Ministry of Agriculture, Livestock and Irrigation, Myitkyina Township, Myitkyina District, Kachin State

Four different kinds of cultivation methods on monsoon rice in Year 2017-2018

Presented by
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Department of Agriculture (DOA)
Location - lie between north latitude 24°32’ and 26°12’, east longitude 96°40’ and 97°32’.

Area - 6229km²

Sea level - 476ft

Annual rainfall-110.26 inches / 110 days

Temperature -7.3°C (Low), 38.8°C (High)

Four different cultivation methods-SRI, Raised-bed, Seeder, Broadcast

Village name - Pamatii, Myitkyina

Farmer name - U Du Kar
Objectives

- To choose and apply the best method that obtain high yields, adapted to ecology and local climatic condition.
- To evaluate cost and benefit ratio in each method.
- To compare yield and yield component in each method.
<table>
<thead>
<tr>
<th>Title</th>
<th>SRI</th>
<th>Raised - Bed</th>
<th>Seeder</th>
<th>Broadcast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursery Date</td>
<td>25.6.2017</td>
<td>17.6.2017</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Transplanted Date</td>
<td>6.7.17</td>
<td>6.7.17</td>
<td>6.7.17</td>
<td>6.7.17</td>
</tr>
<tr>
<td>Plot size</td>
<td>0.50ac</td>
<td>0.50ac</td>
<td>0.50ac</td>
<td>0.50ac</td>
</tr>
<tr>
<td>Spacing</td>
<td>10&quot;×10&quot;</td>
<td>8&quot;×6&quot;</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Plant population</td>
<td>62500</td>
<td>102000</td>
<td>198000</td>
<td>2500000</td>
</tr>
<tr>
<td>Life span (days)</td>
<td>140</td>
<td>145</td>
<td>135</td>
<td>135</td>
</tr>
<tr>
<td>Harvesting Date</td>
<td>15.11.2017</td>
<td>15.11.2017</td>
<td>15.11.17</td>
<td>15.11.17</td>
</tr>
</tbody>
</table>
Germination Test

- Germination %: 92%
- Variety: sin akari-3
- Life span: 135 days
- (1000) grains weight: 27.9g
- Amylose %: 18.9%
System of Rice Intensification (SRI)

Seed -bed preparation  Nursery Management

- Seed rate - 10 tin/acre
- Seed class - Certified seed (CS)
- Wooden frame size - (2´ × 1´), (80) plots
- Transplanting time - 12 days (DAS)
- Record plant data - 10 days (DAS)
- Data collection - leaf number, plant high, tiller number
- Inter-cultivation - (2) times
Raised- bed Method

Germination

- Seed rate - 8 pyi/acre
- Seed class - Certified seed (CS)
- Seed-bed size - (120´ × 30´)
- Transplanting time - 20 days (DAS)
- Record plant data - 10 days (DAS)
- Data collection - leaf number, plant high, tiller number
- Inter-cultivation - (2) times

Land preparation

Nursery Management
Seeder Method

Seed Preparation

- Seed rate - 1 bsk/acre
- Seed class - Certified seed (CS)
- Land preparation- Leveling
- Seed preparation- Pre-germinate the rice seed do not let shoot become too long
- Record plant data - 10 days (DAS)
- Data collection - leaf number, plant high, tiller number
- Hand weeding - (3) times
Broadcast Method

Seed Preparation

- Seed rate: 2 bsk/acre
- Seed class: Certified seed (CS)
- Land preparation: Leveling
- Seed preparation: Pre-germinate the rice seed do not let shoot become too long
- Record plant data: 10 days (DAS)
- Data collection: leaf number, plant high, tiller number
- Hand weeding: (2) times
### Fertilizer Application

<table>
<thead>
<tr>
<th>Title</th>
<th>SRI</th>
<th>Raised Bed</th>
<th>Seeder</th>
<th>Broadcast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compound15:15:15 and manure as basal</td>
<td>50kg/ac, 4bags/ac</td>
<td>50kg/ac, 4bags/ac</td>
<td>50kg/ac, 4bags/ac</td>
<td>50kg/ac, 4bags/ac</td>
</tr>
<tr>
<td>25 days (DAS)</td>
<td>N25kg/ac</td>
<td>N25kg/ac</td>
<td>N25kg/ac</td>
<td>N25kg/ac</td>
</tr>
<tr>
<td>45 days (DAS)</td>
<td>N25kg/ac</td>
<td>N25kg/ac</td>
<td>N25kg/ac</td>
<td>N25kg/ac</td>
</tr>
<tr>
<td>50% of flowering date</td>
<td>20.10.17</td>
<td>20.10.17</td>
<td>20.10.17</td>
<td>20.10.17</td>
</tr>
<tr>
<td>50% of flowering days</td>
<td>115</td>
<td>120</td>
<td>105</td>
<td>105</td>
</tr>
</tbody>
</table>

**Remark** - Fertilizer recommendation is soil analysis.
Checking panicle initiation

- Checking panicle initiation at 75 days.
- We found panicle stage 2 at Leaf number 15.
- End of panicle at 95-105 days.
Pest and disease control

yellow and blue sticky trap
Field Days

Roughing

Yield sampling
<table>
<thead>
<tr>
<th>Sr.</th>
<th>Title</th>
<th>SRI</th>
<th>Raised-bed</th>
<th>Seeder</th>
<th>Broadcast</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Leaf number</td>
<td>18-19</td>
<td>18-19</td>
<td>16-17</td>
<td>16-17</td>
</tr>
<tr>
<td>2</td>
<td>Plant Height(cm)</td>
<td>133</td>
<td>128.25</td>
<td>124.5</td>
<td>124.5</td>
</tr>
<tr>
<td>3</td>
<td>Tiller number</td>
<td>13</td>
<td>8</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>No. of grain per panicle</td>
<td>108</td>
<td>115</td>
<td>94</td>
<td>80</td>
</tr>
<tr>
<td>5</td>
<td>Fill grain per panicle</td>
<td>100</td>
<td>106</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>6</td>
<td>Grain yield(bsk/acre)</td>
<td>109</td>
<td>115</td>
<td>85</td>
<td>75</td>
</tr>
<tr>
<td>7</td>
<td>Cost and benefit</td>
<td>339000/424000</td>
<td>333000/472000</td>
<td>257000/338000</td>
<td>258000/267000</td>
</tr>
<tr>
<td>Sr.</td>
<td>Content</td>
<td>Advantages</td>
<td>Disadvantages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>SRI</td>
<td>Low seed-rate, high tillering, easier weeding, aeration</td>
<td>High labour cost, well drainage system, suitable in fertile land, rich FYM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Raised-bed</td>
<td>Nomal seed rate, high tillering, high yield, aeration</td>
<td>High labour cost</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Seeder</td>
<td>Low labour cost, not required nursery management</td>
<td>High seed rate, expose to rat and birds attack, crowding plant population, difficult weeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Broadcast</td>
<td>Low labour cost, not required nursery management</td>
<td>High seed rate, difficult weeding, low tillering and lodging, leveling</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conclusion

- Raised bed and SRI methods get high yields.
- SRI method is suitable for small scale farmers, systematic and interested farmers.
- However, the most farmers prefer to Seeder and Broadcast but these methods can be damaged in seeding time for heavy rainfall region.
- Raised-bed method obtain high yield and its more adaptable to local.
- Raised-bed method is high cost but high benefit and good condition for yield component.
THANK YOU