



Ministry of Agriculture, Livestock and Irrigation



Department of Agriculture

Htantabin Township, Bago Region



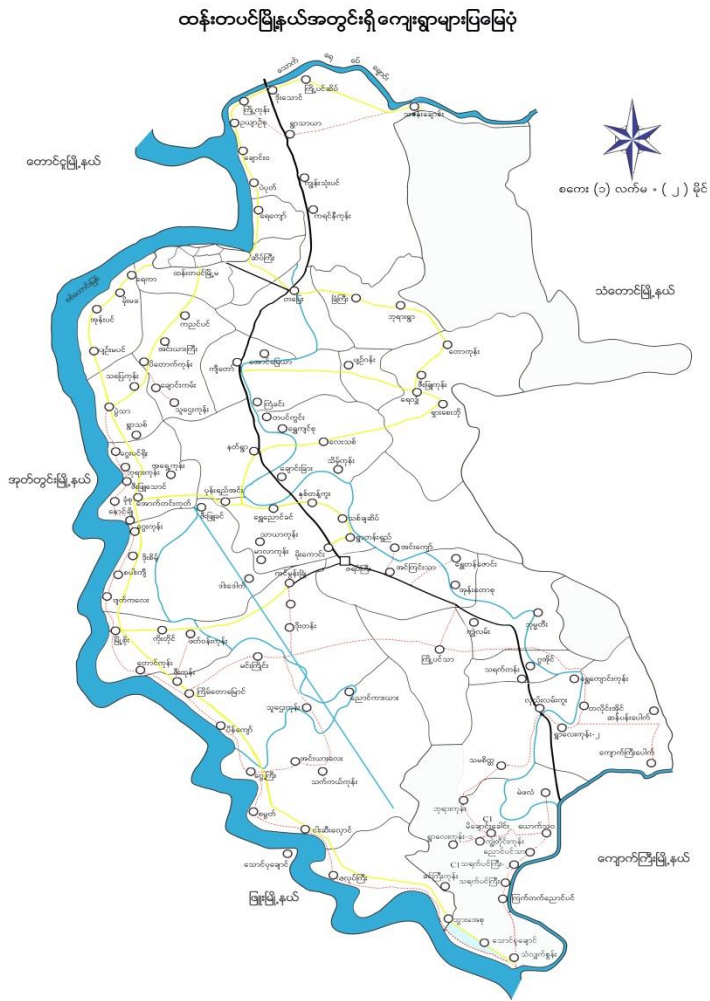
**Organic and inorganic fertilizers application  
in rice crop**

**Presented by  
Hnin Ei Phyu  
(Apprentice)**

# Organic and inorganic fertilizers application in rice crop

- Crop – Rice
- Village – Saikgyi
- Number of field – 464
- Township – Htantabin
- District , Region – Toungoo , Bago
- Staff – U Nyut Swe (Assistant staff- officer)  
Daw Hnin Ei Phyu (Apprentice)

# Basic data of Htantabin



- Total Area (sqmil) -207.98
- Cultivated area(ac)-104726
- Cropping intensity-153.84%
- Village Tract -35
- Farmers -21076
- Population -121644
- Rainfall -83.194inch/81days

# Objectives

- To increase profit and reduce the production cost for farmers by applying organic fertilizer
- To increase yield by using the combination of organic and inorganic fertilizers
- To improve soil fertility
- To become sustainable agricultural system

# Materials and Methods

- Season / year – Monsoon/ 2019(From June to October)
- Expt Design –(4 treatments×3 replications) RCBD
- Plot size –5m×5m
- Seedling rate –2 plants per hill
- Spacing –6" × 8"
- Number of row –33 row (total plants–825)

# Materials and Methods

- Test fertilizer treatment– T<sub>1</sub>(NPK)
  - T<sub>2</sub>(FYM+NPK)
  - T<sub>3</sub>(FYM+Compost+NPK)
  - T<sub>4</sub>(FYM+Superbokashi+NPK)
- Fertilizer rate / ac
  - Urea 209 Lb, Potast 103Lb, T-super 55Lb ,Superbokashi 1800Lb, FYM (5) carts, Compost (6'×3'×6')(8)
- Basal
  - FYM, Superbokashi, NPK, Compost
- Tiller (40 DAT)
  - Urea
- PI (65 DAT)
  - Urea, Potash
- Heading(87 DAT)
  - Urea

# Data Collection

- Panicle length (cm)
- Plant height (cm)
- Effective tillers
- 50% flowering days
- grains per panicle
- Filled grain %
- Grain yield (basket )



Compost



Superbokashi





Trasplanting



Tillering



# Agronomic characters

No	Treatment	Varieties	50% Flowering days	Plant Height (cm)	Panicle length (cm)
1	NPK	Sinthukha	98	119.33	22.6
2	FYM+NPK	Sinthukha	103	122.33	22.2
3	FYM+Compost +NPK	Sinthukha	103	123.33	22.7
4	FYM+Superbo-kashi +NPK	Sinthukha	106	122.33	23.5

