Yield and Market Performance of Four Monsoon Rice Varieties in Naung Laung IHTDV, Muse, Northern Shan State

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Contents

1. Introduction

- Muse District DOA is the frontier extension office of Northern Shan
- Major tasks and responsibilities of Muse District DOA are
  - Compiling, monitoring and evaluation of annual crops data;
  - Providing training, workshops and extension service;
  - Conducting demonstrated and on-farm experimental plots, scouting and field inspection;
  - Introducing and expansion of GAP for food safety and quality of crops produced in the border area.

2. Rationale of the Study

- Intensive Agriculture- High Cropping Intensity
- Chinese buyers dominated the procurement system of paddy
- Recurrent use of same variety for many years
- Farmers cultivated the rice -seed availability, market
- Extending the knowledge – Changing the rice varieties per crop season and year- Choose varieties- local adaptability, disease resistant and market potential

3. Research Objectives

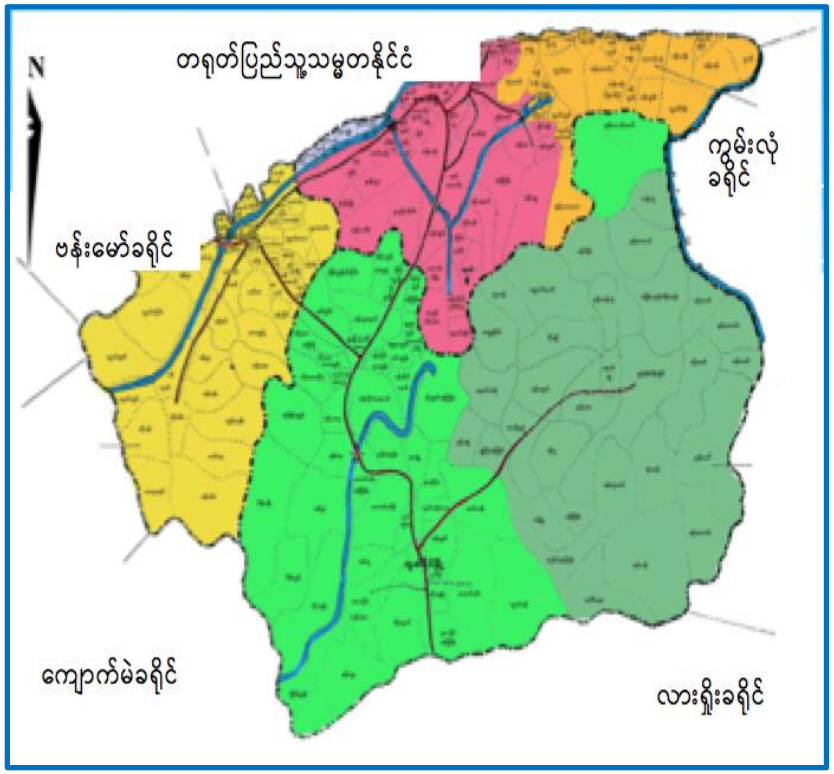
- To compare the yield and yield components of four monsoon rice varieties
- To study the market performance of four tested rice varieties
- To extend the knowledge of farmers for adoption of different rice varieties per season based on yield performance, market potential and local adaptability

4. Materials and Methods

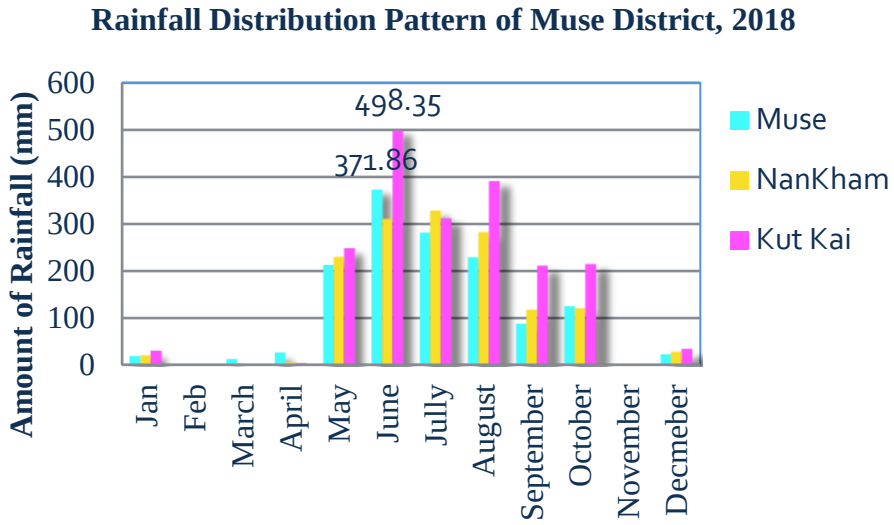
No.	Research Objectives	Materials and Methods
1.	Yield Trial	Experimental Plot
2.	Market Performance	Cost and Return Analysis

