Ministry of Agriculture, Livestock and Irrigation

Department of Agriculture

Investigation of Upland Rice Varieties Suitable for Mindat Township, Southern Chin State during Monsoon Season

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Introduction

Title - Investigation of Upland Rice Varieties Suitable for Mindat Township

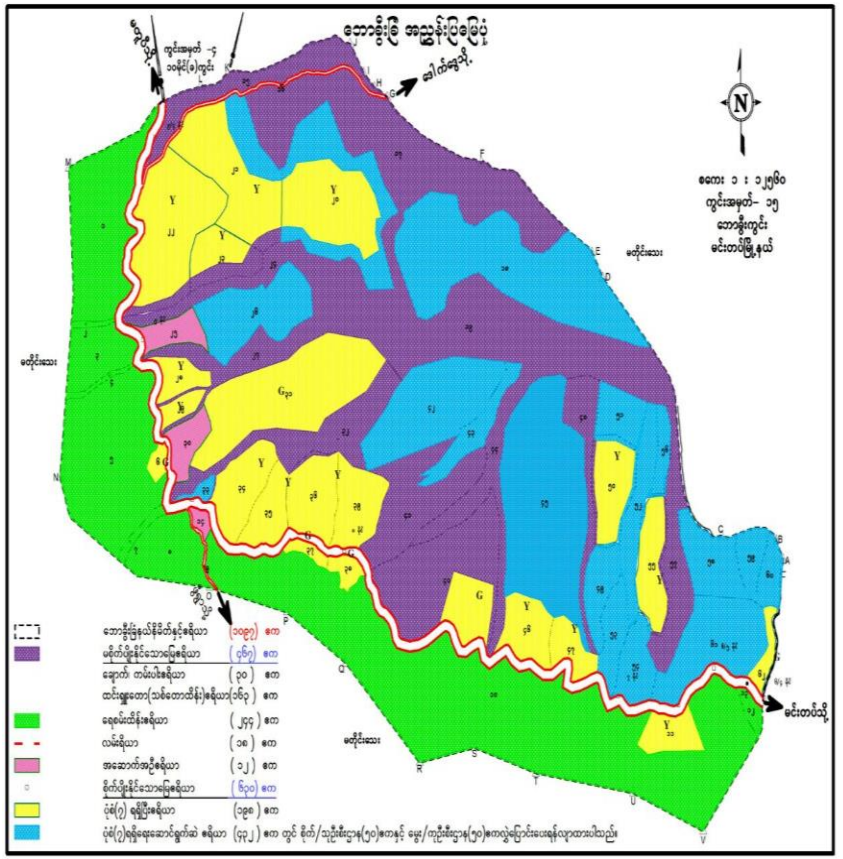
Crop and Plot size - Upland Rice (5 x 1) and 20 ft x 33.3 ft

Experimental site - Hlei Kaung village, Bawkhui Farm, Mindat Township, Mindat District, Chin State

Experimental duration- From May to November 2018

Presenter - Kyaw Min Thant (Staff Officer)

Regional Background



Rain fall - 65 Inches

Temperature - 8- 30 C

Elevation - 4860 ft

Rain fall - 70 Inches

Temperature - 2- 25 C

Elevation - 6100 ft

Objective

- To investigate the suitable upland rice varieties for Mindat Township, Southern Chin State

Tested varieties

Local variety - Than Pa

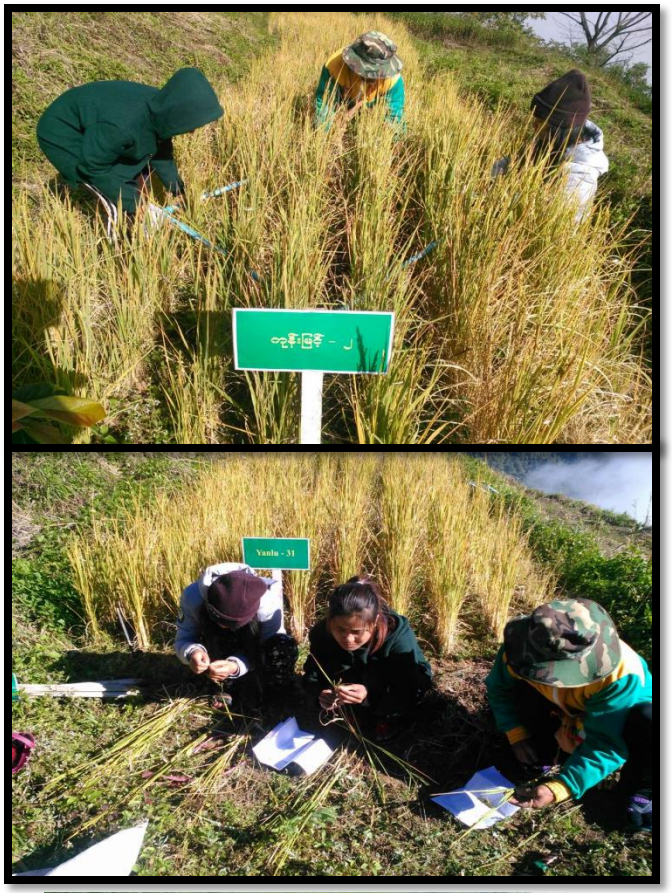
Crop and Plot size - Upland Rice (5 x 1) and 20 ft x 33.3 ft

