PROJECT REPORT PRESENTATION

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DETERMINING THE EFFECT OF DIFFERENT APPLICATION RATES OF FERTILIZER AND MANURE ON DEVELOPMENT AND PRODUCTION OF COWPEA

INTRODUCTION

- Cowpea(vigna unguiculata(L)walp), kunde. *Leguminosae* family .

- Origin: Africa, tropics and subtropics .hot weather.
- Kenya produces 75% of worlds cowpea.
- Area;1800ha,excluding homegarden cowpea.
- Cheap source of protein.
- Leaves,pods and seeds utilized as food.

Problem statement

- There is limited phosphorus availability in western kenya soils.
- Fertilizer is becoming more expensive.
- Land is limited.
- Animal manure is misused/wasted.

Justification

- Nutrients:24%carbohydrates,57%protein.
- Pods,seeds and leaves utilized as food
- Cheap and inexpensive source of protein
- Fertilizer is expensive
- Limited land

Broad objectives

- To make use of animal manure
- Provide cheap and inexpensive source of phosphorus

Hypothesis

- Both manure and fertilizer have an effect on development and production of cowpea

Materials and methods

Site:kabete campus field station

Materials:kk1 seeds,DAP and manure

Method:

- **RBD,4treatments,3replicates,12plots,5.5 x5.5m,1 x 1.5m**
- Spacing:20x60 cm,3 seeds per hole,0.5m between plots
- Fertilizer applicatio rate:200kg/ha
- Manure application rate:4 tonnes per ha

parameters

1. Number of leaves per treatment

2. Dry matter per treatment

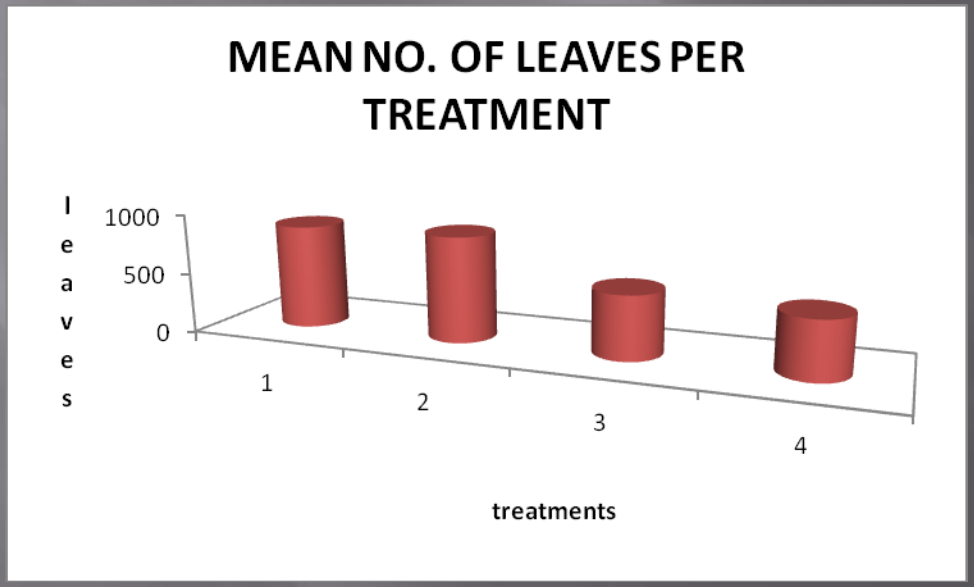
3. Number of pods per treatment

Parameters…..

