

ORGANIC FARMING IN BLACK GRAM (VIGNA MUNGO)

AT OUR COLLEGE GROUND (GDC – JAMMIKUNTA)

DEPARTMENT OF BOTANY



*UNDER GUIDENCE OF*

*Dr.T.Sreelatha*

*ASST.PROFESSOR OF BOTANY*

## **Student Best Practice**

### **Organic farming in Black gram (Vigna mungo) at our college ground GDC Jammikunta.**

#### **INTRODUCTION**

Organic farming is a production system which avoids or largely excludes the use of synthetically compounded fertilizers, pesticides, growth regulators and livestock feed additives is called as organic farming. Organic farming system depends on crop rotation ,crop residues, mechanical cultivation, mineral bearing rocks and aspects of biological pest control to maintain soil productivity and to supply plant nutrients and to control insect weeds and other pests. Organic farming systems do not use toxic chemicals, pesticides or fertilizers instead of they are used on the development of biological diversity and maintenance of soil fertility.

Farm yard manure, compost vermin, compost green manure, agro waste and plant waste from sources for imply and supply of plant nutrients in traditional organic farming the use of fermented cow dung, dicotyledons powder, jaggery, Anthill ( putta matti ) with the name of panchamurutha is getting adaptive popularity in karimnagar agriculture largely throw the efforts of small group of farmers.

Black gram (vigna mungo) is a short duration crop belongs to Fabaceae family, its contains rich proteins and grown as inter crop, solo crop. The pulses are large important role in growth and development maturity of crop. Pulses are cheapest sources of quality protein for humans being particularly to vegetarians to who constitutes bulk of population in India.

## **Aims and Objectives**

- To provide high Nutritional quality is sufficient quantity.
- To work with natural systems.
- To encourage and enhance the biological cycles with in forming system's.
- To maintain and increase the long-term fertility of soils to avoid all forms of pollution that may result from agricultural techniques.
- To maintain the genetic diversity of the Agriculture crops.
- To main the ecological balance.
- To improve physio chemical properties of soil.
- To control pest diseases and weeds.
- To reduce the cost of agriculture production.
- To utilization of natural resources for short term and helps in conserving them for future generations.
- To reduces human and animal health hazards by reducing the level of residues product.

## **MATERIALS AND METHODS**

All groups of botany students (BZC, BZCS, and CROP PRODUCTION) are participated as best practice at GDC Jammikunta College ground Department of Botany under supervision of Dr.T.Sreelatha Assistant Professor of Botany, N.Prashanth Lecturer in Botany, M.SaiKumar Lecturer In Botany by organic farming method during October to December 2022. The soil of the experiment was mixture of black and red soils. The experiment was laid out panchamrutha solution.

Panchamrutha solution was prepared by thorough mixing of fresh cow dung 2 kgs in 200 litres of water, jaggery 2kgs, dicotyledons seed powder 2kgs, 250 gms of anthill , mixed thoroughly and kept for 72 hours. The mixture was stirred twice in a day and allowed to ferment for 7 days. The mixture and allowed to ferment for further 7 days. While stirring twice in a day.

This project was prepared and black gram seeds buried in the soil at a depth of 3 cms with enough space into two rows. The seeds were treated with 3 % panchamrutha solution and 0.1 % mercuric chloride. For their respective treatment before per sowing of seeds

The growth of seeds was recorded at period of 5<sup>th</sup> day. 8 treatments were given at periodic intervals that 10<sup>th</sup> day, 20<sup>th</sup> day, 30<sup>th</sup> day, 40<sup>th</sup> day, 50<sup>th</sup> day, 60<sup>th</sup> day 75<sup>th</sup> day and 90<sup>th</sup> day. The growth components of plants were recorded. The significant improvement in the plant height, specific weight of leaf, nitrogen metabolism, root nodules, fruit and seeds with the application of panchamrutha

# RESULTS



# Plate-1

Sowing black gram seeds at our college ground on September 15<sup>th</sup> 2022





## Plate -2

Growing seedlings in black gram on 6<sup>th</sup> day September 20<sup>th</sup> 2022





## Plate -3

Growth of seedlings in black gram under treatment of panchamrutha solution on 10<sup>th</sup> day 24<sup>th</sup> September 2022



# Plate-4

Weeding by the students on 06<sup>th</sup> October 2022



## Plate-5

Growth of plants in black gram under treatment of panchamrutha solution on 60<sup>th</sup> day November 15<sup>th</sup> 2022



## Plate-6

Flowering plants in black gram on 75<sup>th</sup> day November 30<sup>th</sup> 2022





## Plate-7

Complete growth and development of black gram plant under treatment of panchamrutha solution at 90<sup>th</sup> day December 6<sup>th</sup> 2022





## **CONCLUSIONS**

From in this Best practice, it is inferred that application of panchamrutha solution increase physiological growth and development of Black gram and also production of dry matter chlorophyll content therefore it can be recommended as an alternative source of nutrients for organic cultivation of Black gram. Organic farming recommended to formers to promote the development and adaption of environmentally saves and economically viable tools and technologies reduce the use of external inputs.