Ass. Univ. Bull. Environ. Res. Vol. 11 No. 2, October 2008

AUCES

EFFECT OF PLANTING DATES ON YIELD AND QUALITY OF TWO CANTALOUPE HYBRIDS UNDER ASSIUT CONDITIONS

Refai, E. F. S.*; M. H. Hosseny** and A. S. Badawy*

***Hort. Res. Institute A.R.C. Giza, Egypt**

****Hort. Dept., Faculty of Agriculture, Sohag University**

ABSTRACT:

The effect of five planting dates i.e., June 15th, July 1st, July 15th, August 1st and August 15th on growth and yield of two cantaloupe (*Cucumis melo* var. cantaloupensis) hybrids ("Rafegal(c-8)" and "Galia") was studied under Assiut conditions in this investigation. The results indicated that there are no significant differences between cantaloupe hybrids in flowering. "Rafegal(c-8)" hybrid was better than "Galia" in producing total yield, early yield and marketable yield. In addition, fruit of "Rafegal(c-8)" had higher total soluble solids and total sugar content. There were highly significant differences among the five planting dates while, the planting date on July 15th was the best than the other planting dates for most of studied characters. In spite of significant interactions, "Rafegal(c-8)" hybrids still remaining superior to "Galia" and planting on July 15th is the best among other dates for most studied parameters.

INTRODUCTION:

Cantaloupe is a member of the Cucurbitaceae family that includes watermelon, squashes, pumpkin, gourd, and cucumber. It is one of the most important crops for exportation in Egypt. Cantaloupe with its refreshingly rich flavor and odor and minimum number of calories, is the most popular form of melons. It is an excellent source of vitamin C. Cantaloupe is also referred to as a netted melon because it has a ribless rind with a distinctive netted skin.

The temperature is one of the major factors affecting plant growth, flowering, fruiting and crop quality of crops. High temperatures cause increased respiration, sometimes above the rate of photosynthesis. This means that the products of photosynthesis are being used more rapidly than they are being produced. For growth to occur, photosynthesis must be greater than respiration.

Various studies have been published in diverse locations evaluating the performance of various melons planted on different planting dates in Korea (Lee *et al*., 1998), Jamaica (McGlashan and Fielding, 1990), Texas (Bruton *et al*., 1985), and India (Nandpuri and Lai, 1978). The conclusions reached are specific to those regions because of genotype/environment interactions that modify plant growth to unique climatic conditions. Amuyunzu *et al.* (1997) found that variation among the cultigens both between and within temperature regimes was

significant for most of vegetative growth. Mohamed and Mohamed (1987) used cv. Mullah Ahmed that was sown on three dates (1, 15 and 30 March) in 1984 and 1985 at 3 plant densities (30, 40 and 50 cm between plants). The highest total yield in both years was obtained by planting on 1 March at 40 cm spacing. Baker and Reddy (2001), growing on six planting dates (from March to June) found that main vine plastochron interval was significantly affected by both cultivar and transplanting date. Final yield was sharply reduced in the last two planting dates, presumably due to high temperature stress impairing reproductive development. As air temperatures increased during the field experiment, the time interval from transplanting to 10% final harvest was reduced by 21 to 28 d among the three cultivars and the first four transplanting dates. Main vine node number was a useful descriptor of vegetative development for muskmelon. Russo *et al.* (2002) found that various members of the cucurbit crops exhibit differences in plant development and these may be affected by environmental factors. Plants from the June planting had a longer primary runner, more leaves with a greater leaf area and dry weight, and higher above ground vegetative and total plant dry weights. Leaf area, leaf dry weight, total above ground vegetative and total plant dry weight was still increasing at harvest of the first fruit. The data describe a model for melon development. However, it is expected that changes in cultivars, cultural methods, or environmental conditions can affect development and, in turn, the size and quality of fruit. Dufault *et al.* (2006) conducted a study to determine if early (February) transplanted melons or later (June through July) planting dates are effective in extending the production season of acceptable yields with good internal quality of the melon cultivars Athena, Eclipse, and Sugar Bowl and Tesoro Dulce (a honeydew melon). Comparing the marketable number of melons produced per plot (averaged over cultivar) of the standard planting dates of 12 and 26 March. indicated decreases of 21%, 32%, 36%, 36%, 57%, 57%, and 54%, respectively with the planting dates of 9 and 23 April, 7 and 21 May, 4 and 18 June, and 2 July. The earliest recommended planting date with acceptable yield and good internal quality was March 12th for all cultivars.

The objective of this study was to detected suitable planting date to obtain high yield and quality of cantaloupe produced under Assiut conditions.

MATERIALS AND METHODS:

The experiment was carried out at Assiut station, Arab El-Awammer during the summer seasons 2005 and 2006. Two melon hybrids (*Cucumis melon* var. cantaloupe) "Galia" and "Rafegal(c-8)" were used in this investigation. The seeds were sown on five dates i.e., June 15th, July 1st, July 15th, August 1st and August 15th and the growing season temperature (maximum and minimum) during are shown in Figures (1&2). The treatments ware arranged in split-plot design with two cantaloupe hybrids as main plot, while the date of planting as sub-plot factor. The experiments had four replicates, each consisting of three rows, each row was 5 m long and 1.5 m wide. Planting spaced 50 cm a part. The system of watering was drip irrigation. All agriculture practices i.e., sowing, irrigation, fertilization, insects and diseases control for growing cantaloupe was performed as recommended (Lee *et al*., 1988).

