



# IJRASET

International Journal For Research in  
Applied Science and Engineering Technology



---

# INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

---

**Volume: 10    Issue: IV    Month of publication: April 2022**

**DOI: <https://doi.org/10.22214/ijraset.2022.41465>**

**[www.ijraset.com](http://www.ijraset.com)**

**Call:  08813907089**

**E-mail ID: [ijraset@gmail.com](mailto:ijraset@gmail.com)**

# Review on Pulverization Machine

Prof. Dr. C.C Handa<sup>1</sup>, Prof Vedanand Mujabaile<sup>2</sup>, Gaurav N Thakre<sup>3</sup>, Rutuparna K Shirpurkar<sup>4</sup>, Runal Gedam<sup>5</sup>, Prashant Landge<sup>6</sup>, Mayur Channe<sup>7</sup>

<sup>1, 2, 3, 4, 5, 6, 7</sup>Mechanical Department, K. D. K. College Of Engineering, Nagpur

**Abstract:** A Pulverizer is a machine whose purpose is to shred or crush total material into lower pieces by the repeated blows of number of plates. These machines have multitudinous feathers of operations in multitudinous industriousness

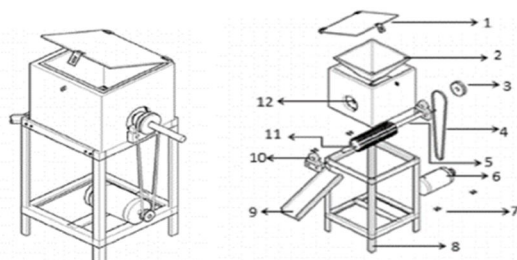
A pulverizer or grinder is a mechanical device used for the grinding of multitudinous different types of paraphernalia. The pulverization is a machine which is used for the combine operation

The pulverizer is a machine that pulverizes large-sized solid raw paraphernalia to the demanded size. the capper is composed of coarse crushing, fine crushing, wind conveying and other bias, and achieves the purpose of the capper in the form of high- speed impact. using wind energy to form cream at one time, barring the traditional netting process. mainly used in mining, erecting paraphernalia and other industriousness. Prolusion Husbandry is now one of the most important sectors it plays a part Indian economy. In order to further develop this sector technology has come one of the main components. The farmers on the field burn ultimate of these wastes after the harvesting of crops. Thus the agricultural waste burning sensations is being repeated every year. In order to use these wastes for some profitable benefits, like power shops, industries. So the necessary of analogous machine was felt to use all kinds of agricultural waste after shredding, which could be provident and practicable. The design is developed and manufactures a machine which will be used for producing tattered organic wastes for farmers without any use of electricity, these organic wastes will increase the effectiveness than any other conventional means, which are obviously dangerous for mortal health, terrain, landetc. corridor used for manufacturing such a machine are agitator, hopper, collector tank, bevel gear couples, pulleys flat belt drive and oaring medium.

## I. INTRODUCTION

Agriculture is now one of the most important sectors it plays a role Indian economy. In order to further develop this sector technology has become one of the main components. The farmers on the field burn most of these wastes after the harvesting of crops. Thus the agricultural waste burning phenomena is being repeated every year. In order to use these wastes for some economic benefits, like power plants, industries.so the necessary of such machine was felt to utilize all kinds of agricultural waste after shredding, which could be economical and practicable. The project is developed and manufactures a machine which will be used for producing shredded organic wastes for farmers without any use of electricity, these organic wastes will increase the efficiency than any other conventional means, which are obviously harmful for human health, environment, land etc. parts used for manufacturing such a machine are agitator, hopper, collector tank, bevel gear pairs, pulleys flat belt drive and paddling mechanism.

