

EFFECT OF PHASED OCTOBER PLANTINGS AND PLANT DENSITY ON GROWTH AND YIELD OF CABBAGE VAR. GOLDEN ACRE

Time of planting and plant population are major factors influencing plant growth and head formation in cabbages (Nieuwhof, 1969). An experiment was carried out at the Horticultural Research Station, Ambalavayal, during September 1979 to January 1980 to study the performance of the short duration cabbage variety, 'golden acre' as influenced by different October plantings and density of planting. Nine treatment combinations with three planting dates (T_1 =early October, T_2 =mid October and T_3 =late October) and three spacings (S_1 =40cm x 40cm, S_2 = 50 cm x 50 cm and S_3 = 60 cm x 60 cm) were tried in Randomised block design of lay out and replicated three times.

The mean number of days taken for 50 per cent heading ranged from 55 to 60 days and this was not regulated either by the time of planting or by spacing (Table 1). The length of stalk was found to be affected by the date of planting as well as the spacing. Planting in early October produced stalks of mean length 7.00cm and this was significant to the stalks of late October planting (4.67 cm.) and the wider spacing of 60 x 60 cm produced stalks of mean length 6.67 cm which was significantly higher than the stalks from 50 x 50 cm spacing (5.3 cm). The mean number of non-wrapper leaves was also markedly affected by the time of planting. A mean of 10 non-wrapper leaves was noticed in early planted ones while in the later plantings, 7.33 and 6.67 leaves only were observed. The leaf shape index (ratio of maximum length to breadth of non-wrapper leaves) was not affected by the planting date or by the plant population. The mean gross and net weights of head under wider spacing of 60 x 60 cm were 1 480 g and 920 g respectively. The yield of cabbage per plot of size 1.5 x 1.5 m was maximum under closer spacing of 40 x 40 cm (8.67 kg) and this was significantly better than under wider spacings.

Aswathi *et al*, (1976) reported that seedlings of the cabbage variety 'golden acre' performed better in late plantings. Adopting very wider spacings decreased total yield of cabbage, but the heads were of larger size and better quality (Saimbhi *et al.*, 1971). The results of the present study is in agreement with these observations.

സംഗ്രഹം

തൈകരം നടുന്നതിനുള്ള സമയം, അകലം എന്നിവ ഗോരംഡൻ ഏക്കർ എന്ന കാബേജിനത്തിന്റെ ഉൽപാദനത്തെ എങ്ങനെ സ്വാധീനിക്കുമെന്നു പഠിക്കാൻ ഒരു പരീക്ഷണം, അമ്പലവയൽ ഹോട്ടിക്കൽച്ചാൽ ഗവേഷണകേന്ദ്രത്തിൽ 1979 സെപ്തംബർ മുതൽ 1980 ജനുവരി വരെ നടത്തുകയുണ്ടായി. *raaaroa* വെട്ടിയിൽനിന്നുമുള്ള കാബേജിന്റെ വിളവ് 60x60 സെ. മീറ്റർ അകലത്തിൽ പഠിച്ചുനട്ടപ്പോൾ കൂടുതലായി കാണപ്പെട്ടു. എന്നാൽ ഒരു പ്ലോട്ടിൽ *rolrn* ആകെയുള്ള കാബേജിന്റെ വിളവ് 40x40 സെ. മീറ്റർ അകലത്തിൽ നിന്നാണ് കിട്ടിയത്. വിൽപനക്ക് അനുയോജ്യമായ കാബേജിന്റെ ശതമാനം തൈകരം നട്ടസമയത്താൽ സ്വാധീനിക്കപ്പെട്ടതായി കണ്ടില്ല.

Table I

Effect of time of planting and planting distance on growth and yield attributes in cabbage var. Golden acre

		Time of planting															
		Days from sowing to 50 per cent heading				Length of stalk (cm)				Non-wrapper leaves				Leaf shape index (Max. length/Max.breadth)			
		T ₁	T ₂	T ₃	Mean	T ₁	T ₂	T ₃	Mean	T ₁	T ₂	T ₃	Mean	T ₁	T ₂	T ₃	Mean
Spacing	S ₁	56	56	55	55.67	7	5	5	5.67	8	7	6	7.00	1.12	1.03	1.20	1.12
	S ₂	60	58	50	56.00	6	6	4	5.33	10	8	7	8.33	1.17	1.05	1.09	1.10
	S ₃	62	54	52	56.00	8	7	5	6.67	12	7	7	8.67	1.19	1.11	1.14	1.15
Mean		59.33	56.00	52.33	—	7.00	6.00	4.67	—	10.00	7.33	6.67	—	1.16	1.06	1.14	—
CD (0.05; Time		—				0.78				1.46				—			
Spacing		—				1.25				—				—			
Interaction		—				—				—				—			
		Gross weight of head (g)				Net weight of head (g)				Marketable head (%)				Yield of cabbage/plot (kg)			
		T ₁	T ₂	T ₃	Mean	T ₁	T ₂	T ₃	Mean	T ₁	T ₂	T ₃	Mean	T ₁	T ₂	T ₃	Mean
Spacing	S ₁	840	870	800	836.67	510	625	490	541.67	88	94	92	91.33	8.16	10.00	7.84	8.67
	S ₂	900	1200	890	996.67	575	710	530	605.00	86	96	91	91.00	5.18	6.39	4.77	5.45
	S ₃	1490	1500	1450	1480.00	900	920	940	920.00	92	98	94	94.67	3.60	3.68	3.76	3.68
Mean		1076.67	1190.00	1046.67	—	661.67	751.67	653.33	—	88.66	96.00	92.33	—	5.65	6.69	5.46	—
CD (0.05)Time		—				—				—				—			
Spacing		146.67				96.55				—				1.44			
Interaction		—				—				—				—			

References

- Aswathi, D.N., Joshi, S. and Ghildiyal, P. C. 1976. Evaluation of proper transplanting time for cabbage (*Brassica oleracea* var. *capitata*) *Prog. Hort.* 7, 61-64.
- Nieuwhof, M. 1969. *Cote Crops*. Leonard Hill Ltd., London, 26-32.
- Saimbhi, M. S., Singh, K. and Padda, D. S. 1971. Studies on methods of planting and plant population in relation to firmness and yield of cabbage. *Haryana Agric. Univ. J. Res.*, 1,13-16.

Horticultural Research Station,
Ambalavayal 673 593, Kerala.

K. VASANTHA KUMAR
G. INDRASENAN
K. GOPIKUMAR
P. P. BALASUBRAMANIYAN

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