Data were collected as follows:

1-Flowering:

Five plants were chosen for every hybrid from each replicate to determine the number of days for appearance the first female flower.

2-Yield and yield components traits:

Early, marketable and total yield weight and number of yield ware calculated for each hybrid.

3-Fruit traits:

From each harvested five fruit from each replicate at every hybrid taken for measurement, fruit diameter (cm), fruit length (cm) and fruit flash thickness (cm).

4-Chemical characters:

Total soluble solids and percent of total sugar were determined according to Ranganna (1977).

Statistical analysis:

All obtained data were subjected to statistical analysis of variances and we used F test for cantaloupe hybrids, and the least significant differences (L.S.D) for planting dates and interactions at 0.05 level of probability were calculated as mentioned by Gomez and Gomez (1984).

RESULTS:

1-Flowering:

Number of days to first female flower anthesis:

Data in Tables (1&2) and Figures (3-6) for effect of planting date on two cantaloupe hybrids for number of days to first female anthesis, indicated that there were flowering of the no significant differences between cantaloupe hybrids in this trait. There are highly significant differences among the five dates of planting in this trait in both seasons. The lowest values of number of days to first female flower anthesis were obtained from dates 15 of July in both seasons. The interactions between the cantaloupe hybrids and planting dates indicated there are highly significant differences for number of days to first female flower anthesis trait. The highest values obtained when "Rafegal(c-8)" hybrids sowing in 15 August while the lowest value was obtained when "Galia" hybrid sown in 15 August.

2-Yield and components traits:

A-Early yield:

The effect of planting dates on two cantaloupe hybrids is presented in Tables (1&2) and Figures (3-6) for seasons 2005 and 2006 respectively. The results showed that there are significant differences between the two hybrids for early yield (number and weight fruits) character. Gave "Rafegal(c-8)" highest value of total yield than "Galia". Date 15 of July was the best planting dates for total yield and significantly higher than other planting dates in both seasons. The interactions between planting dates and cantaloupe hybrids for early yield presented that there were highly significant differences for this trait in both seasons. The results indicated that "Rafegal(c-8)" hybrid gave the highest values of early yield when planted in 15 of July in both seasons. While the lowest values were determined when "Galia" was planted in 15 of August.

B-Marketable yield:

The results in Tables (1&2) and Figures (3-6) indicated that there were highly significant differences for cantaloupe hybrids, planting dates and the interaction between hybrids and planting dates for this trait in both seasons.

"Rafegal(c-8)" and planting date 15 of July were the best for this trait.

C-Total yield:

The same trend in this trait was similar with total yield character

3-Fruit traits:

A-Fruit diameter (cm):

Data in Tables (3&4) and Figures (3-6) for effect of planting date on two cantaloupe hybrids indicated that there are highly significant differences between cantaloupe hybrids in this trait. The Fruit diameter "Rafegal(c-8)" hybrid was greater than "Galia" in both seasons. There are no significant differences in both seasons between the five dates of planting seeds and also in the interactions between hybrids and planting dates in this trait.

B-Fruit length (cm):

The effect of planting dates on two cantaloupe hybrids for fruit length characters is shown in Tables (3&4) and Figures (3-6) indicate that there was significant difference between the two hybrids and "Galia" gave higher values in both seasons. The planting date of July 15th gave the highest fruit length and was significantly than other planting dates in both seasons. There was significant different between planting dates, the date show, the planting date of July 15th in both seasons gave the highest value of fruit length than the other planting dates. This value for length of fruits was significant than the other values to other planting dates under studies for this trait. On the other hand, the significant differences between sowing date and cantaloupe hybrids in this trait. The interaction between "Rafegal(c-8)" and date 15 July gave the highest value of fruit length in the first season but in the second season the interaction when "Galia" sowing in 15 July gave the highest value but there are no significant between it and interaction ("Rafegal(c-8)" x 15 of July date).

C-Flesh thickness trait:

Data in both Tables (1&2) and Figures (3-6) indicated that there were no significant between cantaloupe hybrids in this trait. Also, there were no significant for both planting dates and interactions between them for flesh thickness.

4-Chemical Characters :

A-Total soluble solids (T.S.S):

There are highly significant between cantaloupe hybrids and percentage of total soluble solids was high in "Rafegal(c-8)" than "Galia" [Tables (3&4) and Figures (3-6)]. Planting date in 15 of July gave the highest values for this trait in both seasons. Also the results of the interactions showed planting "Rafegal(c-8)" in 15 of July was the best for total soluble solids (T.S.S).

B-Total sugar content:

The same trend in this trait was similar with total soluble solids character.