4. Height of pods per treatment
5. Weight of seeds per treatment
6. Relative humidity and temperatures

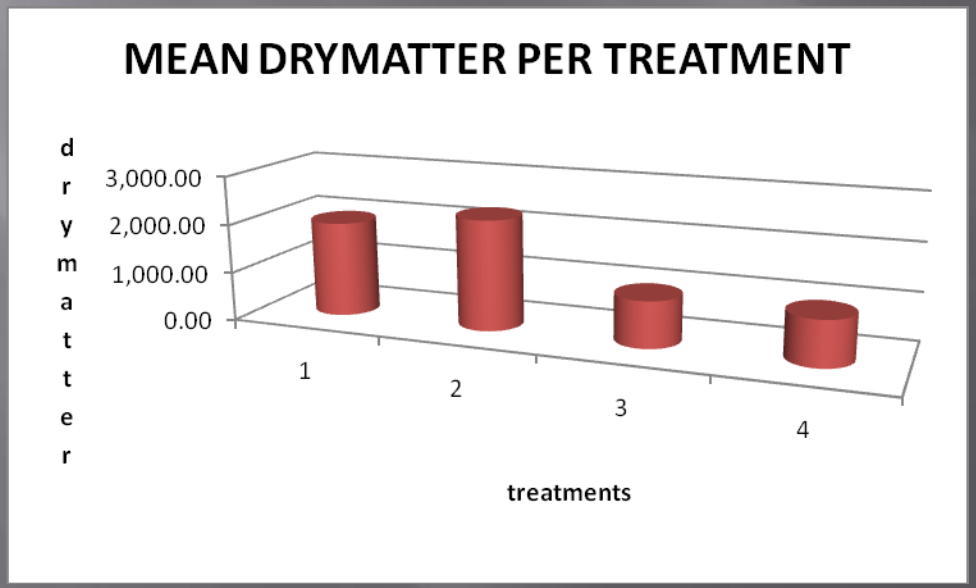
No.of the leaves per plot

	Treat 1	Treat 2	Treat 3	Treat 4
Block 1	870	900	480	420
Block 2	810	840	510	510
Block 3	930	900	600	510
Mean	870	880	530	480



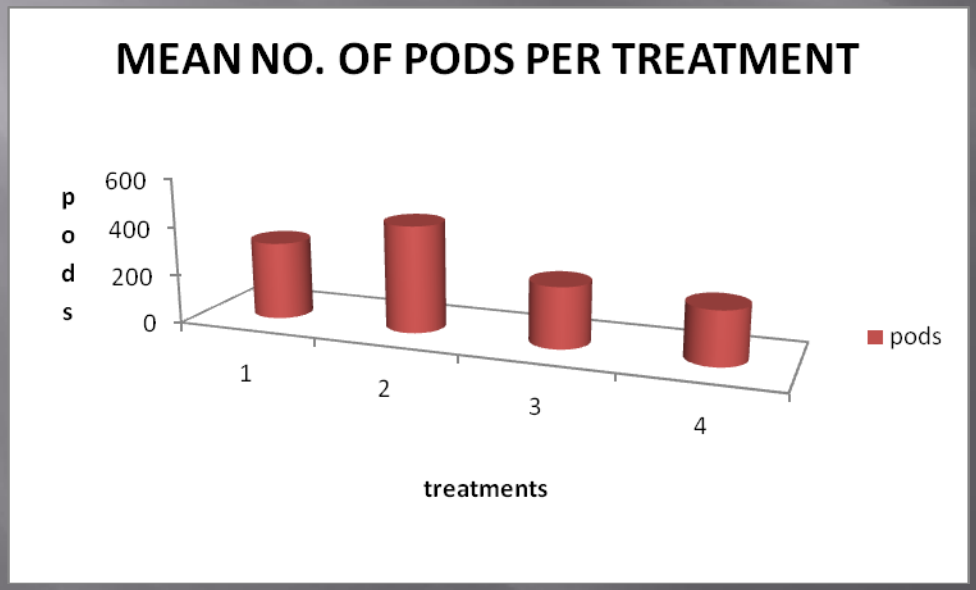
Mean drymatter per plot.

	Treat 1	Treat 2	Treat 3	Treat 4
Block 1	1,515.30	2,268.00	826.20	638.10
Block 2	2,160.00	2,062.50	787.00	1,289.40
Block 3	2,205.60	2,500.50	1,252.80	881.10
mean	1,960.30	2,277.00	955.33	936.20



