

EFFECT OF DATE OF PLANTING ON THE DURATION AND GRAIN YIELD OF RICE CULTIVAR ALLIKKANNAN

The tall, local and season-bound rice cultivar Allikkannan having red, short and bold grain is popularly grown in the low-lying areas of the northern region of Kerala during the first crop season under rainfed conditions. Wherever rice is grown under transplanted conditions, the time of planting is not uniform and delayed from the first week of June to the end of July or the first week of August as it depends upon several factors like onset of monsoon, availability of water for puddling and availability of labourers for planting. Delay in planting had an adverse impact

on grain yield (Sarma *et al.*, 1979; Swamy *et al.*, 1982; Reddy and Roddy, 1986). However, such studies have not been attempted under humid climate where continuous downpour of rain, high relative humidity (90%), low bright sunshine (3-5 h day⁻¹) and pan evaporation (2-3 mm day⁻¹) are seen. Moreover, the effect of date of planting on the duration of rice cultivar like Allikkannan which is season-bound has not been studied. Keeping this in view, an attempt was made to study the effect of date of planting on the duration and grain yield of local rice cultivar Allikkannan.

Table 1. Date of planting and number of days required for maturity of rice cultivar Allikkannan

Date of Planting	No. of days required for maturity of crop					Mean
	1984	1985	1986	1987	1988	
8th June	141	140	152	147	142	144.4
22nd June	143	133	145	138	136	139.0
6th July	135	135	131	127	128	131.2
20th July	135	129	128	120	120	126.4
CD(0.05) =	6.19					

Table 2. Date of planting and grain yield (t ha⁻¹) of rice cultivar Allikkannan

Date of Planting	Grain yield					Mean
	1984	1985	1986	1987	1988	
8th June	2.59	4.40	4.39	3.40	3.50	3.66
22nd June	1.24	4.22	3.41	3.15	2.56	2.92
6th July	1.15	2.51	3.06	2.49	2.30	2.30
20th July	0.87	1.04	1.61	0.88	2.41	1.36
CD(0.05) =	0.78					

Field experiments were conducted at the Regional Agricultural Research Station, Piliicode during kharif season for a period of five years starting from 1984 to

1988. The soil of the experimental area was a sandy loam of moderate fertility. The local cultivar Allikkannan was transplanted on four different dates of

fortnightly intervals commencing from 8th June to 20th July. The age of seedling was uniform (25 days) in all the four plantings. The number of days required for maturity of crop at each planting date was worked out based on the date of sowing and harvest. The grain yield also was recorded. A simple RBD analysis was carried out to study the effect of date of planting on the duration and grain yield of Allikkannan, taking the date of planting as treatment and the year as replication.

The mean number of days required for maturity of crop (Table 1) showed that a drastic decline was noticed from the early to late planted crop. It varied from 144.4 to 126.4 days when planted on 8th June and 20th July respectively. The duration of crop varied from year to year and the difference (8 days in 1984 and 27 days in 1987) from the early to the late planting was not the same. This is possible because the maturity of crop depends not only on the season but also on the standing water in the field and the surface air temperature during the reproductive phase.

Table 2 gives the grain yield ($t\ ha^{-1}$) of local rice cultivar Allikkannan in different dates of planting. It can be seen that the grain yield was $3.66\ t\ ha^{-1}$ when planted on 8th June, followed by $2.92\ t\ ha^{-1}$ when

planted on 22nd June and the minimum ($1.36\ t\ ha^{-1}$) when planted on 20th July. The yield difference was significant at one per cent level. The overall grain yield was high during 1985 and 1986 while it was low in 1984. The low yield was attributed to high rainfall received during the early and flowering stages of crop.

A drastic decline in the number of days required for crop maturity and in the grain yield of local rice cultivar Allikkannan was noticed when the date of planting was delayed. The mean number of days required for crop maturity varied between 144.4 and 126.4 days when planted on 8th June and 20th July, respectively. The grain yield was high ($3.66\ t\ ha^{-1}$) when planted on 8th June and low ($1.36\ t\ ha^{-1}$) when planted on 20th July. Being a season-bound and grown only during the first crop season, the number of days required for crop maturity was less when the planting was delayed, thereby reducing the yield.

The author is grateful to the Associate Director, Regional Agricultural Research Station, Pilicode and the Director of Research, Kerala Agricultural University, Vellanikkara for providing necessary facilities to undertake this study.

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