Table (1): Effect of planting dates on yield characters for two hybrids of cantaloupe in season 2005 under Assiut conditions

Hybrids	Date of planting	Early flowering (day)	Early (yield/fed.)		Total (yield/fed.)		Marketable (yield/fed.)	
			Number of fruit	Wieght (ton)	Number of fruit	Wieght (ton)	Number of fruit	Wieght (ton)
Galia		31.60	4303.4	3.784	12058.8	10.70	11565.8	10.21
Rafegal(c-8)		32.10	4645.8	4.132	13163.8	11.71	12683.2	11.19
F – test		Ns	**	*	**	**	**	**
	15/6	32.88	3652.5	3.270	12873.4	11.59	12400.5	11.10
	1/7	31.63	4367.0	3.930	13361.5	12.03	12847.5	11.56
	15/7	30.25	5375.5	4.910	14013.5	12.83	13505.0	12.11
	1/8	32.88	4521.5	3.915	11902.0	10.36	11412.5	9.88
	15/8	31.63	4456.5	3.765	10906.1	9.22	10457.0	8.84
L.S.D 0.05		1.12	170.7	0.182	43.3	0.09	22.6	0.20
	15/6	33.50	3483.0	3.100	12524.8	11.28	12079.0	10.75
	1/7	32.50	3767.0	3.390	13056.0	11.75	12417.0	11.18
Galia	15/7	30.00	5055.0	4.600	13516.0	12.30	12934.0	11.77
	1/8	32.50	4593.0	3.950	11126.0	9.68	10756.0	9.25
	15/8	29.50	4619.0	3.880	10071.3	8.48	9643.0	8.10
	15/6	32.25	3822.0	3.440	13222.0	11.90	12722.0	11.45
	1/7	30.75	4967.0	4.470	13667.0	12.30	13278.0	11.95
Rafegal(c-8)	15/7	30.50	5696.0	5.220	14511.0	13.35	14076.0	12.45
	1/8	33.25	4450.0	3.880	12678.0	11.03	12069.0	10.50
	15/8	33.75	4294.0	3.650	11741.0	9.97	11271.0	9.58
L.S.D 0.05		1.58	241.3	0.258	61.2	0.13	31.9	0.28

*Means differing by more than this amount differ significantly at p= 0.05

Table (2): Effect of planting dates on yield for two hybrids of cantaloupe in season 2006 under Assiut conditions

Hybrids	Date of planting	Early flowering (day)	Early (yield/fed.)		Total (yield/fed.)		Marketable (yield /fed.)	
			Number of fruit	Wieght (ton)	Number of fruit	Wieght (ton)	Number of fruit	Weight (ton)
Galia		31.70	4534.1	3.835	12561.3	11.13	12072.6	10.45
Rafegal(c-8)		32.20	4974.7	4.457	13497.2	12.06	13063.2	11.68
F–test		Ns	**	**	**	**	**	**
	15/6	32.75	3890.1	3.440	13199.0	11.82	12736.0	11.40
	1/7	31.63	4505.5	4.055	13738.5	12.37	13208.5	11.89
	15/7	30.63	5818.5	5.294	14604.0	13.29	14169.5	12.40
	1/8	33.00	5170.5	4.210	12493.3	10.96	11967.0	10.48
	15/8	31.75	4387.3	3.730	11111.5	9.56	10758.5	9.15
L.S.D 0.05			65.9	0.098	26.1	0.19	15.4	0.02
	15/6	33.50	3674.0	3.270	12865.0	11.45	12416.0	11.05
	1/7	32.50	3844.0	3.460	13444.0	12.10	12889.0	11.60
Galia	15/7	30.50	5278.0	4.738	14056.0	12.65	13556.0	11.20
	1/8	32.50	5457.5	3.995	11846.5	10.33	11264.0	9.80
	15/8	29.50	4417.0	3.710	10595.0	9.13	10238.0	8.60
	15/6	32.00	4106.3	3.610	13533.0	12.18	13056.0	11.75
	1/7	30.75	5167.0	4.650	14033.0	12.63	13528.0	12.18
Rafegal(c-8)	15/7	30.75	6359.0	5.850	15152.0	13.92	14783.0	13.60
	1/8	33.50	4883.5	4.425	13140.0	11.59	12670.0	11.15
	15/8	43.00	4357.5	3.750	11628.0	10.00	11279.0	9.70
L.S.D 0.05		1.07	93.2	0.139	37.0	0.26	21.8	0.03

*Means differing by more than this amount differ significantly at p= 0.05

Table (3): Effect of planting dates on quality characters for two hybrids of cantaloupe in season 2005 under Assiut conditions

Hybrids	Date of planting	Fruit diameter (cm)	Fruit length (cm)	Total soluble solids (T.S.S)	Total suger content (%)
Galia		10.25	10.64	9.54	10.48
Rafegal(c-8)		9.42	9.99	11.28	12.59
F-Test		*	**	**	**
	15/6	9.81	10.24	8.77	8.76
	1/7	9.91	10.05	10.00	10.84
	15/7	9.80	11.23	12.14	14.70
	1/8	9.92	10.34	10.95	12.90
	15/8	9.82	9.71	10.18	10.45
L.S.D 0.05		ns	0.09	0.21	0.47
	15/6	10.10	10.73	7.77	7.70
	1/7	9.87	9.80	8.17	8.90
Galia	15/7	10.49	11.15	11.55	13.98
	1/8	10.46	10.93	10.47	11.78
	15/8	10.31	10.60	9.74	10.03
	15/6	9.53	9.75	9.78	9.83
	1/7	9.76	10.30	11.83	12.78
Rafegal(c-8)	15/7	9.11	11.30	12.74	15.43
	1/8	9.39	9.75	11.43	14.03
	15/8	9.32	8.83	10.61	10.88
L.S.D 0.05		ns	0.12	0.29	0.66

*Means differing by more than this amount differ significantly at p= 0.05

Table (4): Effect of planting dates on quality characters for two hybrids of cantaloupe in season 2006 under Assiut conditions.