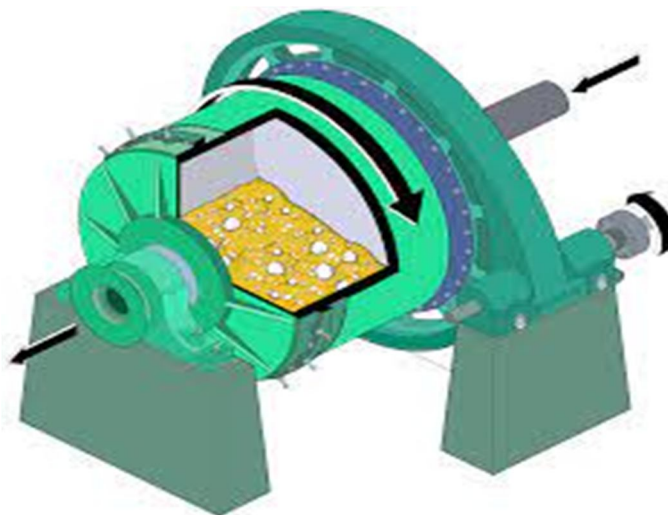
### A. Design, Fabrication And Performance Evaluation Of Moringa (Oleifera) Dried Leaves Pulverizer



S/N	DESCRIPTION	QTY	S/N	DESCRIPTION	QTY
1	COVER	1	7	SCREW	4
2	HOPPER	1	8	FRAME	1
3	PULLEY	2	9	SPROUT	1
4	BELT	1	10	BEARING AND HOLDER	1
5	SHAFT	1	11	ROLLER	1
6	ELECTRIC MOTOR	1	12	PULVERIZING CHAMBER	1

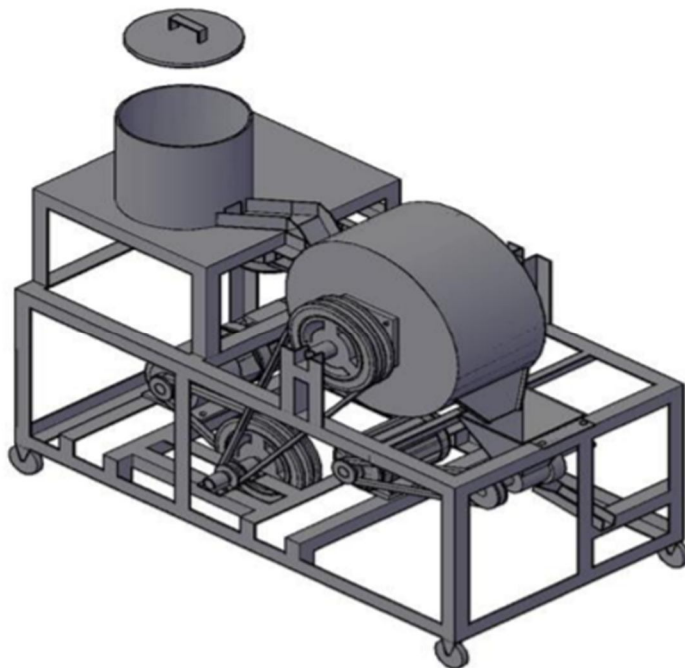
Moringa oleifera (Moringapterygosperra Gaertner) leaves popularly honored as 'ewe igiiyanu' in Nigeria. The current study is to develop a from locally sourced paraphernalia. The proposed machine works with the shearing medium. The main features of the machine are creek frame, belt, pulley, compartments and electric motor. The machine was designed, fabricated and tested fulfilling the all scientific morals D used for drying moringa oleifera leaves at average temperature of 40 – 50 C for 3 days,

*B. Design of a Rotary Blade Glass Pulverizing Machine*



Glass waste can be reclaimed which behooves the mastermind as part of the element for making glass and also used extensively for the product makeup, abrasives, AstroTurf and other ceramic wares etc. Recycling of glass may involve the crushing of the glass into asked flyspec effective pounding machines. This exploration work focuses on the design of a glass pounding machine which has a drop lading hopp flyspeck escaping the chamber, a horizontally informed brand shaft to which is attached 3 brand blades separated at 1200 to their centr

