

COMPARATIVE YIELD POTENTIAL OF COWPEA VARIETIES IN SUMMER RICE FALLOWES UNDER IRRIGATED CONDITIONS

The enhanced production of pulses in Kerala lies mainly in the increased coverage of newer areas with improved varieties. Summer rice fallows contribute about 40% of the total area under pulses in the state, the major share being contributed by cowpea. There is great scope for increasing the production of cowpea grain by introducing varieties with high yield potential and extending its cultivation to more areas under summer rice fallows both with and without irrigations. Santhakumari *et al.* (1980) reported that of the nine varieties of cowpea tried New Era and Ptb 1 (Kanakamani) were better suited to the sandy tract of Onattukara. With this background an investigation was undertaken at Agronomic Research Station, Chalakudy under the auspices of Command Area Research Centre to study the comparative performance of cowpea varieties under irrigated conditions in the summer rice fallows of Chalakudy Command.

The experiment was conducted for two years (1979-80 and 1980-1981) during the period from February to May and consisted of 14 varieties of 90 to 95 days duration (Table 1) and two replications, laid out in randomised block design. Lime at the rate of 250 kg/ha was applied basally at the time of first ploughing and a uniform fertilizer schedule of 20-30-10 kg/ha of N, P_2O_5 and K_2O was followed. Half the quantity of N, whole of P_2O_5 and K_2O were applied basally while the remaining N was applied 20 days after sowing. Uniform cultural and plant protection measures were adopted for all the varieties as per package of practices recommendations of Kerala Agricultural University (Anon, 1978). Irrigation was given uniformly once in 10 days to all the plots. Harvesting was done as and when the pods matured and the aggregate yield of grain obtained is presented in Table 1.

During 1979-80, Culture 1 recorded the highest yield and was on par with Copusa 2, Kanakamani and V 38. However, during 1980-81, the varieties New Era, Culture 1, HG 22, Kanakamani, C 152 and selection 1476 were all on par with New Era recording the highest yield. The pooled analysis of the data for the two years of study indicated that Culture 1 with 979 kg grain/ha gave the highest grain yield and was followed by Kanakamani with 821 kg grain/ha. However, they were on par with New Era, HG 22, Copusa 2 and V 38.

It can be seen that the performances of Culture 1 and Kanakamani were consistently better in both the years of study. Pooled data also indicated superiority of these. Besides, Culture 1 recorded a 19% increase in yield over Kanakamani. In view of these results, Culture 1 can also be suggested for cultivation in the rice fallows of Kerala under irrigated conditions.

The authors are thankful to Sri. T. F. Kuriakose, Project Co-ordinator (Rice) and Dr. G. R. Pillai, Professor, of Agronomy for technical guidance and facilities

provided. The help rendered by Sri, V. D. Thulasidas and Sri, M. K. Vijayan, Farm Assistants in conducting the experiment is also acknowledged-

Table 1
Grain yield (kg/ha) of cowpea varieties

Sl. No.	Variety	Grain yield (kg/ha)		
		1979-'80	1980-'81	Pooled mean
1	Culture 1	1308	649	979
2	Copusa 2	1246	262	754
3	Kanakamani	1055	586	821
4	V 38	1047	401	724
5	HG 22	954	604	779
6	New Era	934	691	814
7	5-8-22	902	248	575
8	CM 11	868	335	602
9	Calicut 51	800	212	506
10	V 37	576	192	384
11	Selection 1476	541	450	496
12	C 152	455	483	469
13	CG 69	404	153	278
14	V 16	377	183	280
C. D. (0.05)		291	244	366
SEm \pm		95	80	128

സംഗ്രഹം

വേനൽക്കാലത്തു നെൽവയലുകളിൽ ജലസേചിതവിളയായി കൃഷി ചെയ്യാൻ പറ്റിയ വൻപയറിനങ്ങളെ സംബന്ധിച്ചു ചാലക്കുടി അഗ്രോണമിക് ഗവേഷണ കേന്ദ്രത്തിൽ 1979-'81 കാലയളവിൽ നടത്തിയ പരീക്ഷണങ്ങളിൽ നിന്നും കരച്ചർ-1 go കനകമണിയും തുടർച്ചയായി മെച്ചപ്പെട്ട വിളവു നൽകുന്നതായി കണ്ടു.

Command Area Research Centre
Vellanikkara 680654, Trichur

Jose Mathew
Kuruvilla Varghese
K. N. Balakumaran
A. I. Thomas

References

Anonymous 1973. Package of practices Recommendations, Kerala Agricultural University, 31-33

Santhakumari. S., Sasidharan N. K. Kurup, A. E. S. 1980. Performance of cowpea varieties in the sandy loam rice fallows during third crop season. *Agric. Res. J. Kerala* 18 (1): 90-91