Hybrids	Date of planting	Fruit diameter (cm)	Fruit length (cm)	Total soluble solids (T.S.S)	Total sugar content (%)
Galia		10.27	10.74	9.76	10.54
Rafegal(c-8)		9.44	10.06	11.43	13.06
F-Test		*	**	**	**
	15/6	9.88	10.24	8.89	8.99
	1/7	9.83	10.11	10.34	10.83
	15/7	9.81	11.36	12.33	14.58
	1/8	9.95	10.43	11.07	13.36
	15/8	9.81	9.85	10.34	11.24
L.S.D 0.05		ns	0.10	0.12	0.17
	15/6	10.20	10.68	7.88	7.85
	1/7	9.86	9.83	8.68	8.95
Galia	15/7	10.48	11.40	11.60	13.73
	1/8	10.53	11.03	10.61	12.08
	15/8	10.29	10.78	10.04	10.08
	15/6	9.56	9.80	9.90	10.13
	1/7	9.80	10.40	12.00	12.70
Rafegal(c-8)	15/7	9.15	11.33	13.05	15.43
	1/8	9.38	9.83	11.53	14.65
	15/8	9.33	8.93	10.65	12.40
L.S.D 0.05		ns	0.14	0.18	0.24

*Means differing by more than this amount differ significantly at p= 0.05

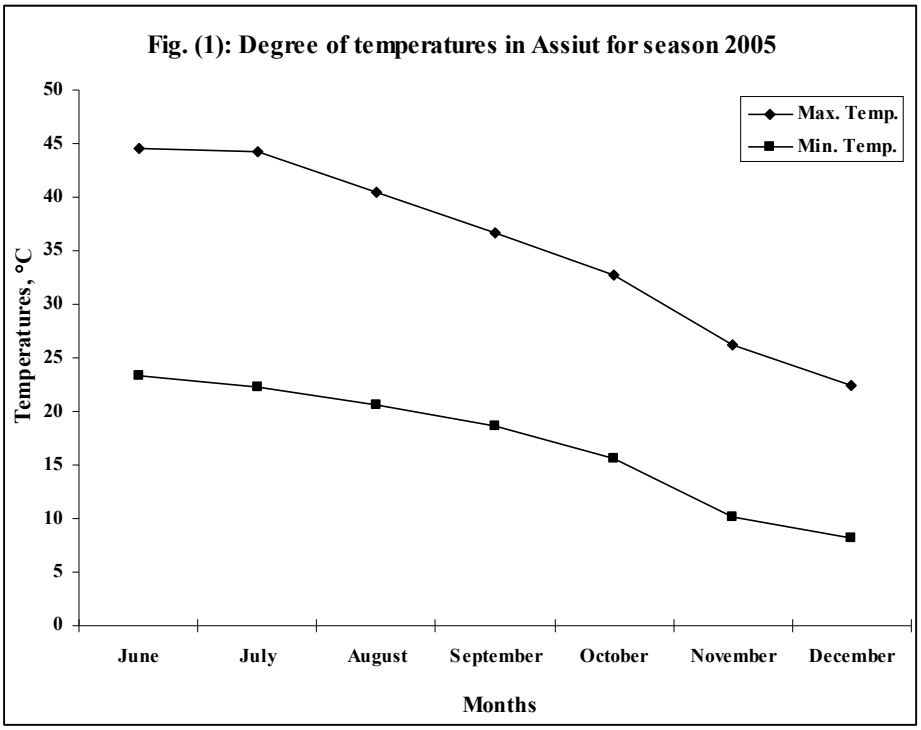
Fig. (1): Degree of temperatures in Assiut for season 2005
Max. Temp.
Min. Temp.
Temperatures, °C
50
45
40
35
30
25
20
15
10
5
0
June
July
August
September
October
November
December
Months