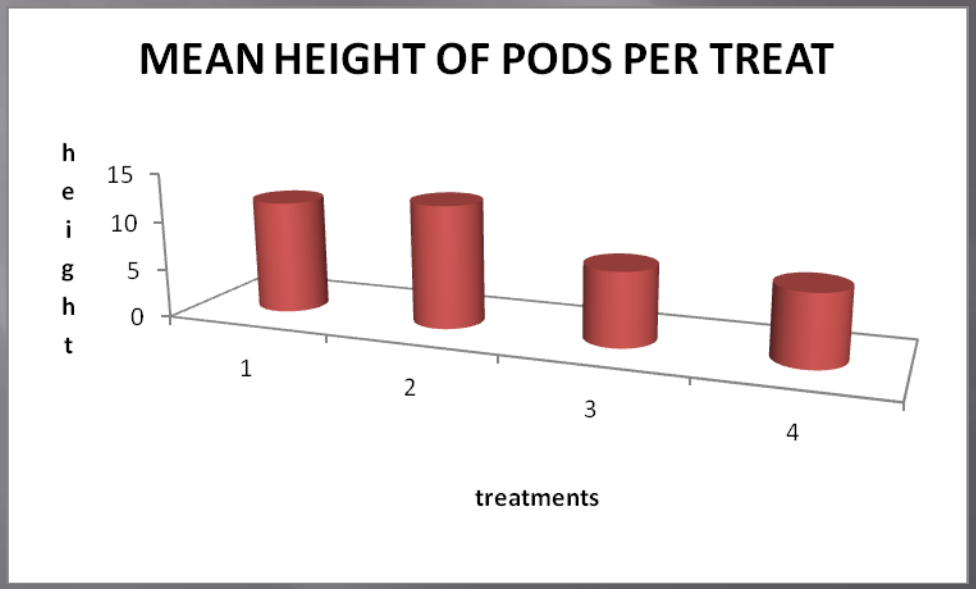
Mean no.of the pods per treat.

	Treat 1	Treat 2	Treat 3	Treat 4
Block 1	300	420	180	150
Block 2	330	450	270	240
Block 3	330	450	300	270
mean	320	440	250	220

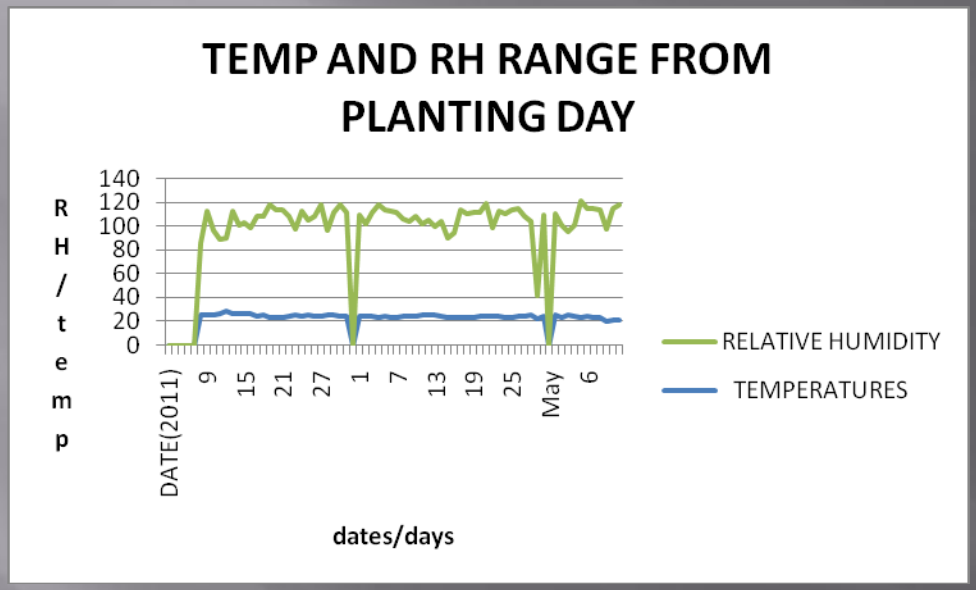


Mean height of the pods

	Treat 1	Treat 2	Treat 3	Treat 4
Block 1	12	13	7	7
Block 2	11	12	8	7
Block 3	12	13	8	8
mean	11.6	12.6	7.6	7.3



RH and Temp.


TEMP AND RH RANGE FROM PLANTING DAY
RH/temp
140
120
100
80
60
40
20
0
DATE(2011)
9
15
21
27
1
7
13
19
25
May
6
dates/days
RELATIVE HUMIDITY
TEMPERATURES

DISCUSSION

- Fertilizer mixed with manure shows the highest cowpea production.
- Manure alone gives low cowpea production in the first season because manure is released slowly to the soil,but in the second season manure give highest production.
- Fertilizer shows the highest cowpea production because it is released easily.
- Control shows lowest results because no nutrients were applied.

conclusion

- Both fertilizer and manure have a significant effect on development and production of cowpea.
- Manure and fertilizer gives high production and yield on cowpea.
- Cowpea requires low temperatures and high relative humidity for good production.

Recommendation.

- Farmers should be advised to use manure because it is released slowly but supply nutrients for many seasons, it is cheap and also it increases cowpea production.
- Farmers should be advised to combine fertilizer and manure for better results on cowpea production.