Performance of Rice Varieties in the Lower Uva

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INTRODUCTION

DUE to problems of climate, rice is predominently grown as a meda crop in the Lower Uva. Sowing is normally done in January—February and varieties of about 4 months duration are most commonly used. The variation in rice yields in the area is attributable to the multiplicity of varieties cultivated and the diversity of planting time and other cultural practices.

During the past decade, attempts have been made to popularise the cultivation of improved varieties, mainly murungakayan 301 and 614. There is, however, an insufficiency of data on the adaptability of these varieties to the conditions prevailing in this area. In this study, therefore, an attempt has been made to investigate the performance of a number of rice varieties during the normal cropping season prevailing in the area. The trials were conducted at the Agricultural Station, Bibile, and were carried out for three seasons commencing in meda 1962.

MATERIALS AND METHODS

Introduced varieties, improved hybrid and pureline selections and popular local varieties were included in these tests. In each succeeding season, the more promising strains from the previous season were retested with new introduced varieties and improved selections.

The trial was laid out in a randomised block design with a plot size of 20′ × 5′. Three weeks old seedlings raised under mud-land conditions were transplanted at a spacing of 10″ × 6″ with three seedlings per hill. Inter-cultivation was done as and when necessary. Endrin was sprayed for the control of insect pests.

The quantity and time of fertilizer applied is given below :—

Nurseries	:	3 : 2 : 1 : N. P. K., as Sulphate of Ammonia, concentrated Superphosphate And Muriate of Potash at 1 lb per square feet.
At Planting	:	Rock Phosphate at 1¼ cwt. per acre Muriate of Potash at ½ cwt. per acre.
Top Dressing	:	¾ cwt. per acre Sulphate of Ammonia, 3 weeks after planting.
		1¼ cwt. per acre Sulphate of Ammonia at the primordia initiation stage.

RESULTS

Experiment 1.—During the *meda* 1962 season over eleven varieties were tested in six replicates. These included two introduced varieties, Remadja and Sigardis ; four hybrid strains, H-4, H-5, H-6 and H-501, three pure-line selections murungakayan 104, murungakayan 305 and vellaiillankalyan 28061 and two local varieties, Elwi and Local which consists of a heterogenous mixture of different types.

The yield data is given in Table I. The two Indonesian varieties Remadja and Sigardis were significantly superior to all other varieties except H-6 at the 5 per cent level of significance.

The sowing to harvest duration for Sigardis, Remadja and H-4 was 143 days : for H-4, 137 days, while the locals took only 128 days.

Experiment 2.—During the *meda* 1963 season eighteen varieties were tested, in three replicates. In spite of the promising performance, the hybrid variety H-6 was rejected on account of its extreme susceptibility to blast disease. Varieties which showed promise in observation plots during the previous season at the same Station were included in the trial.

The yield data is given in Table 2. The variety Sigardis was superior to the other varieties except Remadja, Karanjarang, Balinkanbang and Hatiel selection No. 46 at the 5 per cent level of significance.

The sowing to harvest duration of all varieties was prolonged during this season. This might be due to a delay in sowing nurseries as compared to the previous season.

Experiment 3.—During the *meda* 1964 season, twenty varieties were tested in four replicates. In addition to the eighteen varieties tested in the previous season, the varieties Patnai and Podiheenati were included in the trial.

The yield data is given in Table 3. The varieties Sigardis and Hatiel selection 46 were significantly superior to all other varieties except Balinkanbang, Karanjarang, Remadja, Seta, CH-29 and Ratnasamba at the 5 per cent level.

DISCUSSION

Where varietal performance is considered from the point of view of grain yield and resistance to blast disease, the two Indonesian varieties Sigardis and Remadja have been outstanding. In the analysis of variance for only those varieties tested during all three seasons, the grain yields of Sigardis and Remadja have been significantly superior to H-4 murungakayan 302, murungakayan 104 and the Local variety.

The performance of these two varieties has been noteworthy at other stations. They have given satisfactory yields at Bombuwela, Karapincha, Panagoda, Pussellawa and Wagolla (, 2). At Pussellawa during *maha* 1959/60, Sigardis and Remadja outyielded H-4 (2).

The consistently high yields obtained from these two varieties in the Lower Uva over three successive seasons, therefore, warrants their being tested extensively in this area. The fact that these two varieties have a longer sowing to harvest duration than varieties normally cultivated in the area should not present any major problems.

SUMMARY

Little data is available of varietal performance in the Lower Uva. A number of introduced varieties, hybrid and pure-line selections and local varieties were tested at the Agricultural Station, Bibile (elevation 840') during three successive *meda* seasons, the period when rice is normally cultivated in the area. The performance of the two Indonesian varieties, Sigardis and Remadja in these trials warrants their being tested more extensively in the area.

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