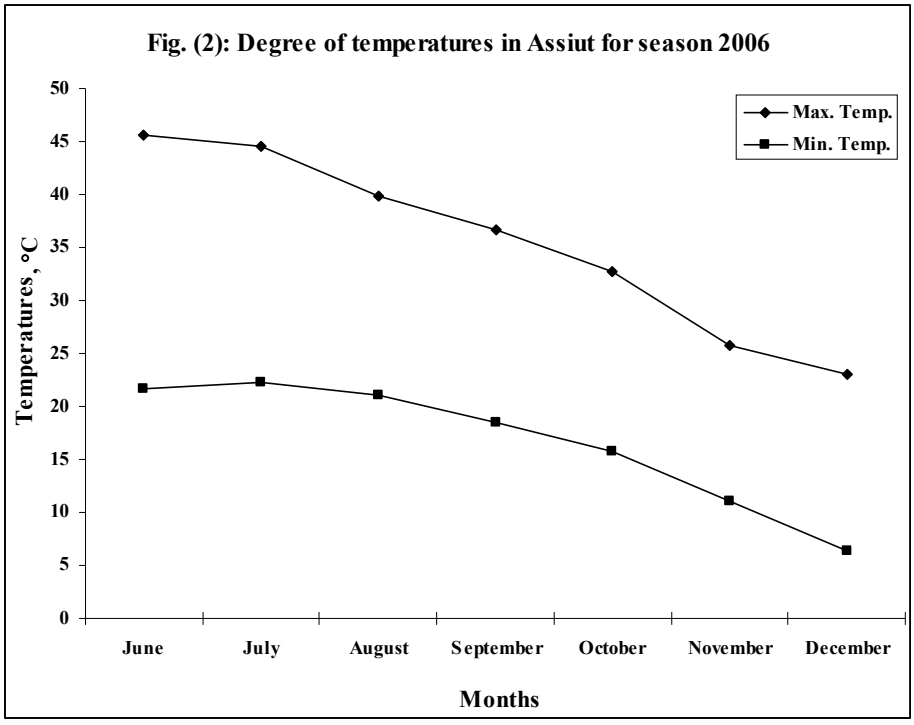
Fig. (2): Degree of temperatures in Assiut for season 2006
Max. Temp.
Min. Temp.
Temperatures, °C
50
45
40
35
30
25
20
15
10
5
0
June
July
August
September
October
November
December
Months

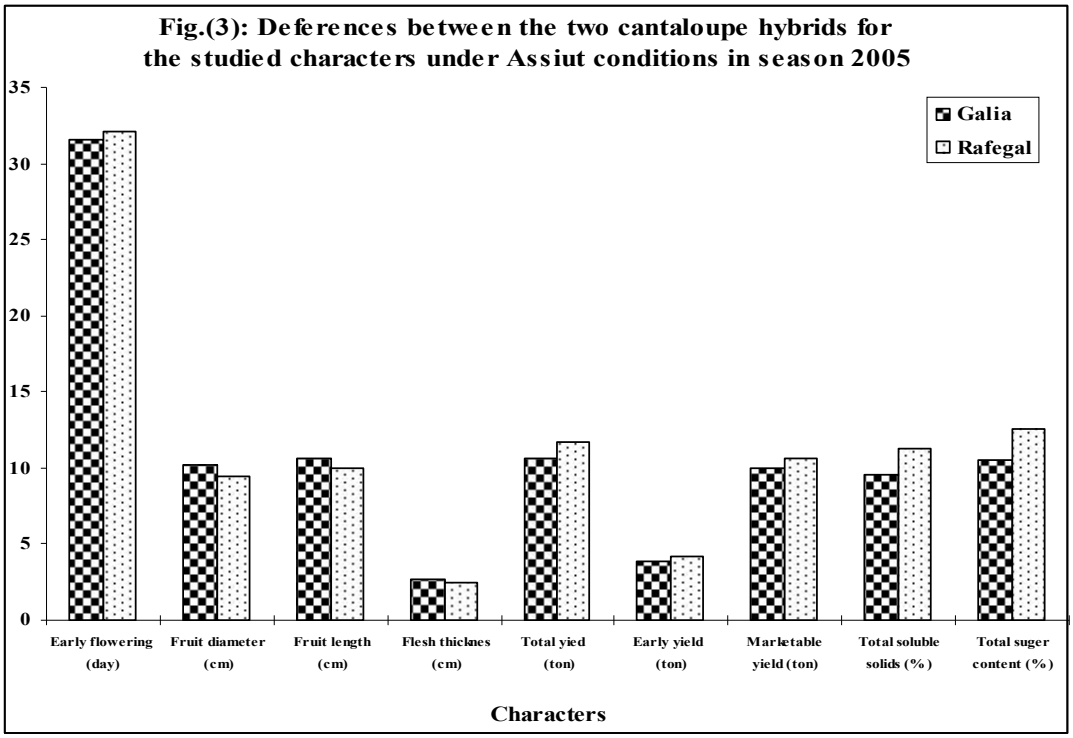
Fig.(3): Deferences between the two cantaloupe hybrids for the studied characters under Assiut conditions in season 2005
35
30
25
20
15
10
5
0
Galia
Rafegal
Early flowering (day)
Fruit diameter (cm)
Fruit length (cm)
Flesh thicknes (cm)
Total yied (ton)
Early yield (ton)
Marketable yield (ton)
Total soluble solids (%)
Total suger content (%)
Characters