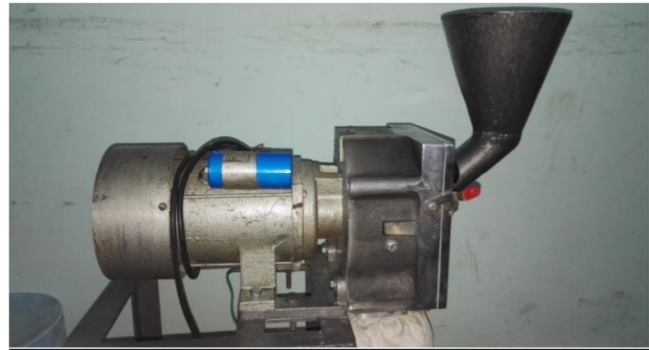
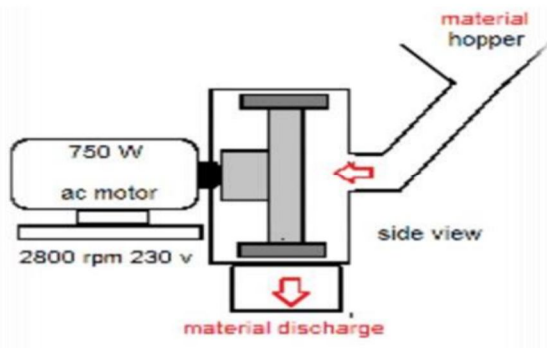
*C. Design And Fabrication Of An Improved Plantain Processing Machine*



Nigeria is the largest patron of plantain in West Africa with large chance of it attained in the southern part of the country. Plantains are of great nutritional significance, and the proximate analysis reported for plantain shows that per 100g eatable portion, plantains contain 67.30 g water, 116 kcal of energy, and 31.15 g carbohydrate. Although there are several machines that can exercise plantain but a complete machine that does pulverization, milling, drying, etc. is not readily available in Nigeria.



**D. Design And Development Of Pulverizer For Non-Ferric Alum**



A Pulverizer is a mechanical device for the grinding of different types of paraphernalia. Under pulverizer generality we have to handpick one of types of capper. Crushers are one of the major size reduction outfit that is used in mechanical, and other different aspect of that type of industries. A capper is a device that is designed to reduce large solid raw material into lower chunks. They live in various sizes and capacities which range from 0.1 ton/ hour to 50 ton/ hour.

**E. Development And Performance Evaluation Of A Pulverizer For Plantain Flour Process Plant**

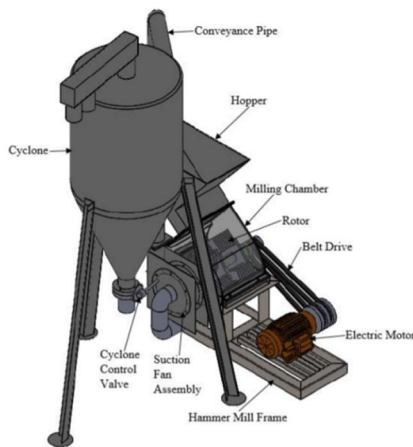


Fig. 1. Isometric view of the pulverizer



Fig. 12. The fabricated pulverizer

Diabetes, arbitrated a threat factor for coronavirus contagious complaint 2019 (COVID-19), can be managed through consumption of plantain and its associated products. Plantain is usually processed into flour and other ready-made/ value-added products due to its veritably short shelf- life. To reuse callow plantain pulps into flour, there's a need for size reduction after drying