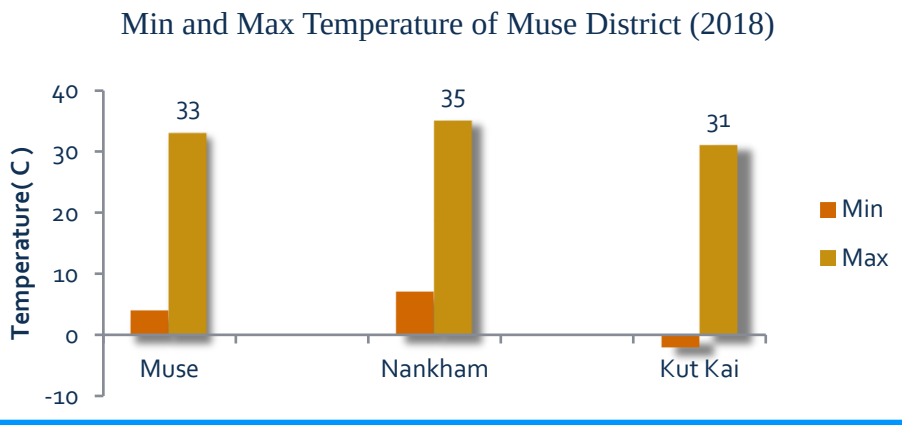
5. Results and Discussions

5.1Geographic and Climatic Condition of Muse District



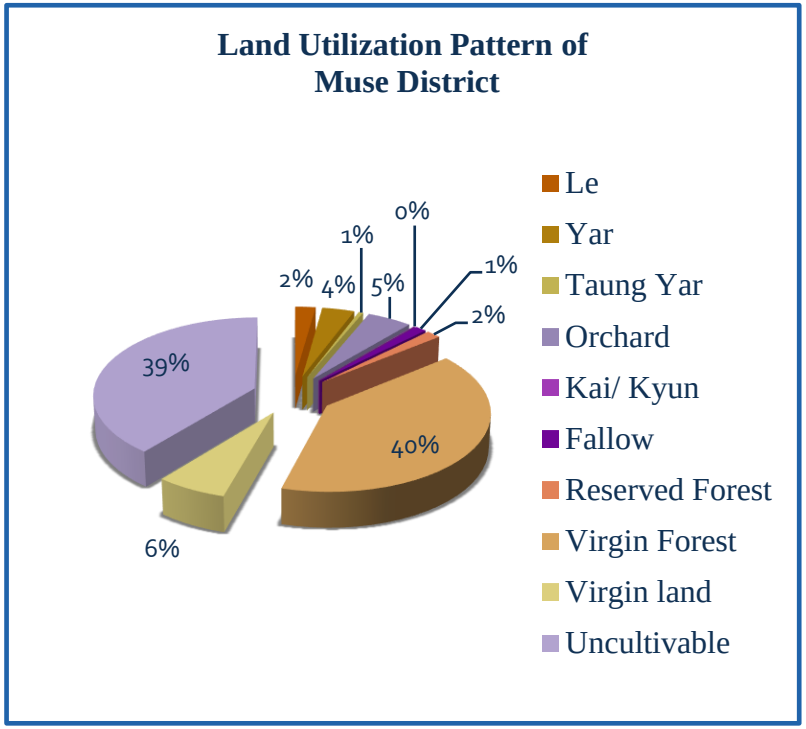
Source: GAD, 2018



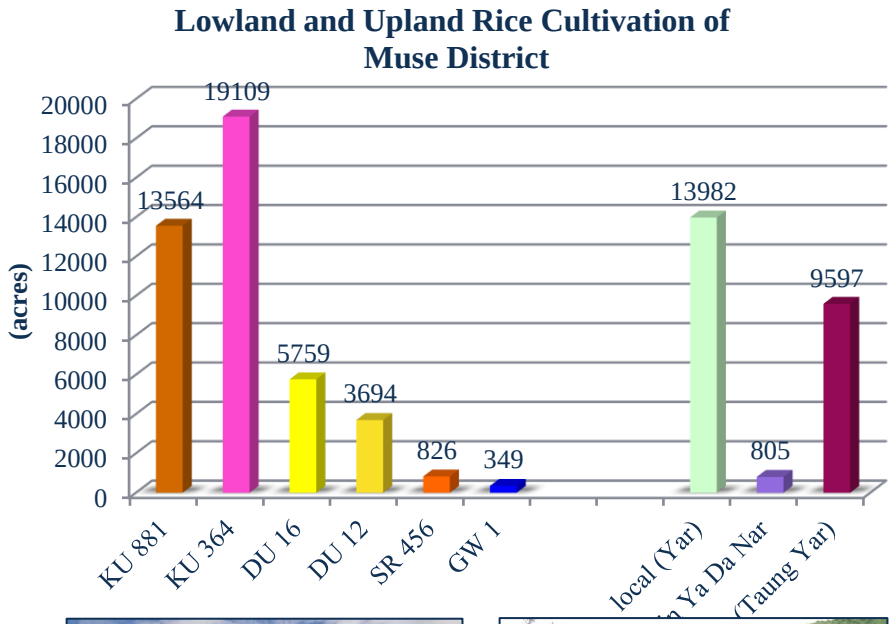


5. Results and Discussions

5.2 Land Utilization Pattern and Rice Growing Area

