

sensitive and is planted to mature when water recedes and soil begins to dry. We determined yield potential of Caribe 7 then sown on 15 Apr, 15 May, 15 Jun,

and 15 Jul.

Yield increased slightly from the Apr to Jun plantings, after which it decreased sharply (see table). Caribe 7

flowered between 13 and 25 Oct, when there were about 7 sunshine hours, irrespective of planting date. *ℓ*

### Response of lowland rice to zinc fertilizer

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We studied the effect of Zn sulfate on IR50 grain yield at TNRRI in Jun-Sep 1984. Soil was an alluvial clay loam (Adanur series) with 0.9 ppm available DTPA-extractable Zn, 35 meq cation

### Effect of Zn application on rice yield, Aduthurai, India.

Treatment (kg Zn/ha)	Grain yield (t/ha)
0	3.1
2.75	4.1
5.75	4.7
8.25	4.7
11	4.7
13.75	4.7
16.5	4.7
CD	0.2

exchange capacity, 100 g, and pH 6.9.

The experiment was in a randomized block design with three replications. Zn sulfate was incorporated at 0, 2.75, 5.75, 8.25, 11, 13.75, and 16.5 kg Zn/ha just before transplanting. Recommended NPK was applied.

Applying Zn significantly increased grain yield. IR50 responded up to 8.25 kg Zn/ha (see table). *ℓ*

## Rice-Based Cropping Systems

### Irrigated rice-based crop sequences for eastern Madhya Pradesh

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Rice is a major Jun-to-Oct crop in eastern Madhya Pradesh. Most land is fallow after rice, but some areas have assured irrigation. We evaluated different irrigated crops to follow rice in rabi (Nov-Apr) and summer (Mar-Jun) in 1981-82 and 1982-83 (Table 1,2). Soil was a clay loam. Medium-duration (125-130 d) Kranti and Asha were transplanted from Jul to mid-Aug. Rice received 80-23-25 kg NPK/ha and yielded 44.5 t/ha. Rabi crops were sown from mid-Nov to mid-Dec and harvested from mid-Mar to late Jun. Summer crops were planted from mid-Feb to mid-Mar and harvested from mid-May to mid-Jun. Fertilizer rates for rabi and summer crops are in the tables.

Cereals and vegetables also performed well. The study suggested that extending irrigation to the area could increase cropping intensity 200-300%. *ℓ*

**Table 1. Grain and green pod yield of rabi and Summer season crops following rice, 1982-83, Bilaspur, India.**

Crop sequence	Rabi				Summer			
	Fertilizer (kg/ha)			Yield (t/ha)	Fertilizer dose (kg/ha)			Yield (t/ha)
	N	P	K		N	P	K	
Rice -wheat - mungbean	100	22	24.9	3.3	20	17.6	16.6	0.9
Rice - gram - okra	20	13.2	16.6	2.5	50	11	20.75	7.7 <sup>a</sup>
Rice -mustard - mungbean	20	13.2	0	0.7	20	17.6	16.6	1.2
Rice - arhar - cowpea	60	8.8	16.6	1.1	20	17.6	16.6	5.2 <sup>a</sup>
Rice - safflower - cowpea	60	17.6	0	1.0	20	17.6	16.6	4.2 <sup>a</sup>
Rice - potato - mungbean	150	35.2	33.2	39.0	20	17.6	16.6	1.3
Rice - onion - mungbean	100	22	83	31.0	20	17.6	16.6	0.9
Rice - garlic - mungbean	100	22	83	6.2	20	17.6	16.6	1.2
Rice - chili (Jawla)	125	22	41.5	18.7	20	17.6	16.6	-
Rice - chili (Japanese longi)	125	22	41.5	10.3	20	17.6	16.6	-

<sup>a</sup> As green vegetable.

**Table 2. Grain yield of rabi season crops following rice, Bilaspur, India.**

Crop sequence	Fertilizer dose (kg/ha)			Yield (t/ha)	
	N	P	K	1981-82	1982-83
Rice - wheat	100	22	24.9	3.4	2.4
Rice - cotton	60	13.2	12.45	1.8	2.0
Rice - groundnut	20	13.2	16.6	2.4	3.0
Rice - maize	100	22	24.9	3.2	3.3
Rice - sorghum	80	17.6	24.9	1.9	2.6
Rice - black soybean	20	35.2	16.6	1.0	1.7
CD (0.05%)				0.5	0.6