Row/plot - 40

Row spacing - 10 inches (Seeding by hand)

Activities

- Land preparation and sowing
- Fertilizer application
- Plant protection
- Data collection
- Harvesting
- Monitoring and Evaluation



Activities (Contd.)

- Weeding
  - 14 DAS (1st time)
  - 28 DAS (2nd time)
  - 42 DAS (3rd time)
  - 55 DAS (4th time)
  - 70 DAS (5thtime)

Fertilizer rate

- **Basal**

N:P:K = (1:3:3)kg/plot (Urea: T-Super: Potash)

1st

Urea = 2 kg/plot

2nd

- Compound = 2 kg/plot

3rd

- Urea = 2 kg/plot

4th

- Compound = 2 kg/plot

Data Collection

- Sowing date
- Seedling date
- 50% flowerings day
- 50% flowering date
- Plant height (cm)
- Panicle length(cm)
- Life span (days)
- Tiller number
- Number of panicle per hill
- Number of hill per acre
- Number of spikelet per panicle
- Filled grain %
- Yield per plot and Yield per acre

Results and Discussion

The collected data were analyzed by using excel and by visual estimation

Table 1. Sowing date, Seedling date, 50% flowerings day, 50 % flowering date of tested varieties

Variety	Sowing date	Seedling date	50% flowerings day	1st flowering date
Yanlu -3	20.5.2018	7.6.2018	28.10.2018	18.10.2018
IR 82635-B-B-75-2	20.5.2018	8.6.2018	26.10.2018	16.10.2018

Sreenivasan (1985) found that low temperature depresses the rate of germination and prolongs it beyond the desirable span of 6 days.

A common symptom of chilling damage is a poor and delayed germination (Yoshida 1981).

Table 2. Plant height , Panicle length, tiller number and life span of tested varieties

Variety	Plant height (cm)	Panicle length (cm)	Tiller Number	Life span (days)
Yanlu -3	85	20	5	176

Low light intensity decreases the tiller growth due to lack of photosynthesis. In long duration varieties, low light stress synchronizes with the vegetative lag phase results in considerable tiller mortality and fewer panicles m^{-2} ((Sridevi V. and V. Chellanuthu. 2015))

Table 3. No. of hill per acre, no. of panicle per hill, no.of spikelet per panicle and filled – grain % of tested varieties (Yield and Yield components data)

Variety	No. of hill per	No. of panicle	No. of spikelet per	Filled grain %

Even if plant growth is vigorous, temperature that remains at 14-16 ºC for more than 3 days during the period from reduction division to heading will cause serious damage because of grain sterility (Toriyama and Heu 2000) and (Sridevi V. and V. Chellanuthu. 2015) .

spikelet sterility.

days during flowering increased the probability of obtaining spikelet sterility is greater than 10 to 12 per cent.

Harvesting

Conclusion

- ✓ The experimental site (Hlei Kaung village, Bawkhui Farm) is situated 6100 ft above the sea level and the weather is too cold.
- ✓ In this experiment, these tested varieties (5 varieties of upland rice) have high vegetative growth. Moreover, all these varieties can produce the panicles.
- ✓ However, these tested varieties failed to achieve their yield potential due to lack of grain filling.
- ✓ These might be due to the weather condition in this region.
- ✓ Therefore, these varieties are not suitable in this region.

Suggestion

✓ I would like to suggest that these tested varieties are not suitable to be grown in too cold region (high elevation) of Mindat Township. However, further experiments of these five varieties should be conducted in the lower altitude and warmer part of Mindat township.

Thank You for Your Kind Attention