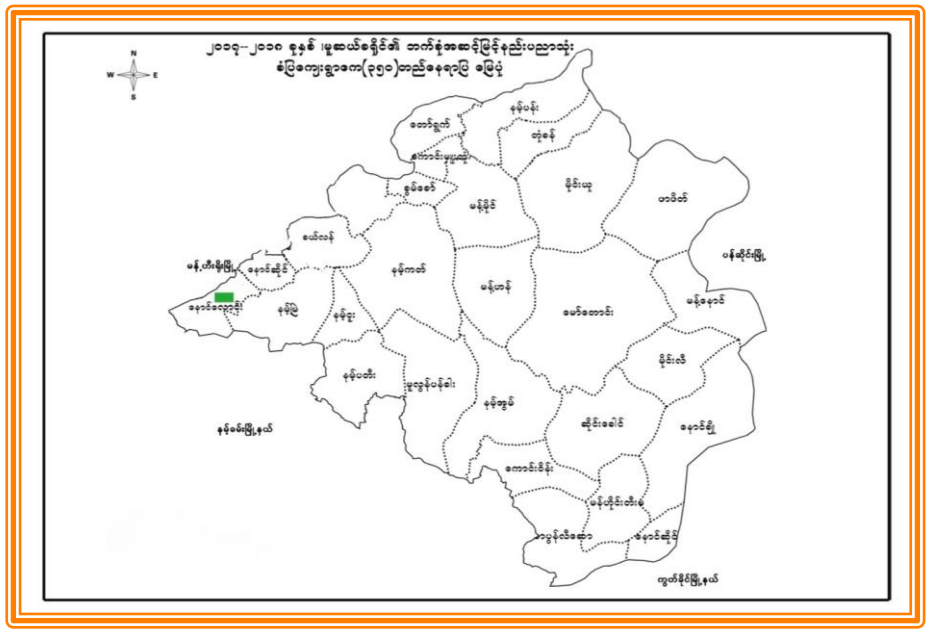


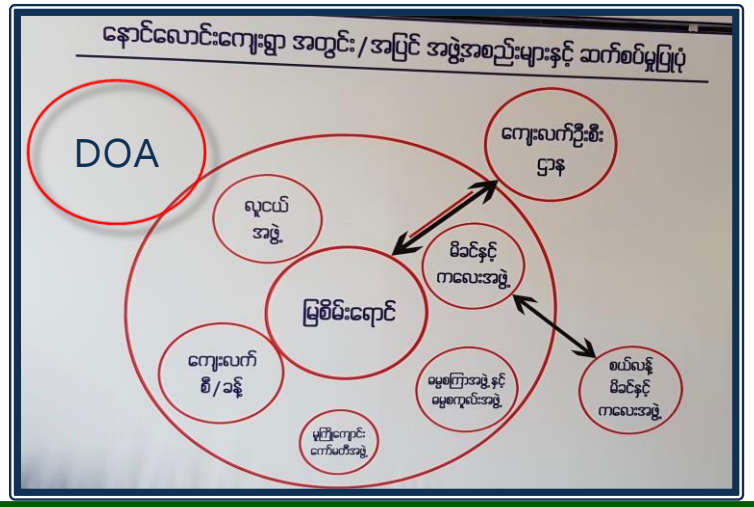
Source: DOA, 2018: Muse District
DOA, 2017



5. Results and Discussions

5.3 Geographic and demographic condition of Naung Laung IHTDV





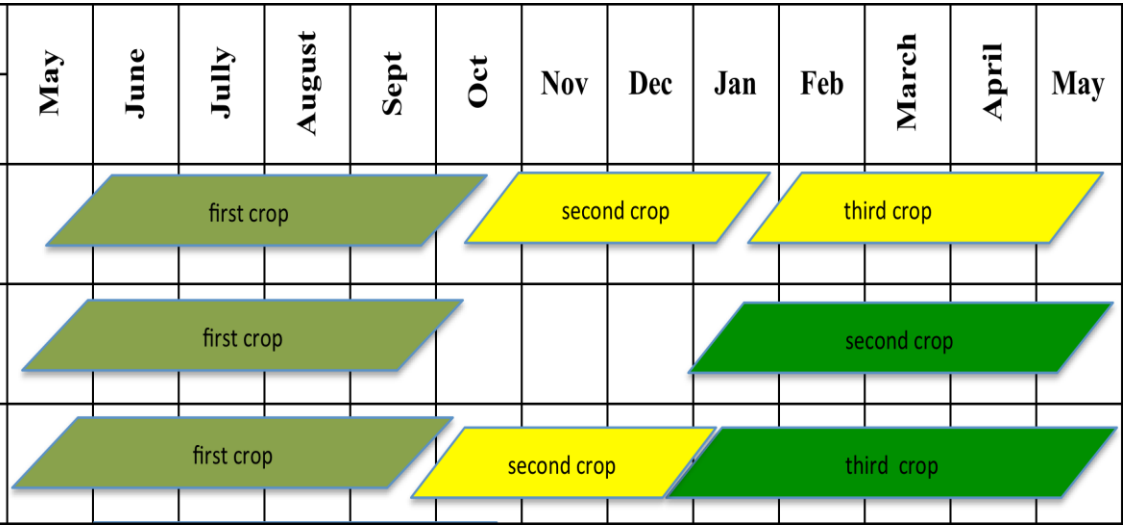
Farmers participated in Naung Laung IHTDV	227 numbers
Land Utilization Area	350 acres

