes.

USES OF MACHINE:

Briquetting Press Machines are widely used to generate heat as an industrial fuel like steam era in boilers, warming reason, drying process and gasification plant to supplant existing customary fuel like coal, wood and excessive fluid fuel like FO, Diesel, LDO, lamp oil and so on.

Biomass coal is the chief forthcoming fuel of the world. It's an unbeatable quality asset towards economical, ecological, & advanced environmental conservation. Briquetting Press Machines helps in doing best from waste & cash from waste & also by using briquettes; we create a dust free & pollution free environment for our country.

Gasifier System Applications, Ceramic Industries, Refractory industries, Solvent Extraction Plant, Chemical Industries, Dying Units, Milk Plant, Food Processing Industries, Vegetable Plants, Textile Unit, Spinning Mill, Lamination Industries, Leather Industries, Brick Making Units, Rubber Industries, Bio mass based power plant, Any Industrial Thermal Applications.

Briquetting Plants make briquette from the Agriculture waste and forestry waste. These wastes are changed over into strong round and hollow shape. The significant wastes which can be utilized are Ground nutshell, Cotton stalk, , Saw dust, Mustard stalks, , Wood chips, Soybean husk, Veneer buildups, Coir essence, , barks and straws ranger service squander etc..

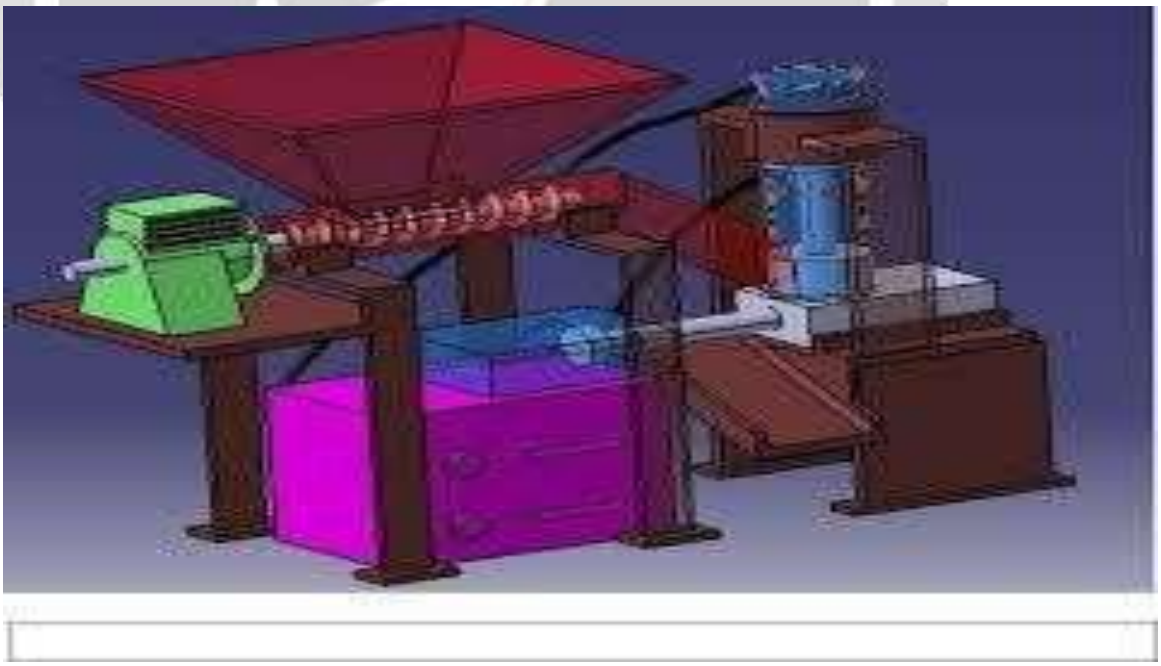
LITERATURESURVEY

- Many people have worked on this topic so as to depend on the renewable resourses.some people failed due to thelow efficiency and less output.
- Hereby, keeping in mind the past experience from the people who have contributed to this biomass

