

## Double Cropping of Rice in Cuttack, Orissa

By

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The practice of growing a medium or long duration crop of rice in the Kharif season, June-December in the wet land followed by a pulse crop of either Biri or Mung is the most common one in areas commanded by the Taldanda canal of Cuttack district. Water supply is available usually upto the middle of April every year. Though the Mung or Biri may be given one or two irrigations, the growing of these crops is often a gamble and even under most favourable circumstances an acre yield of 3 to 4 maunds may be the most expected.

The problem whether the available water supply between January to April cannot be put to better use has been engaging the attention of the Central Rice Research Institute for the last three years. Experiments at the Institute have shown that short duration rices can be very profitably grown between January to April. The most suitable varieties to grow in this season and the optimum time for planting them have also been determined. It has been found that two Madras varieties Co. 13 and Ptb. 10 and Chinese varieties CH. 45 and CH. 47 are the most suitable for growing in this season and the optimum time for planting them is from 15 to 25 January. Yields ranging from 15 to 25 maunds per acre have been obtained at the Institute with these varieties.

**Cultivators Persuaded:** It was proposed to actually test these results on a large scale in the cultivators' fields in the intensive cultivation area of the Sardar centre in 1950-51. Since the practice of growing a second crop of rice on the same land is practically unknown in Orissa, the cultivators needed considerable persuasion to adopt the practice. In fact the Institute had actually given a guarantee for 10 maunds of paddy per acre if the trial failed.

Suitable blocks of land were selected in the different villages for this trial as shown below:—

Village	Area under Second crop of rice
Nimaisapur	30 acres
Dighi	7 "
Kotuan	25 "
Hatsahi and Deosahi	20 "
Deopur and Biribati	10 "
Mantiri and Sompur	3 "



Since the trial had to be done on a compact block, often the land chosen for the trial had to be given up as some cultivators owning land inside the area refused to co-operate. Of the villages named above cultivators in the first three arranged to raise their own seed beds with seed supplied from the Institute, while to the remaining villages seedlings raised in the Institute were supplied. In fact in Nimaisapur village the whole trial was done on a co-operative basis, the owners of the land agreeing to share the cultivation expenses and the produce according to the area they owned. Due to the presence of a few enterprising cultivators in the first two villages, we did not have much trouble.

In the other villages however, though the cultivators first agreed to co-operate, they had no faith in it and showed their indifference at every stage. They would not prepare the land for planting in time, they would not irrigate the fields or drain the fields as and when necessary, they would not protect the fields against cattle trespass and so on. They were convinced that the experiment would fail and were only preparing themselves to collect the 10 maunds of paddy per acre from the Institute guaranteed to them.

The area under the trial can be divided into two groups: one in which the growers were willing to co-operate and follow our instructions and the other in which they were absolutely indifferent to the scheme. In the latter case the Institute had to take steps often to irrigate the field, to drain water off, or to check cattle trespass, etc.

**Unqualified Success:** The planting was spread over a period of six weeks from January 20 to the end of February. The plan was to finish the planting before the end of January but this could not be accomplished and often very old seedlings of over 60 days' age had to be used. Normally with the varieties recommended for growing and planting before the end of January, no watering of the crop would have been necessary after March. Actually however with considerable delay in planting the crop had to be given one or two irrigations in April too. The harvests which began in middle of April went on until the end of April. All the difficulties notwithstanding, the trial can be said to have proved an unqualified success. The area under the second crop included high level lands with good drainage where an early *aman* had been harvested before December, and also low level lands not so well drained and where the *aman* was harvested only towards the end of December.

Wherever the plantings had been done before the end of January in lands having drainage facilities irrespective of the levels, an acre-yield of 20 to 24 maunds of paddy has been harvested. Where the drainage was not good the yield had fluctuated between 15 to 18 maunds per acre. In fields where the crop was planted very late, say, end of February,



and with very old seedlings, the yield had varied from 8 to 12 maunds per acre. In one or two cases where the yield was less than 10 maunds, the guaranteed quantity, the cultivators concerned were convinced that such low yields were the result of their own fault and no claim for compensation could be made. The low yields in the late planted crop were mainly due to unsetting of the grain in the earheads, and also due to insect and cattle damage. The acre-yields mentioned above are those reported by the cultivators themselves and it could therefore be said most definitely that growing a second crop of rice is profitable to the cultivators.

**Economics of a Second Crop:** The economics of a second crop of rice under actual farmer's condition at Dighi where a block of seven acres was grown is given below :

	Rs.	A.
Preparing the land	...	30 0
Cost of raising nursery	...	10 0
Pulling and transplanting seedlings	...	15 0
Manure, 100 lb. of ammonium sulphate	...	16 8
Harvesting and threshing	...	16 8
Attending to irrigation	...	2 0
	Rs.	90 0

With an average yield of 17 maunds of paddy per acre in this area, the value of the grain would come to Rs. 128 at Rs. 7-8 a maund, leaving a net profit of Rs. 38 per acre. This does not take into consideration the value of over 20 maunds of paddy straw that had also been obtained. Even if the season was most favourable for a *mung* crop, the economics of the same could not advantageously be compared with those of rice. This block of land always used to lie fallow after *aman* rice being considered unfit even for *mung* cultivation.

While in the schedule of cost of cultivation given above all labour has been provided for, actually after the harvest of the rice crop in November-December there is not much work left for the cultivator, and the cattle he owns also remain idle. When he uses his cattle for the preparation of the field and works himself, the only extra expenditure he will have to incur will be for special labour connected with transplanting and harvesting the crop and also for buying the manure. Thus the return he will get will be very much more than is shown here, and the straw from the second crop provides fodder for his cattle at a time when there is general scarcity of fodder. Since the second crop of rice, if planted in time, will not require any irrigation after March, he will not



have to pay any additional water rate for the second crop. By adopting this practice the cultivator not only improves his condition by the extra return he gets for his labour but he also contributes his share to meet the great scarcity for rice existing in the country.

While this year the trial has been conducted by transplanting the crop, experiments at the Institute have shown that these short duration varieties will do just as well even if they are directly sown in the fields. Where there is any difficulty about raising a nursery in time, the fields can be puddled, properly levelled and the seed broadcast. This broadcasting can be adjusted anytime after December according to the variety he grows as first crop. Broadcasting will however not be a success if done later than the end of January.