Source: DRD, 2017

5. Results and Discussions

5.4 Cropping pattern of Naung Laung IHTDV

No	First Crop	Second Crop	Third Crop
	crop	crop	crop
1	Monsoon Rice (200 acres)	Sweet Corn (100 acres)	Sweet Corn (100 acres)
2	Monsoon Rice (100 acres)	Summer Rice (100 acres)	
3	Monsoon Rice (50 acres)	Sweet Corn (50 acres)	Summer Rice (100 acres)



5. Results and Discussions

5.5 Description of the experiment

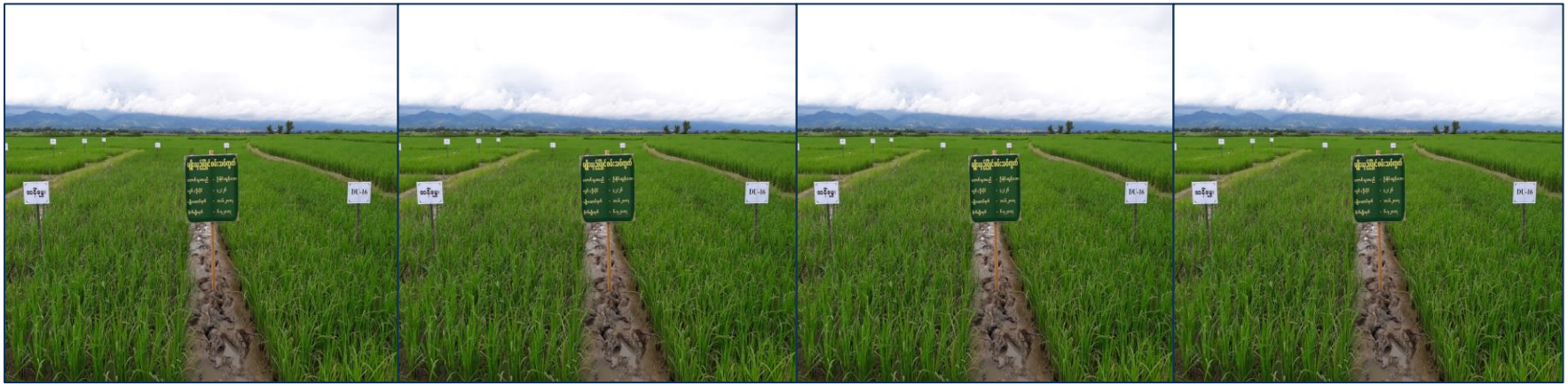
Township	Muse
Village	Naung Luang IHTDV
Field No/ Land Holding Area No	42/26
Name of Farmer	U Sai Tun Aye

Tested Crop Year	2017-2018 Monsoon Season
Tested location	Naung Laung IHTDV, Muse District
Experimental Design	On-farm simple trial (4 rice varieties x 1) (simple)
No. of variety	4 (Du 16, DU 12, GW1 and San Hmwe)
Size of Experimental Plot	0. 025 acres * 4
Length of plant row	40 feet
Number of planting rows	20 rows
Incharge	U Aung Ko Latt (Head of District Seed Division, Muse DOA)

5. Results and Discussions

5.6 Activities for yield trials of four monsoon rice varieties

Seed collection (2017, June first week) → Seed sprouting (8.6.2017) → Preparation of raised bed → Sowing the sprouted seeds (10.6.2017)



5. Results and Discussions

5.6 Activities for yield trials of four monsoon rice varieties

Lay out experimental plot and field preparation → Transplanting (6.7.2017) → Fertilizer application → Data Collection