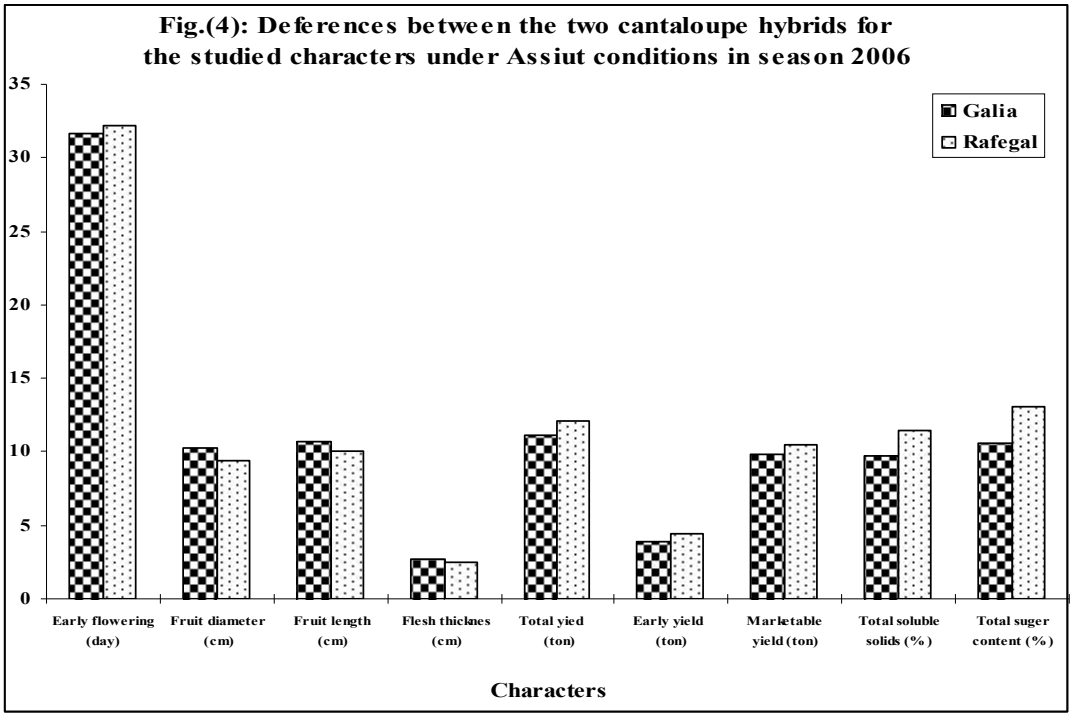
Fig.(4): Deferences between the two cantaloupe hybrids for the studied characters under Assiut conditions in season 2006
35
30
25
20
15
10
5
0
Galia
Rafegal
Early flowering (day)
Fruit diameter (cm)
Fruit length (cm)
Flesh thicknes (cm)
Total yied (ton)
Early yield (ton)
Marketable yield (ton)
Total soluble solids (%)
Total suger content (%)
Characters

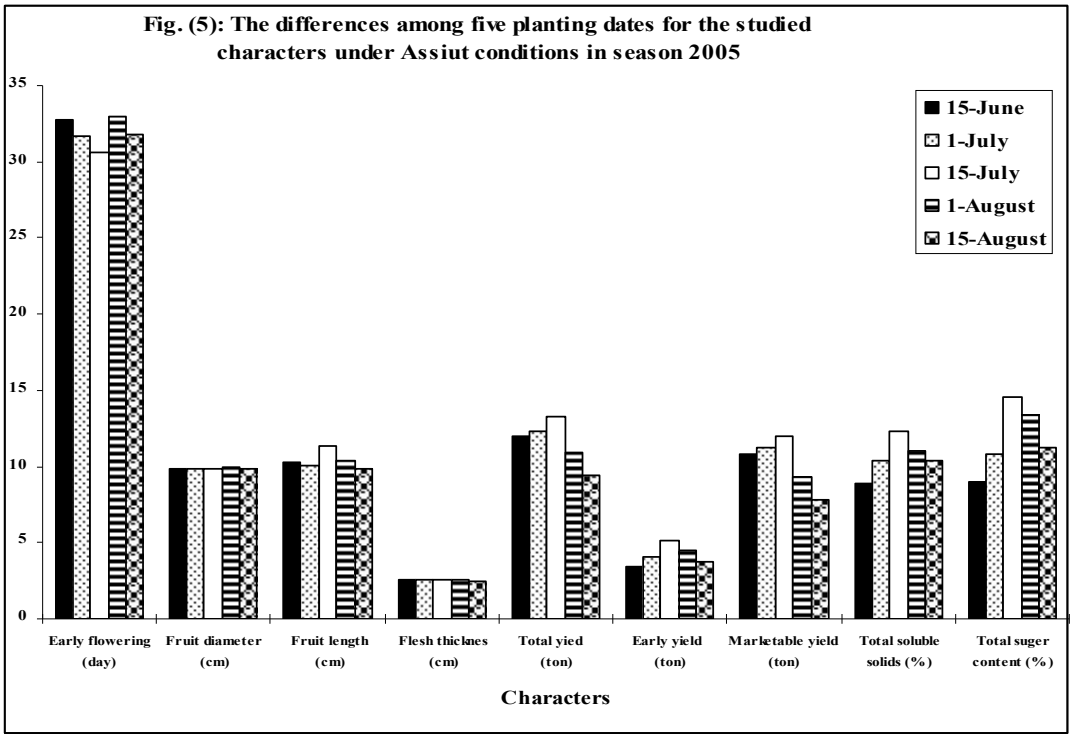
Fig. (5): The differences among five planting dates for the studied characters under Assiut conditions in season 2005
35
30
25
20
15
10
5
0
15-June
1-July
15-July
1-August
15-August
Early flowering (day)
Fruit diameter (cm)
Fruit length (cm)
Flesh thicknes (cm)
Total yied (ton)
Early yield (ton)
Marketable yield (ton)
Total soluble solids (%)
Total suger content (%)
Characters