# Yield and yield components characters

No.	Treatment	Effective tiller	Grains/ panicle	Filled grain%	Yield bsk/ac
1	NPK	8	120.00	91.00	90.00
2	FYM+NPK	9	112.00	91.00	102.67
3	FYM+Compost +NPK	9	115.00	93.00	109.50
4	FYM+Superbo-kashi +NPK	9	122.00	92.00	113.19

# Cost and Benefit

No.	Treatment	Cost/ ac	Yield bsk/ac	Benefit	Cost & Benefit ratio
1	NPK	291500	90.00	203500	1:1.6
2	FYM+NPK	315000	102.67	249685	1:1.8
3	FYM+NPK+ Compost	351500	109.50	250750	1:1.7
4	FYM+NPK+ Superbokashi	336000	113.19	286545	1:1.8

# Flowering



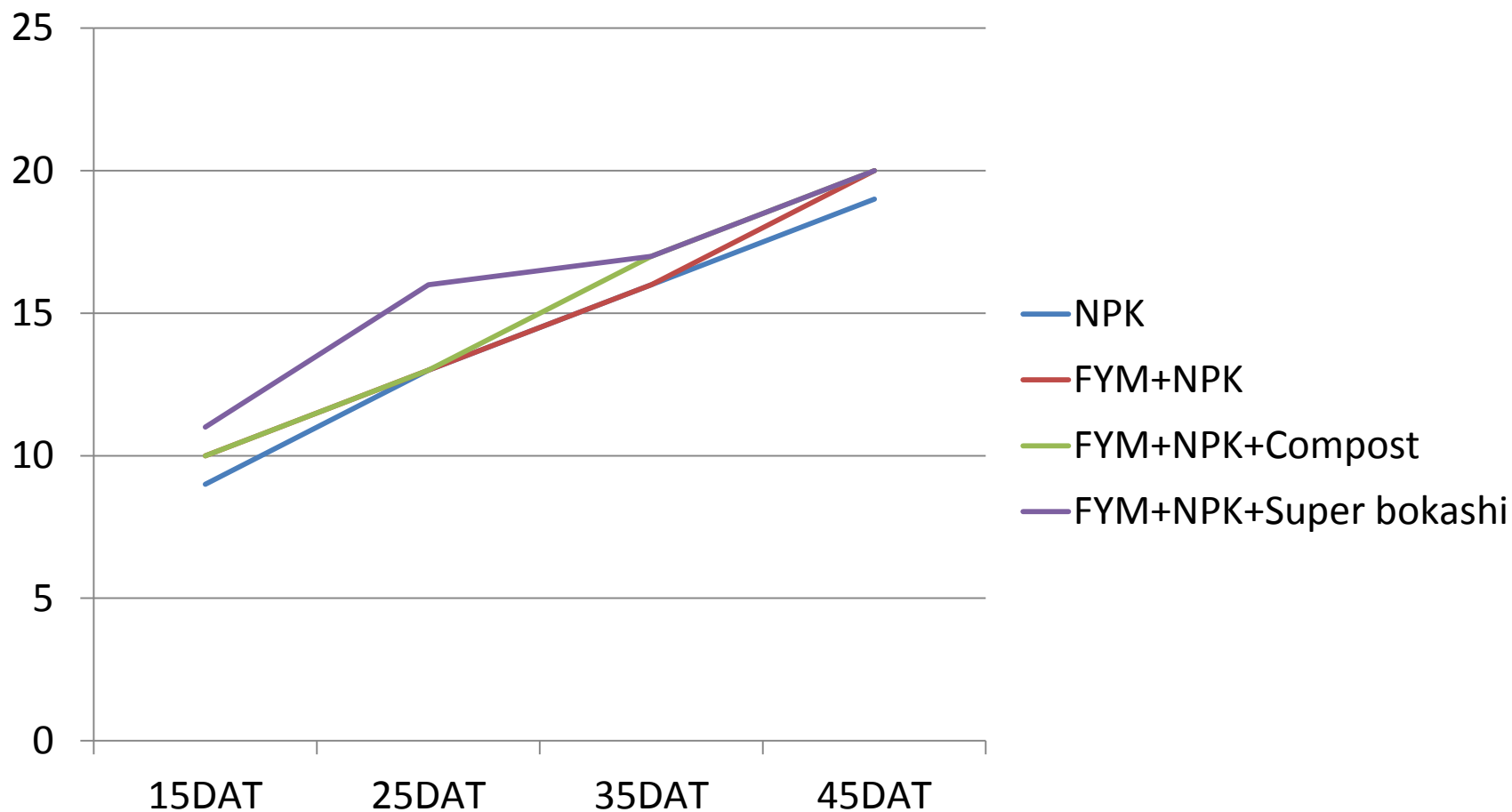
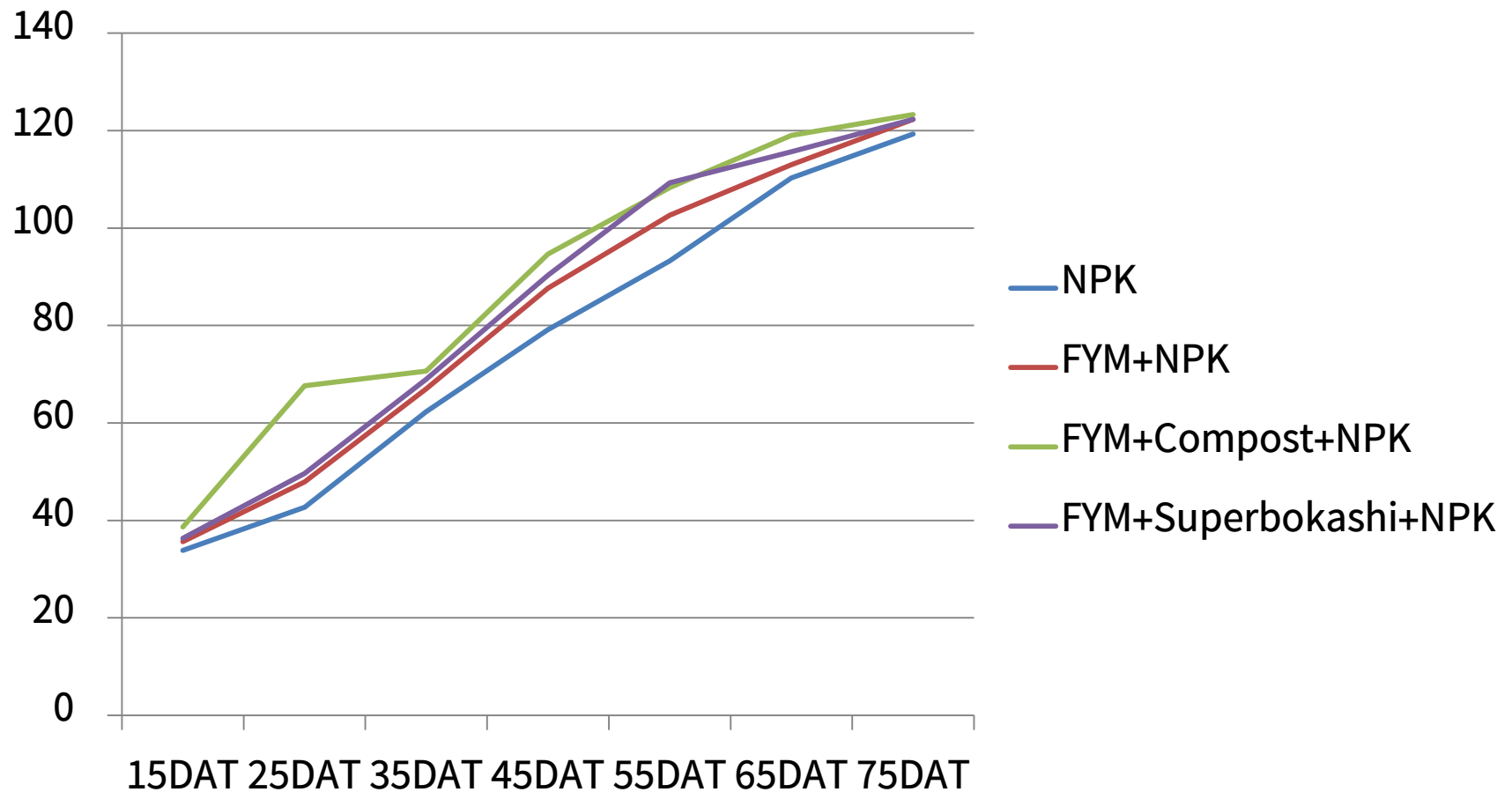