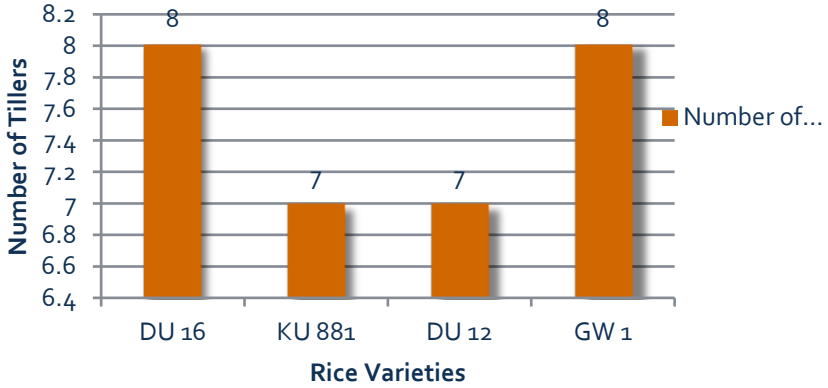

5. Results and Discussions

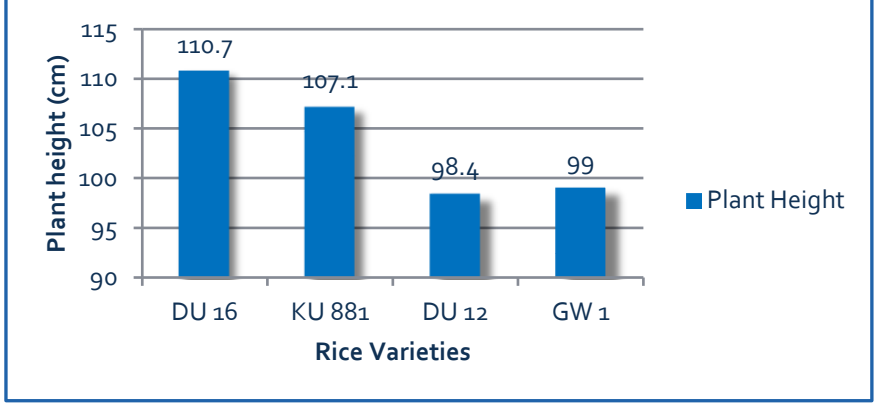
5.7 Data Collection

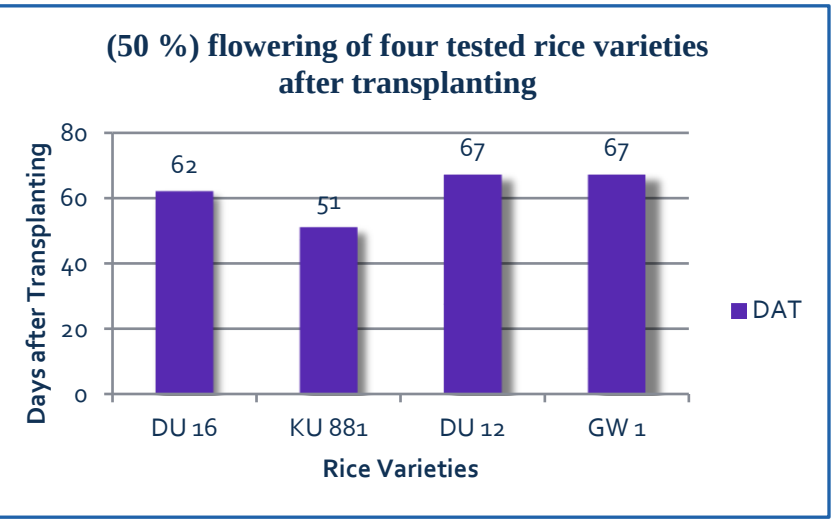
- Crop growth and development character (Number of tillers, plant height, 50 % flowering, Days to harvesting)
- Yield Components (Number of panicles per m^2), Number of grains per panicle, Number of filled grains, 1000- grain weight)
- Yield of small plot