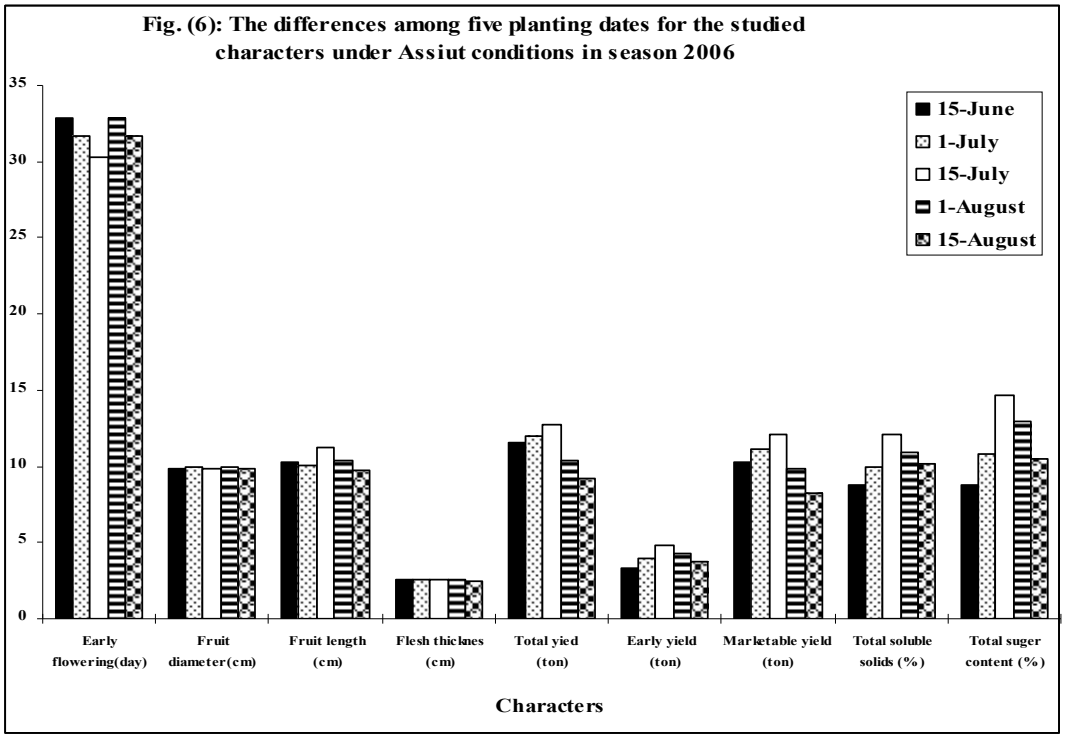
Fig. (6): The differences among five planting dates for the studied characters under Assiut conditions in season 2006
35
30
25
20
15
10
5
0
15-June
1-July
15-July
1-August
15-August
Early flowering(day)
Fruit diameter(cm)
Fruit length (cm)
Flesh thicknes (cm)
Total yied (ton)
Early yield (ton)
Marketable yield (ton)
Total soluble solids (%)
Total suger content (%)
Characters

DISCUSSIONS:

Yield and quality of cucurbit crops depend on presence of optimal temperatures for foliage and fruit growth, and for pollination. Many workers reported that reproductive physiology is much sensitive to high temperature stress than vegetative growth. Temperature elevation from 25 to 35°C increases in male flowers per watermelon plant while, very few flowers were produced at 40°C (Sedgely and Buttrose 1978, Barker and Allen 1993). Thus declines or increases in yield are the result of crop produced as affected by transplanting date. Also, cultivars did not yield similarly ideal in the same planting dates. In our results, there ware significant differences in most studied characters between both "Galia" and "Rafegal(c-8)" hybrids in response to the different condition in our experiment. There are differences among various genotypes in plant growth development and productivity that may be affected by environmental factors (Amuyunzu *et al*., 1997 and Russo *et al.,* 2002). Also, Dufault *et al.* (2006) showed that cultivars different in yield and that due to planting dates.

There were significant differences among the five planting dates in our study and the best planting date was July 15th. Using earlier and later planting dates in cantaloupe production redacted cantaloupe productivity due to the high or louse temperatures (Sedgely and Buttrose 1978). Baker and Reddy (2001) in Texas reported that high air temperatures in midsummer may reduce bee activity and pollination. This may affect the reproductive development or shorten the duration of the growing season. Also, the later planting date was not suitable because the plant fruiting in low temperature that reduces fruit set (Whitaker and Davis, 1962).

The significant differences in the interactions between cantaloupe hybrids and planting dates in most studied characters indicated that "Rafegal(c-8)" planted in July 15th was the best comparing with "Galia". Sugar concentration is a critically important quality characteristic that showed reduction the early planting date. This is because cantaloupe matured faster in high temperature. Welles and Buitelaar (1988) found that any factor that shortens the period from flowering to fruit maturity also reduced muskmelon soluble solids. Additionally, Bianco and Pratt (1977) found that a large part of sucrose enters mature muskmelon during the last week before harvest. Apparently, climatic conditions just proceeding harvest are critical to quality, if too warm, may reduce sugar accumulated in the melons. Our study suggest that the best planting date under Assiut conditions is in middle of July to obtain higher yield and quality in cantaloupe production.

