Dry season rice varieties for the Ord River Valley

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Dry season rice varieties for the Ord River Valley

Cover Page Footnote
The authors wish to thank Mr. R. P. Harington, Manager of the Kimberley Research Station and Mr. L. Arends, Technical Assistant, for field assistance.
Dry Season Rice Varieties for the Ord River Valley

By A. L. "CHAPMAN* and P. J. VAN RIJN*

This article gives the results of three rice variety and time of planting experiments carried out at Kimberley Research Station in the 1960, 1961, and 1962 dry seasons. The recommendation is to sow the variety Caloro during May.

PREVIOUS experimental work at the Kimberley Research Station (Langfield 1961) showed that, in general, indica varieties of rice are best adapted for wet-season sowing and japonica varieties for dry-season sowing.

In a detailed time of planting study, Langfield and Basinski (1960) found that the outside limits for sowing japonica varieties were April and July. This article describes three experiments carried out at Kimberley to compare a group of available japonica varieties and to determine more closely the optimum time of planting.

Methods

The experiments were:

EXPERIMENT 1 (1960): The varieties Caloro, Calrose, Fujisaka No. 5, and Hungarian No. 1 were sown on July 8-9 with 4 cwt. per acre ammonium sulphate and 2 cwt. per acre superphosphate on a randomised block design with six replicates.

EXPERIMENT 2 (1961): The varieties Caloro, Calrose, Fujisaka No. 5, and Colusa 180 were sown at three dates, May 11, June 12, and July 12, with 2 cwt. per acre urea and 2 cwt. per acre superphosphate. The three plantings were made in separate bays; within each bay the varieties were arranged in a randomised block design with four replicates.

EXPERIMENT 3 (1962): The varieties Caloro and Calrose were sown at two dates, May 17 and June 25, with 2 cwt. per acre urea and 2 cwt. per acre superphosphate.

The plantings were made in separate bays; within each bay the varieties were arranged in a randomised block designed with four replicates.

The experiments were drill sown, using standard agronomic techniques. The plots were four rows of 50 ft. with no pathways left between plots. Three plots were sown together in the same drill run. The two centre rows of each replication of each variety were hand harvested and threshed for yield measurement.

Results and Discussion

The results are given in Table 1. Comparing varieties, in Experiment 1, Caloro and Hungarian No. 1 significantly outyielded Calrose and Fujisaka No. 5. Hungarian No. 1 is an early variety and showed a tendency to lodge; with mechanical harvesting, yields could be expected to be lower. Furthermore, in this and an earlier experiment, the variety carried a high proportion of sterile spikelets. For these reasons it was discarded and Colusa 180 substituted in Experiment 2.

In Experiment 2 taking the mean of all plantings, Caloro and Calrose significantly outyielded Fujisaka No. 5 and Colusa 180. Caloro and Calrose gave the highest yields when planted in mid May, Fujisaka No. 5

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performed best when planted in mid June, although its yield was not appreciably higher than that of Caloro. Colusa 180 yielded slightly better when planted in mid June than in mid May.

In Experiment 3 there was no significant difference in mean yield between Caloro and Calrose; the Calrose variety gave a slightly higher yield at the first planting and a slightly lower yield at the second. Averaging all years and all plantings, the yield advantage of Caloro over Calrose just attained significance at the 5 per cent. level.

Because of site effects little attention can be paid to differences in yield between years. Experiment 1 was conducted in a bay which had been planted only once before and where the weed population was low. Experiment 2 was carried out in bays which had been cropped for some years, but where weed infestation was moderate. The bays of Experiment 3 were, however, very heavily infested with weeds and consequently yields were lower than normal.

However, within years, in 1961 and 1962, when the varieties were planted at different dates, there was a decline in yield of Caloro and Calrose with plantings made after mid May. In these experiments, mid May plantings of both varieties were in ear 106 days after emergence, mid June plantings in 90 days and mid July plantings in 75 days.

The provisional practical recommendation is therefore to sow Caloro in May.

ACKNOWLEDGMENTS

The authors wish to thank Mr. R. P. Harington, Manager of the Kimberley Research Station and Mr. L. Arends, Technical Assistant, for field assistance.

REFERENCES


TABLE 1
COMPARATIVE YIELD OF RICE VARIETIES, 1960-62
(lb. per acre)

<table>
<thead>
<tr>
<th>Experiment</th>
<th>Season</th>
<th>Varieties</th>
<th>Time of Planting</th>
<th>Mean</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>May</td>
<td>June</td>
<td>July</td>
</tr>
<tr>
<td>I</td>
<td>1960</td>
<td>Caloro</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Calrose</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Fujiwara No. 5</td>
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<tr>
<td></td>
<td></td>
<td>Hungarian No. 1</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>II</td>
<td>1961</td>
<td>Caloro</td>
<td>3.913</td>
<td>3.913</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calrose</td>
<td>2.717</td>
<td>2.717</td>
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<tr>
<td></td>
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<td>Fujiwara No. 5</td>
<td>1.516</td>
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<td></td>
<td></td>
<td>Colusa 180</td>
<td>2.149</td>
<td>2.149</td>
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<tr>
<td>III</td>
<td>1962</td>
<td>Caloro</td>
<td>2.078</td>
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<td>Calrose</td>
<td>2.904</td>
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</tr>
<tr>
<td>Mean of all plantings</td>
<td></td>
<td>Caloro</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calrose</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.S. Not significant at P = 0.05
* Significant at P < 0.05
** Significant at P < 0.001

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