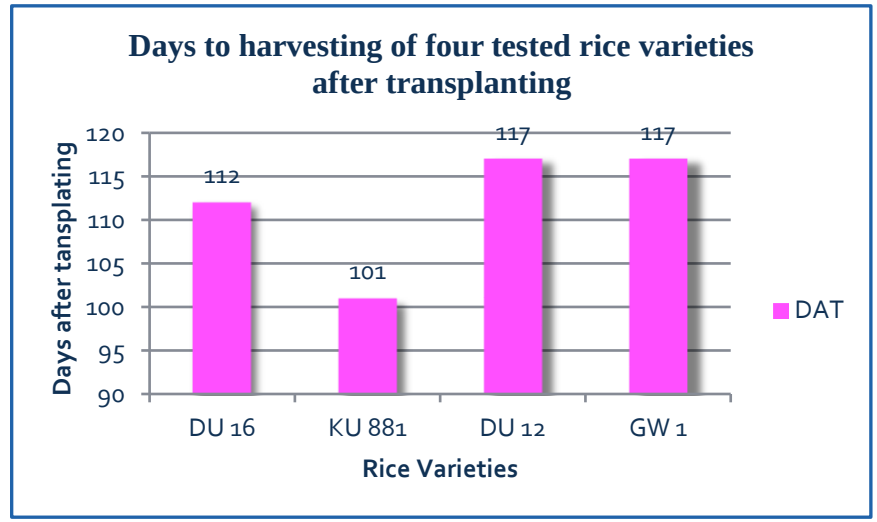
5. Results and Discussions

5.8 Comparison of crop growth and development characters of four tested rice varieties



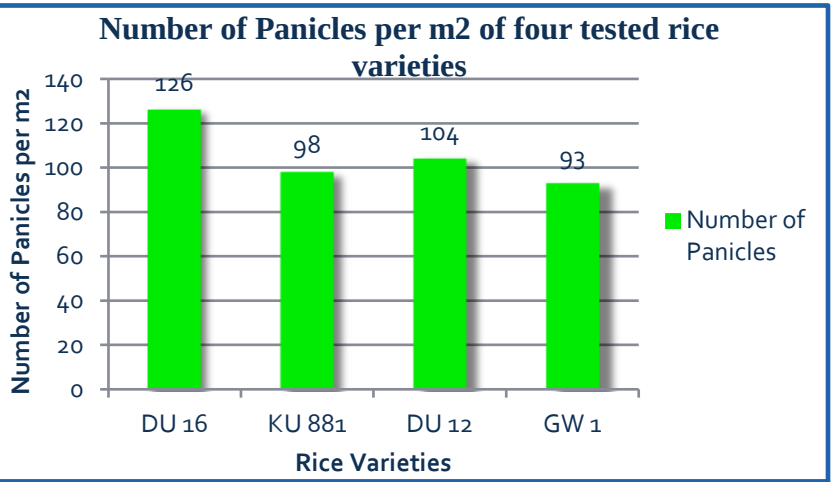


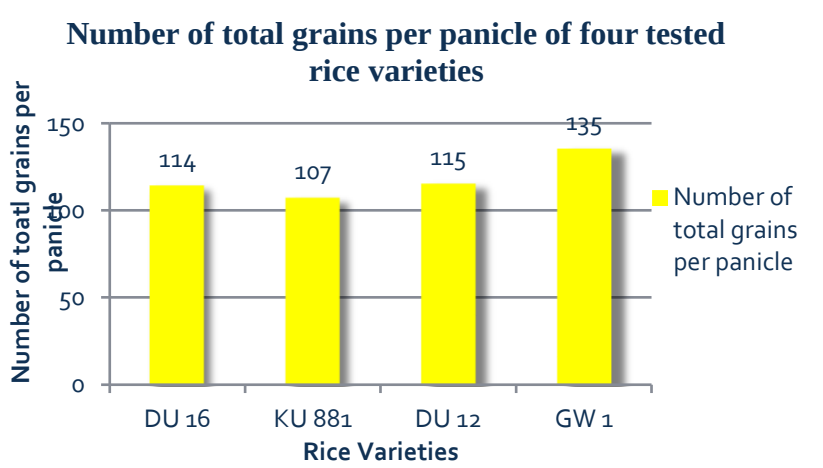


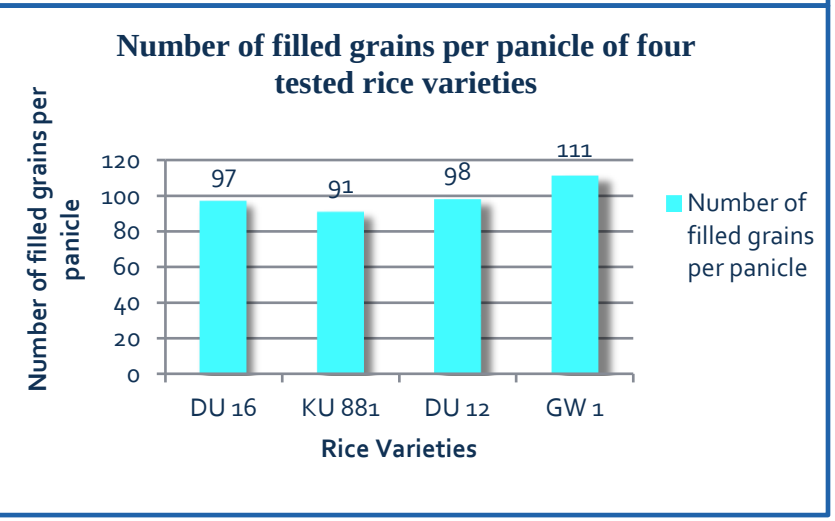


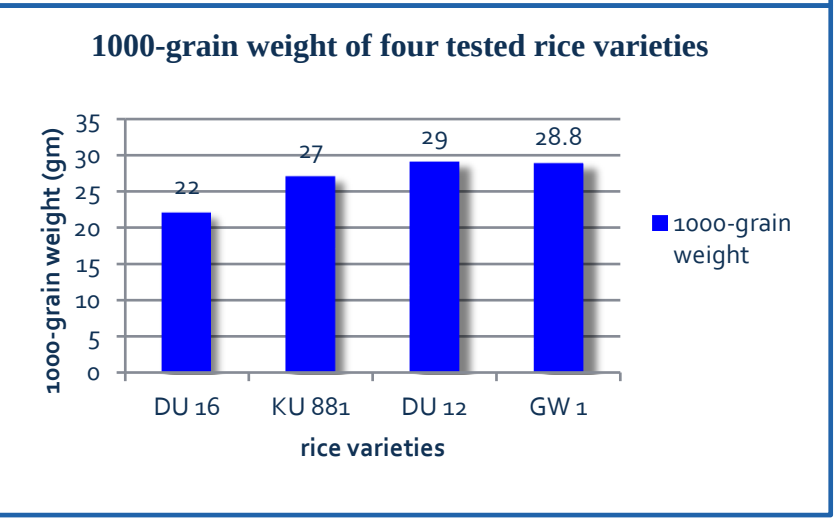
5. Results and Discussions

5.9 Comparison of yield components of four tested rice varieties



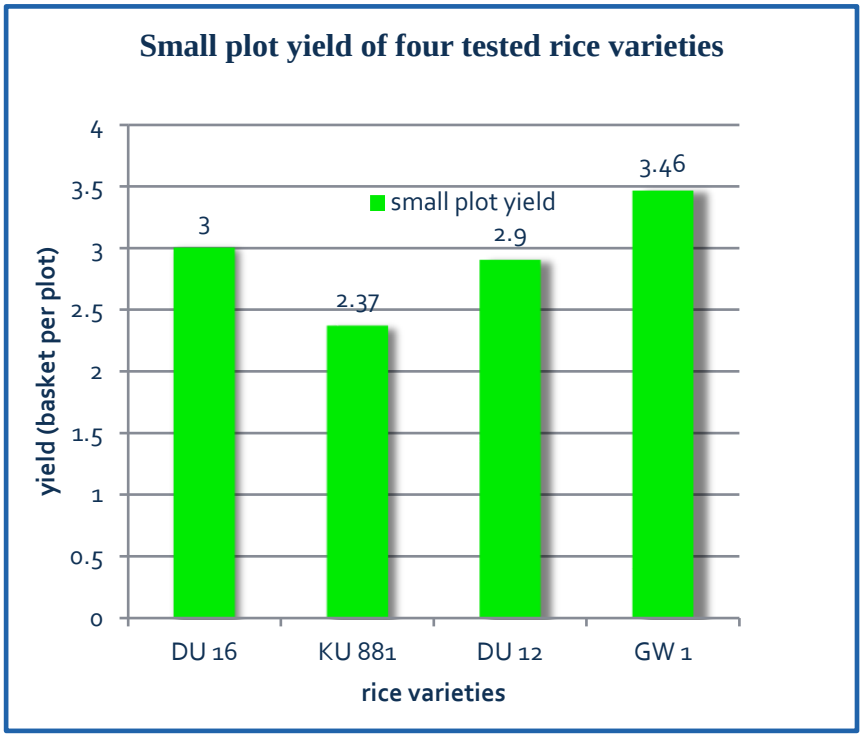


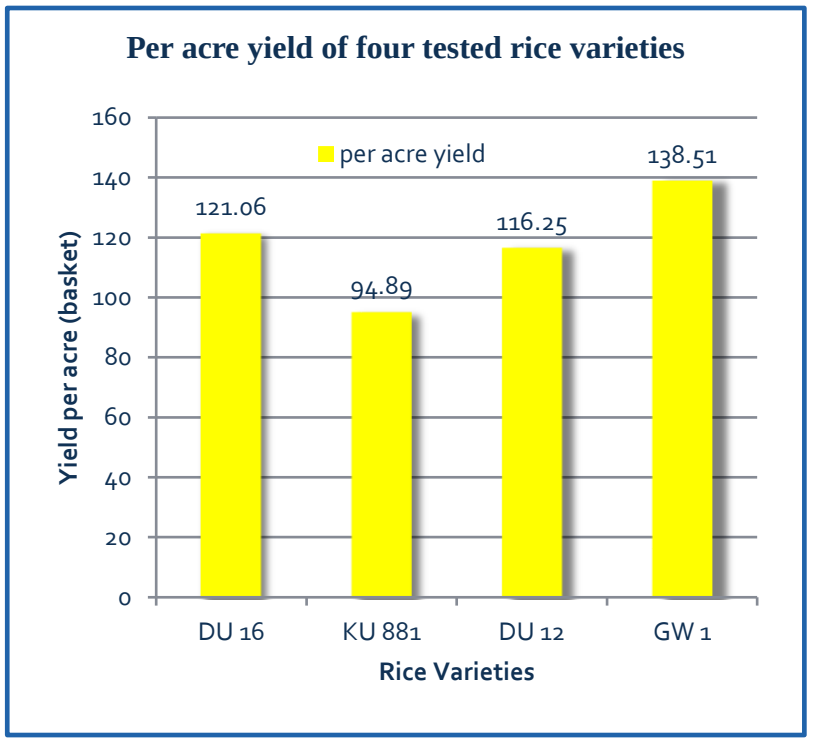




5. Results and Discussions

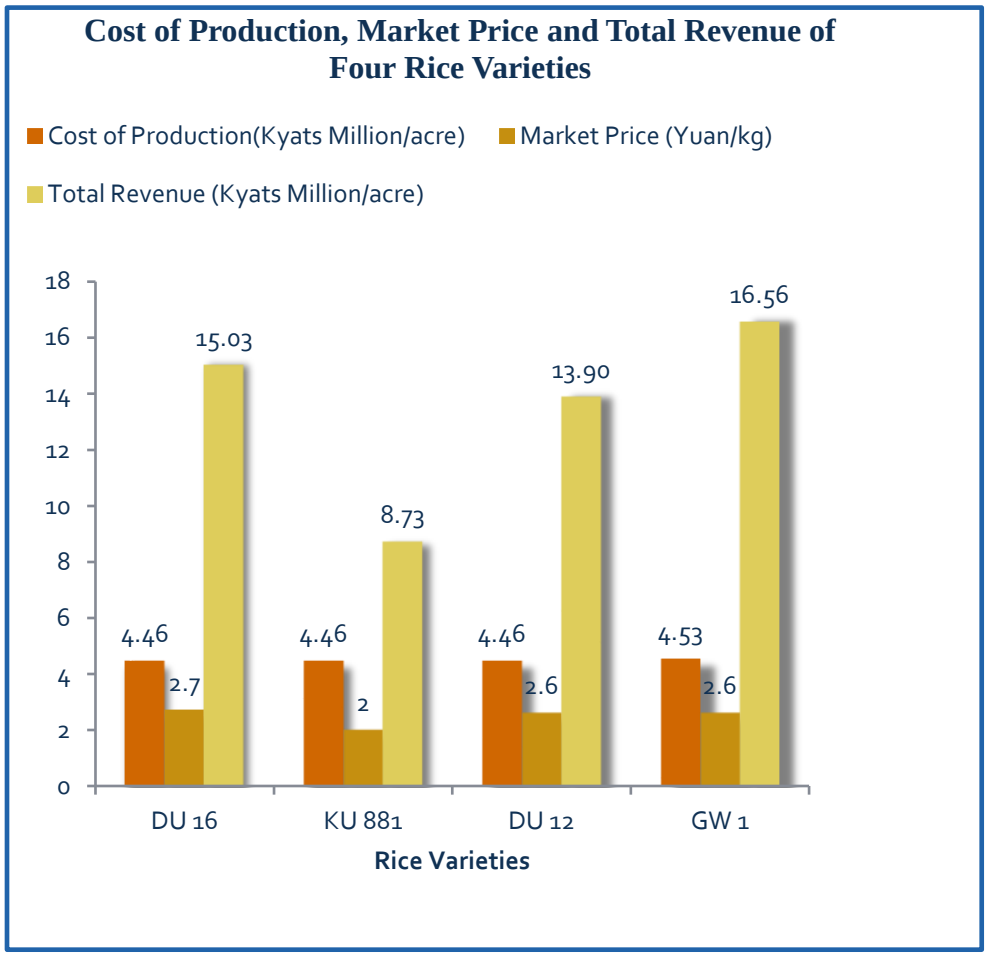
5.10 Small plot yield and per acre yield of four tested rice varieties

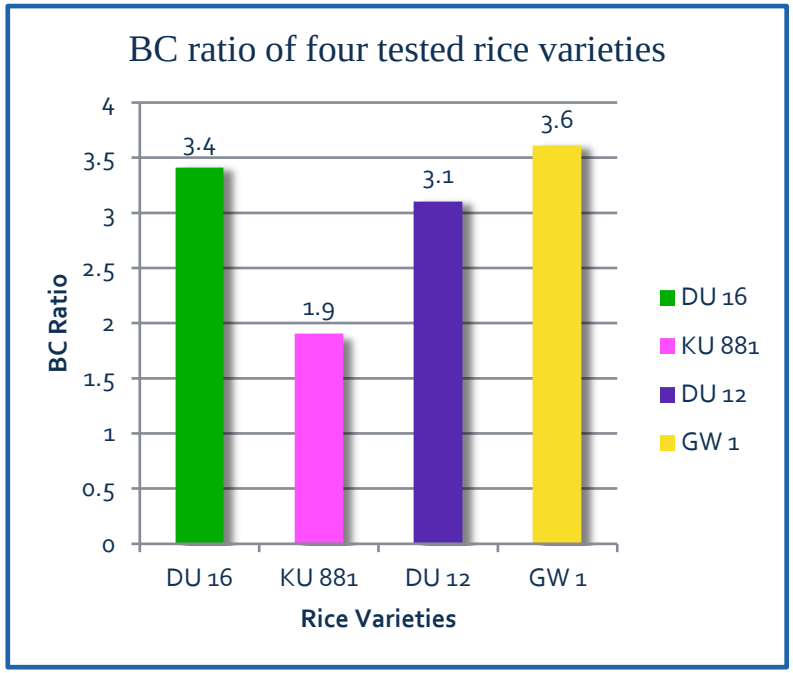




5. Results and Discussions

5.11 Market performance of four tested rice varieties





