# Response of Certain Hybrids of Eggplant (*Solanum melongena* L.) To Sowing Date and Training Method Unheated Plastic House Conditions

By

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# Summary

A field experiment was conducted during the winter growing season of 2009 /2010 under unheated plastic houses conditions at Khor- AL- Zubiar – Basrah. The aim of the experiment was to study the effect of sowing date and training method on growth and yield of three egg plant ( *Solanum melongena* L.) cultivars. The experiment included 27 factorial treatments with three factor , which were sowing date (15/8 , 1/9 and 15/9 ), three training methods ( no training control , training on two and three stems) and three cultivars ( "Jawahr" ,"Barcelona" and" Marshall" ). Completely Randomized Block Design was used with three replicates. The results may be summarized as follows**:-**

**1. Vegetative growth:**

Sowing on the second date ( 1/9) caused a significant increase in stem diameter, leaf area , leaves number as well as fresh and dry weight , in comparison with other sowing dates(15/8 and 15/9/2009)However, sowing on the third date(15/9/2009) gave the highest increase in plant height. As for training method, plants trained on three stems had a significantly higher plant, whereas plants trained on two stems had a significantly the highest diameter. Plant of the control treatment (no training) showed significantly higher leaf area, leaf number, as well as fresh and dry weight, in comparison with other training methods .There were significant differences among the hybrids in vegetative growth characteristics with plants of the hybrid "Jawaher", had the highest plant height, leaf area and leaf number, whereas the

hybrid “Barcelona” had the largest diameter, and gave a significant increase in both fresh and dry weight of the plant. There were significant effects among the interaction for the factor of the experiment studied in all vegetative growth characteristics.

2-**Flowering:-**

There were significant deferens among swing dates, sowing in the third date (15/8/2009) caused a significant decrease in the number of day, for the appearance of the first flower bud, whereas plants grown on the second sowing date (1/9) gave the highest number of total flowers per plant, However, plants grown on the first sowing date (15/8) give the highest percentage of fruit set. As for the date of the training method, control plants (no training) had a significantly the highest total number of flowers, whereas plants treated on two stems gave the highest percentage of fruit set .Plant of the hybrid “Jawaher” showed, the lowest number of days to the appearance of the flower bud, the highest total number of flowers/plant as well as the highest percentage of the fruit set. There were significant increases among the factors of the experiment in their effect on all flowering characteristics

## 3.The yield its components :-

Sowing in the first date (1/9) gave a significant increase in fruit weight, length and diameter whereas sowing on the second date(15/9) gave a significant increase in fruit number early plant yield (1.05 kg/plant ), total plant yield (5.26 kg/plant) and early productivity(2.55 T/Donum) and total productivity(12.78 T/Donum.) Plants of the control treatment gave the highest fruit number, whereas plants trained on two stems, gave the highest fruit weight, fruit length and diameter as well as the highest early yield per (1.00 Kg), and early productivity (2.43 T/Donum) . However, plant trained on three stems gave the highest total yield (5.15 Kg/plant) and total productivity(12.8 T/Don.), plant of the hybrid ’jawaher” had the highest fruit number and length , as well as early yield per plant (1.03 Kg), total plant yield(5.08 Kg), early plant and total productivity (2.5 T/Donum) and (12.34 T/Donum) respectively .Plant of hybrid “Barcelona” gave the highest fruit weight, whereas plant of the hybrid

“Marrshall” were superior in fruit diameter. There were significant interactions among most of the factors of the experiment, with the exception of early yield and early productivity

**4. Fruit quality Characteristics:-**

Fruit quality characteristics sowing on the fruit date (15/8) caused a significant increase in percentage dry weight, fruit content of carbohydrates and protein percentage plants trained on two stems, had a significantly higher percentage dry mater, carbohydrate content and protein percentage in comparison with other training methods. Plants of the hybrid “Barcelona” had the highest percentage of dry matter , carbohydrate content and protein percentage .