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SCREENING OF COWPEA VARIETIES FOR THE RICE FALLOWS

Among the cultivated grain legumes in Kerala, cowpea occupies an important place. It is grown in an area of 14,600 ha., out of the total area of 37,490 ha in Kerala grown under pulses. The average yield of cowpea however is only 250 kg/ha as against the all india average of 500 kg/ha. Shy bearing nature of the varieties is the important constraint to increased production of cowpea in the State. Identification of high yielding varieties, therefore, assumes great importance, especially for the single and double crop paddy fields, where there is good potential for raising a crop of cowpea after the harvest of rice. The present study was therefore undertaken during the third crop (December—March) season of 1976—77 with the object of screening varieties suitable for cultivation in the rice fallows. Nine cowpea varieties were selected for the study (Table 1). They were replicated four times in a Randomised Block Design. The experimental field was a moderately fertile lateritic sandy loam. A uniform dose of lime (500 kg Ca O/ha) phosphorus (30 kg P_2O_5 /ha) and potash (10 kg K_2O /ha) were applied and incorporated as basal dressing. Cowpea seeds were dibbled at a spacing of 15 cm x 25 cm with 3—4 seeds/hole. The gross plot size was 1.5 m x 4.0 m. Ten days after germination of seeds the crop was thinned to 2 seedlings/hole, to ensure uniform stand. Nitrogen was top dressed at 20 kg/ha, 30 days after sowing when the crop was earthed up. The soil of the experimental field was kept under 50% field capacity by judicious irrigation.

One variety viz 'Pusa barsathi' was trailed on stakes, while all others were erect and bushy in plant architecture. The flowering duration (Table 1) of the varieties ranged from 42 days as in P. 118 to 57 days as in Culture. 1 'Pusa phalguni' and 'C. 152' had the highest number of fruiting branches/plant (4.5) while the local choice Calicut 51 had the least number of 2.75/plant. 'Pusa phalguni' had also the largest number of pods per plant but it was inferior to 'C. 152' in this number of seeds per pod. 'Pusa barsathi' was relatively superior to the others in the production of number of seeds per pod, but it had only 3 fruiting branches per plant. Ptb. 1, the first released cowpea variety in Kerala recorded 17 grains/pod. The variety to exhibit the maximum test weight of grains was P 118. (146.67 g/1000 grain). 'C. 152' with an yield potential of 2216 kg/ha topped the list of varieties in grain production. It was however on par with 'New Era' 'Ptb 1', and 'P 118', producing 2121 kg, 2076 kg and 1900 kg of grain/ha respectively. The rest of the varieties registered yields significantly lower than those of the above varieties.

Table 1 Grain yield and yield attributes of Cowpea varieties grown in rice fallows

Variety	Habit	50% flowering duration (days)	No. of fruiting branches per plant	No. of pods per plant	No. of grain per pod	Length of pod (cm)	1000 grain weight	Yield of grain (kg/ha)
P. 118	bushy erect	42	3.25	4.75	12.75	17.1	146.67	1900
Pusa phalguni	„	43	4.50	9.00	12.75	14.5	75.38	1298
Pusa dofasli	„	46	4.00	7.25	14.25	15.9	73.87	1410
Kunnamkulam (Ptb. 1)	„	48	3.25	4.50	17.00	18.4	105.07	2076
C. 152	„	49	4.50	6.50	15.75	16.0	82.32	2216
New Era	„	48	3.25	5.25	18.00	17.7	102.02	2121
Pusa barsathi	trailing	58	3.00	5.75	17.50	28.3	97.64	1080
Culture—1	bushy	57	3.50	5.25	13.25	20.1	123.69	1213
Culture—51	„	52	2.75	4.5	14.25	20.8	110.23	1168
C. D. (0.05)			0.87	1.09	0.25	4.11	23.76	500

The study indicates clearly that 'C. 152', 'New Era', 'Ptb. 1' and 'P. 118' can be successfully grown in the rice fallows during the third crop season.

സംഗ്രഹം

നെൽവിളയ്ക്കുശേഷം പാടങ്ങളിൽ കൃഷിചെയ്യുവാൻ ഏറ്റവും അനുയോജ്യമായ പയർ ഇനങ്ങൾ കണ്ടെത്തുന്നതിനു പട്ടാമ്പി നെൽ ഗവേഷണ കേന്ദ്രത്തിൽ നടത്തിയ പരീക്ഷണങ്ങളിൽ, സി. 152, ന്യൂഇരാ, പിടിബി 1, പി. 118 എന്നീയിനങ്ങൾ മുണ്ടക വിളക്കുശേഷം നെൽവയലുകളിൽ വിജയകരമായി കൃഷിയിറക്കാമെന്നു കണ്ടു.

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