**F. Design And Fabrication Of A Medium Scale Ginger Pulverizing Machine For Rural Dwellers**

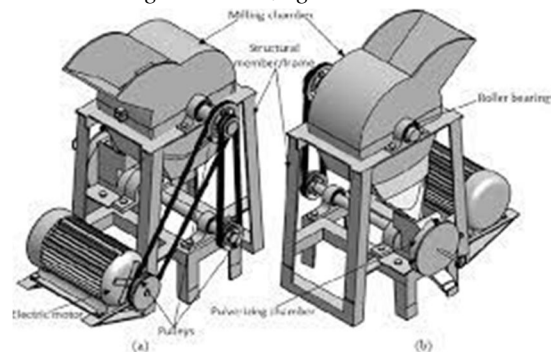
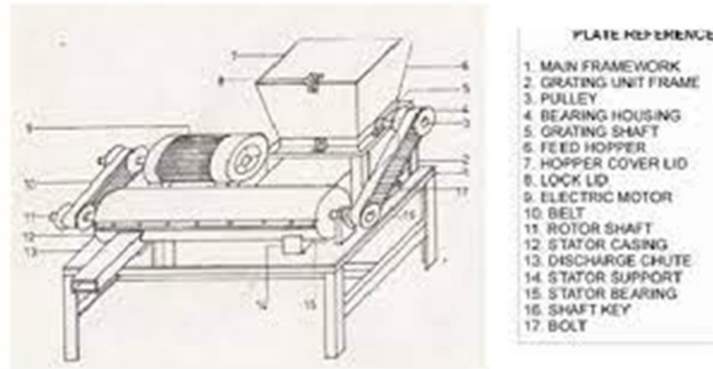


Figure 1. The bone mill cum pulverizing machine

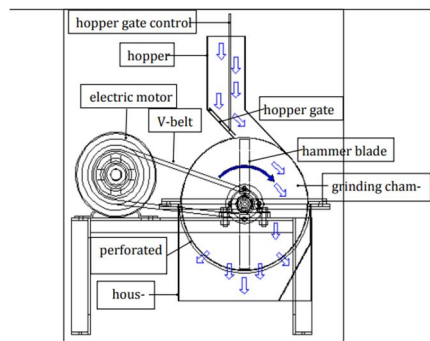
The thing of the renaissance is to conserve energy. Medium scale machines are known to retain a better overall energy effectiveness application particularly in pastoral areas in comparison to the full bloated marketable bones. Therefore a 120 kg/ hr ( medium/ intermediate scale) gusto pulverizer was designed and fabricated with about 80 of accoutrements of construction locally sourced. The machine design was empirical, which involved the use of information from textbooks, experience and scientific principles. The performance of the machine was estimated in terms of outturn capacity, pounding effectiveness, energy measure, losses and size reduction rate as 96 kg/ hr; 80,0.032 ton/ hphr;24.63 and 211 independently.

**G. Design And Fabrication Of Pulverizer Machine**



Pulveriser is a hay or straw cutting machine which is used in uniform chopping of the chaff for livestock or raw material to agro industries. The various types of fodder can be processed in this machine are forage grass, green grass, dry corn straw, and wheat stalk etc. The final products can be used to feed cattle, goats, deer, and horses. It can also process cotton stalk, bark, and small branches. Chaff cutters have developed gradually.

**H. Optimization of Parameters in the Production of Turmeric Powder Using a Hammer Mill-Type Pulverizer**



The effect of humidity content, rotor blade tip speed and grinding screen perforation periphery on the performance of a hammer shop- type pulverizer was studied. One hundred sixty five kilograms of turmeric rhizomes were washed, sliced, dried to different humidity contents and ground by the pulverizer. The trial used the Box-Behnken design and the parameters were optimized using the Surface Response Methodology approach.

**II. PROBLEM IDENTIFICATION**

- A. vibration during pulverization
- B. high power consumption
- C. pulverize stones during working and damaged blade
- D. high cost of machine
- E. not pulverize in specific form



### III. METHODOLOGY

- A. Study of existing pulverization machine
- B. Redesign of the Existing system and CAD modeling
- C. Mechanical structural design
- D. Implementation
- E. Trail

### REFERENCES

- [1] Y.V.Mahatale and V.P Pathak :Physiological evaluation Of different manually operated pulverization machine
- [2] T.A Raji :Modelling some ergonomic parameters with machine parameter using hand powered sheller
- [3] A.O Ojomo & Orundele :Methodology approach to optimization performance parameter of a locally fabricated maize shelling machine





10.22214/IJRASET



45.98



IMPACT FACTOR:  
7.129



IMPACT FACTOR:  
7.429



# INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089  (24\*7 Support on Whatsapp)