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 ($S_1 = 40 cmx$ 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). 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 ai*, (1976) reported that seedlings of the cabbage variety 'golden acre petformed 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 കാബേജി നത്തിൻറ ഉൽപാദനത്തെ എങ്ങനെ സാാധീനിക്കുമെന്നു പഠിക്കാൻ ഒരു പരീക്ഷണം, അമ്പല വയൽ ഹോട്ടിക്കൽച്ചറൽ ഗവേഷണകേന്ദ്രത്തിൽ 1979 സെപ്തംബർ മുതൽ 1980 ജനു വരി വരെ നടത്തുകയുണ്ടായി.raaaroaചെട്ടിയിൽനിന്നുമുള്ള കാബേജിൻേറ വിളവ് 60x60 സെ. മീററർ അകലത്തിൽ പറിച്ചുനട്ടപ്പോരം കൂടുതലായി കാണപ്പെട്ടു. എന്നാൽ ഒരു പ്ളോട്ടിൽ rolrrn" ആകെയുള്ള കാബേജിൻറ വിളവ് 40x40 സെ. മീററർ അകലത്തിൽ നിന്നാണ് കിട്ടിയത്. വിൽപനക്ക് അന്ദയോജ്യമായ കാബേജിൻറ ശതമാനം തൈകരം നടുസമയത്താൽ സാാധീനിക്കപ്പെട്ടതായി കണ്ടില്ല.