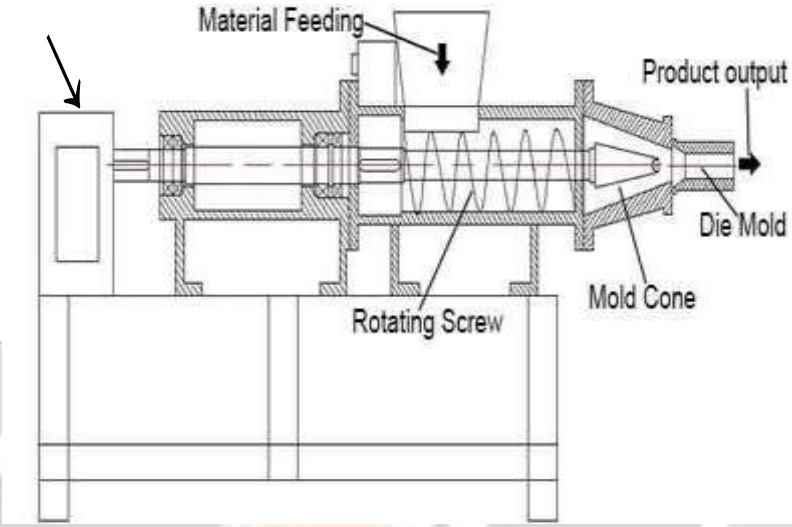
briquettingtechnique.

- Vinay V. Ankolekar and Sourabh S. Kulkarni showedthe data of agricultural residue availability (kg) per tonne of grain produced and its alternative uses.
- Manjunath K S, Omprakash M, Niranjan Pangeni and Biradar Hanumant has made a briquetting machine which can be used for making briquettes of solid waste.
- Kishan B S, Kiran Kumar, Santhosh T J and Amith D Gangadhar stated that the agricultural residues are verydifficult to handle, transport and store. So, usually peopleopt for an easy way which is burning.
- Making of agrowaste briquette is always a typical job as it needs precise mixture of agrowaste and binding material, so as the agriwaste briquette wouldn't break after pressing in die. We are trying to make a mechanical operated device which can be improve productivity aids of making agrowaste briquette in less effort. So following literatures were studied for to designing of our project model. Agriculture wastes are the wastes from farming, forestry and other farm operations. There is a rapid increase in volume and types of agrowastes because of increase in population. These wastes are managed through the process of collection, storage and disposal in the form of biomass. Also from many years the farmers use some farm argowastes as a fodder for these animals or store some of it to use it as a fuel, but there is a lot of problem for storing it or they burn it out. To make the useful use of these agrowastes we have the concept of agrowaste briquette making machine. Because agrowastes briquettes means a biomass briquettes are a renewable source of energy and it also avoid adding fossil fuel carbon to the atmosphere. We are trying to make a manually operated device which can improve productivity aids of utilization of agrowastes.
- Sufficient literature is available related to Agrowaste Briquette making machine. Initially the available literature is reviewed for identifying the parameters responsible for the Design and Fabrication of Agrowaste Briquette making machine. The problems, advantages and present use of Agrowaste Briquette making machine is studied. Then the design of Agrowaste Briquette making machine is prepared using various theories. So following literatures were studied for designing of our project model.

Briquette Machine



Methodology



- The project is divided into two types: Design andFabrication Gear box
- The design of this model is developed in such a way thatit can withstand all the forces acting on it.
- We have manufactured a horizontal design so that it canbe usedfor higher output.
- Although, the horizontal frame may take more space than the vertical one but it is necessary to have more output and higher efficiency.
- The components and their workings are stated below:
- Hopper: It is a type of cylindrical cone whereinthe raw material is first kept.
- Mould: A cylindrical mould in which the rotating screw isinstalled where the raw material carry forward.
- Rotatating Screw: it mixed the raw materials push forward for the extrustion process where raw materials is compressed and move forward.
- Motor: ADC motor is used to supply the power tomachine.

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