REFERENCES:

Amuyunzu, P.A., J.A. Chweya, Y. Rosengartner and S. Mendlinger (1997): Effect of different temperature regimes on vegetative growth of melon plants. African Crop Science Journal, 1997, Vol. 5. No.1, pp. 77-86.

Barker, J.T. and L.H. Jr Allen (1993): Contrasting crop species responses to CO_2 and temperature: rice, soybean and citrus. Vegetation 104/105:239-260.

Baker J.T and V.R. Reddy (2001): Temperature Effects on Phonological Development and Yield of Muskmelon. Annals of Botany 87: 605-613, 2001.

Bianco, V.V. and H.K. Pratt. (1977): Compositional changes in muskmelons

during development and in response to ethylene treatment. J. Amer. Soc. Hort. Sci. 102:127–133.

Bruton, B.D., T.K. Hartz, and E.L. Cox. (1985): Vine decline in cantaloupes as in. uenced by cultivar and planting date. Hort-Science 20:899–901

Dufault Robert J.; Korkmaz Ahmet; Ward Brian K and Hassell Richard L. (2006): Planting date and cultivar affect melon quality and productivity. HortScience Vol. 41, No. 7, pp. 1559-1564.

Gomez K.A. and A.A Gomez (1984): Statistical procedure for Agric. Res. 2nd ed. Johnwiley and Sons Inc. New York, 680 pages.

Lee, J., J. Lee, J. Ku, W. Kim, and Y. Om. (1998): Cultivars and planting date for August production of cantaloupe (Cucumis melo) in alpine area. RDA.J. Hort. Sci. 40:31–36. McGlashan, D.H. and W.J. Fielding (1990). Effects of planting date and spacing on yield of cantaloupe cultivars at Bodles, Jamaica. Proc. Interamerican Soc. Tropical Hort. 34:71-72.

Mohamed, A. A.K. and A. S., Mohamed (1987): Effect of planting date and plant spacing on growth and yield of squash plants (Cucurbita pepo L.). Iraqi-Journal-of-Agricultural-Sciences,-'-ZANCO'-. 1987; 5(Supplement): 41-49.

Nandpuri, K.S. and T. Lai. (1978): Varietal response to date of planting in cantaloupe. Veg. Sci. 5: 8–14.

Ranganna, S. (1977): Manual of analysis of fruit and vegetable products. Tata Mc Graw Hill Publishing Company Limited. New Delhi. 9-20.

Russo, V.M., Bruton, B.D. and Popham, Thomas (2002): Genitic factors and production methods that affect zield and quality of vegetable crops. United States Department of Agriculture USDA. Agriculture Research Service Project Number: 6222-21220-002-00.

Sedgley, M and M.S. Buttrose (1978): Some effects of light intensity daylength and temperature on flowering and pollen tube growth in the watermelon. Annuals of Botany 42: 609-616.

Welles, G. W. and K. Buitelaar. (1988): Factors affecting soluble solids content of cantaloupe (Cucumis melo L.). Netherlands J. Agr. Sci. 36:239–246.

Whitaker, T.W. and G.N. Davis. (1962): Cucurbits, botany, cultivation, and utilization. World Crop Books, Interscience Pub., N.Y.

تأثير ميعاد الزراعة على إنتاجية وجودة اثنين من هجن الكانتلوب تحت ظروف أسيوط

عماد الدين فؤاد سيد رفاعى*، ماهر حسن حسنى**، عبدالحكيم شوقى بدوى*

*** معهد بحوث البساتين – مركز البحوث الزراعية – جيزة – مصر**

****قسم البساتين – كلية الزراعة – جامعة سوهاج – مصر**

أجرى هذا البحث بمزرعة محطة البحوث الزراعية بأسيوط التابعة لمركز البحوث الزراعية، وذلك لدراسة تأثير خمسة مواعيد لزراعة اثنين من هجين الكانتلوب، وهى 15 يونيو، 1 يوليو، 15 يوليو، 1 أغسطس، 15 أغسطس، خلال موسمى الزراعة 2005، 2006 على محصول وجودة اثنين من هجن الكانتلوب وهما جاليا ورافيجال(c-8) تحت ظروف أسيوط. حيث أثبتت النتائج إلى أن هناك اختلافات معنوية بين الهجينين المستخدمين فى الدراسة، وأن الهجين رافيجال(c-8) كان أفضل من الهجين جاليا فى صفات المحصول المبكر– المحصول الكلي– المحصول الصالح للتسويق– نسبة المادة الصلبة الذائبة الكلية والسكريات الكلية. كما أظهرت النتائج أيضاً أن هناك اختلافات معنوية بين مواعيد الزراعة المستخدمة في الدراسة،وأن ميعاد الزراعة 15 يوليو تحت ظروف أسيوط أعطى أعلى القيم فى معظم الصفات المدروسة. كما أظهرت النتائج أيضاً أن التفاعل بين الهجين رافيجال(c-8)، وميعاد الزراعة 15 يوليو كان أكثر معنوية من باقي التفاعلات الأخرى،وأعطى أفضل النتائج في معظم الصفات المدروسة.