Evaluation of Flood and Drip Irrigation for Rice Production on St Croix, USVI

By

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Materials and Methods

Varieties: Cybonet, Bengal, Neptune, Taipei

Plots of 4 rows/variety 10” between rows

Planted November 20th

Fertilizer

Dec 24 275 lb 20-20-20

Jan 11 125 lb (NH₄)₂SO₄

Jan 24 75 lb Urea
Wind
Irrigation
Drip Tape emitters 1 ft spacing
Drip lines 20” apart

Injector used to apply fertilizer

Jan 14 Levee installed to create paddy for flooding
Feb 25
Cybonet Anthesis
Harvest
20 ft
Center 2 row
Thresh, Clean and Dry Seeds to 12%
Table 1. Yield from three varieties of rice grown with either drip or flood irrigation on St Croix, USVI

<table>
<thead>
<tr>
<th>Variety</th>
<th>Height (Inches)</th>
<th>Pounds/Acre*</th>
<th>Pounds/Acre*</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Cybonet’</td>
<td>15.3</td>
<td>2,565 a</td>
<td>2,015 b</td>
</tr>
<tr>
<td>‘Bengal’</td>
<td>20.4</td>
<td>3,535 a</td>
<td>3,720 a</td>
</tr>
<tr>
<td>‘Neptune’</td>
<td>21.7</td>
<td>3,240 a</td>
<td>2,930 b</td>
</tr>
</tbody>
</table>

*Differences between treatments LSD \( P=0.05 \)
Table 2. Water usage under drip or flood irrigation of rice grown on St Croix, USVI

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Gallons of Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drip</td>
<td>1,100,000/acre</td>
</tr>
<tr>
<td>Flood</td>
<td>1,500,000/acre</td>
</tr>
</tbody>
</table>
Conclusion

Drip irrigation can supply water for paddy rice

Drip irrigation uses less water than flooding

Drip lines can be a problem until plants are established

Drip lines increase cost of production
Acknowledgement

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Questions?