Table I

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

Golden acre

Days f		91			11.11	Ti	me of	nlanting		104 8			THE STATE OF	Act of			
Days f			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		1					-	T ₂	T ₃			T ₁	T ₂	T ₃	Mean 1.12
60	58	50	56.00	6	6	4	5.	33	10	8	7	8	3.33	1.17	1.05	1.09	1.10
59.33			56.00			.00 4				7.33	6.6			1.16	1.06	1.14	-
cing	=											Conflict ng					
Gr	oss we	eight of	head	(g)	Net	weight	of he	ead (g)	Ν	/larke	table	head	d (%)	Yield	of cab	bage/p	lot (kg)
T ₁ 840 900 1490		80	00 90	836.67 996.67	575		53	541.6 605,	67 8 00 8	8 9 36	94 96	T ₃ 92 91 94	91.3 91,0	33 8.16 00 5.18	6 10 6 6	.00 7.8 .39 4.7	Mean 4 8.67 7 5.45 6 3.68
ne ng 1	-	00 104	16.67		661.6	-		3.33 —	- 88	3.66	96.00 — —	92.	33 —	5.65		-	16 —
	T ₁ 56 60 62 59.33 ime cing ction Gr T ₁ 840 900 1490 1076,67	T ₁ T ₂ 56 56 60 58 62 54 59.33 56.00 time — cing — cing — ction — Gross we T ₁ T ₂ 840 870 900 1200 1490 1500 1076,67 1190. ne — ng 146.67	T ₁ T ₂ T ₃ 56 56 55 60 58 50 62 54 52 59.33 56.00 52.33 time — cing — cing — ction — Gross weight of T ₁ T ₂ T 840 870 86 900 1200 8 1490 1500 14 1076,67 1190.00 104 ne — ng 146.67	T ₁ T ₂ T ₃ Mean 56 56 56 55 55.67 60 58 50 56.00 62 54 52 56.00 59.33 56.00 52.33 — Time — cing — ction — Gross weight of head 57 840 870 800 900 1200 890 1490 1500 1450 1076,67 1190.00 1046.67 ne — ng 146.67	T ₁ T ₂ T ₃ Mean T ₁ 56 56 55 55.67 7 60 58 50 56.00 6 62 54 52 56.00 8 59.33 56.00 52.33 — 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 840 870 800 836.67 900 1200 890 996.67 1490 1500 1450 1480.00 1076,67 1190.00 1046.67 — ne — ng 146.67	T ₁ T ₂ T ₃ Mean T ₁ T ₃ 56 56 55 55.67 7 5 560 58 50 56.00 6 66 62 54 52 56.00 8 7 59.33 56.00 52.33 — 7.00 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	T ₁ T ₂ T ₃ Mean T ₁ T ₂ T ₃ 56 56 55 55.67 7 5 5 60 58 50 56.00 6 6 4 62 54 52 56.00 8 7 5 59.33 56.00 52.33 — 7.00 6.00 4 6ime — 0.78 ction — 1.25 ction — 1.25 Gross weight of head (g) Net weight T ₁ T ₂ T ₃ Mean T ₁ T ₂ 840 870 800 836.67 510 625 900 1200 890 996.67 575 710 1490 1500 1450 1480.00 900 920 1076,67 1190.00 1046.67 — 661.67 751. 10 — 10 — 1190.00 1046.67 — 661.67 751. 10 — 1190.00 1046.67 — 661.67 751. 1190.00 1046.67 — 661.67 751. 1190.00 1046.67 — 661.67 751. 1190.00 1046.67 — 661.67 751.	T ₁ T ₂ T ₃ Mean T ₁ T ₂ T ₃ Me 56 56 55 55.67 7 5 5 5.60 60 58 50 56.00 6 6 4 5.60 62 54 52 56.00 8 7 5 6.60 59.33 56.00 52.33 — 7.00 6.00 4.67 — 7.00 cing — 0.78 1.25 — 7.00 ction — 1.25 — 7.00 Cross weight of head (g) Net weight of head (g) Net weight of head (g) 1.25 — 7.00 1.25 — 7.00 6.00 8.00 8.00 1.25 — 7.00 6.00 8.00 8.00 1.25 — 7.00 6.00 8.00 8.00 1.25 — 7.00 6.00 8.00 8.00 8.00 1.25 — 7.00 6.00 8.00 8.00 8.00 8.00 8.00 8.00 8	T ₁ T ₂ T ₃ Mean T ₁ T ₂ T ₃ Mean 56 56 55 55.67 7 5 5 5.67 60 58 50 56.00 6 6 4 5.33 62 54 52 56.00 8 7 5 6.67 59.33 56.00 52.33 — 7.00 6.00 4.67 — 1 cime — 0.78 cing — 1.25 cition — 1.25 cit	T ₁ T ₂ T ₃ Mean T ₁ T ₂ T ₃ Mean T ₁ 56 56 55 55.67 7 5 5 5.67 8 60 58 50 56.00 6 6 4 5.33 10 62 54 52 56.00 8 7 5 6.67 12 59.33 56.00 52.33 — 7.00 6.00 4.67 — 10.00 7 me — 0.78 cing — 1.25 ction — T ₁ T ₂ T ₃ Mean T ₁ T ₂ T ₃ Mean T 840 870 800 836.67 510 625 490 541.67 8 900 1200 890 996.67 575 710 530 605,00 8 1490 1500 1450 1480.00 900 920 940 920.00 9 1076,67 1190.00 1046.67 — 661.67 751.67 653.33 — 86 149 — 196,55	T ₁ T ₂ T ₃ Mean T ₁ T ₂ T ₃ Mean T ₁ T ₂ 56 56 55 55.67 7 5 5 5.67 8 7 60 58 50 56.00 6 6 4 5.33 10 8 62 54 52 56.00 8 7 5 6.67 12 7 59.33 56.00 52.33 — 7.00 6.00 4.67 — 10.00 7.33 time — 0.78 1.46 cing — 1.25 — 1.25 ction — T ₁ T ₂ T ₃ Mean T ₁ T ₂ T ₃ Mean T ₁ 840 870 800 836.67 510 625 490 541.67 88 9 1490 1500 1450 1480.00 900 920 940 920.00 92 1076,67 1190.00 1046.67 — 661.67 751.67 653.33 — 88.66	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	T ₁ T ₂ T ₃ Mean T ₁ T	T ₁ T ₂ T ₃ Mean 56 56 55 55.67 7 5 5 5 5.67 8 7 6 7.00 60 58 50 56.00 6 6 4 5.33 10 8 7 8.33 62 54 52 56.00 8 7 5 6.67 12 7 7 8.67 59.33 56.00 52.33 — 7.00 6.00 4.67 — 10.00 7.33 6.67 — 1.46 cing — 0.78 1.46 1.25 — 1.2	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	T ₁ T ₂ T ₃ Mean T ₁ T

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(M S Received: 28-1-1980)