5. Results and Discussions

5.12 Conclusion

- Eating quality- San Hmwe (good-soft and aromatic), DU-16 and DU-12 (fair) and GW-1 (tough eating quality)
- Plant height in DU 16 and KU 881is higher in GW 1 and DU 12
- Early flowering in KU 881 and DU 16 than GW 1 and DU 12
- Number of panicles per m^2 is lowest in GW 1 and number of total grains is high- (these two yield components are negative relationship)-this finding is similar with the other research findings (DOA, 2014) (Uzzaman et al., 2014)

5. Results and Discussions

5.12 Conclusion

- Cost and Benefit analysis also revealed that GW 1 has the highest BC ratio (3.6) followed by DU-16 (3.4), DU-12 (3.1) and KU-881 (1.9).
- Compared to the market price- DU 16 has the highest market price and KU 881 has the lowest market price.
- Therefore, DU 16 and GW 1 rice varieties were recommended as local adaptable, good yield performance and market potential rice varieties after DU 12 and KU 881.

5. Results and Discussions

5.13 Suggestion and Recommendation

- Findings of yield and market performance of four monsoon rice varieties will extend the knowledge of farmers to choose the local adaptable and marketable rice varieties despite the adoption of recurrent use of the same variety season by season.

- Comparative analysis of yield components and crop development character suggest the best combination of crops in the cropping pattern.

- Findings of the study will also support the varietal recommendation of Northern Shan and similar areas with same climatic condition

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THANK YOU SO MUCH!