Figure1.tiller number of organic and inorganic fertilizer application



**Figure 2. Plant height of organic and inorganic fertilizer application**



## NPK

- Leaf color -Pale green
- 50 %Flowering days -Early flowering
- Heading -Same or simultaneous
- Plant height -Short
- Stem (soft/hard) -Soft
- Characteristics -Not resistant to brown plant hopper



## FYM + NPK

- Leaf color -Green
- 50 %Flowering days -Flowering regularly
- Heading - Slowly
- Plant height - Normal
- Stem (soft/hard)-Internal between soft & hard

## FYM + Compost + NPK



- Leaf color -Green
- 50 %Flowering days -Flowering regularly
- Heading -Slowly
- Plant height -Normal
- Stem (soft/hard) -Internal between soft & hard

## FYM + Superbokashi + NPK



- Leaf color -Dark green
- 50 %Flowering days -Flowering regularly
- Heading -Slowly
- Plant height -Height
- Stem (soft/hard) -Hard

# Conclusion and Suggestions

- NPK+FYM+Superbokashi treatment is highest yield and NPK treatment is lowest yield.
- T2, T3, T4 have highest income ratio
- All organic treatment are resistance pest and diseases.

# Conclusion and Suggestions

- Good soil structure develop, good fertilizer respond and higher yield by using organic fertilizer.
- Resistance pest and diseases , to reduce production cost and pesticide residue, can produce safety crop
- To create sustainable agriculture system by using organic fertilizer.



**THANK YOU**