EVALUATION OF THE PRODUCTIVITY OF SOME NEWLY INTRODUCED MANGO CULTIVARS UNDER LOCAL CONDITIONS

By

AMAL MASOAD ABDEL -LATIEF RAKHA
B.Sc. Agric. Sci. (Pomology), Fac. Agric., Cairo Univ., 2004

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APPROVAL SHEET

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APPROVAL COMMITTEE

Dr. MOHAMED ABOU RAWASH ALI BADR ……..
Professor of Pomology, Fac. Agric., Ain Shams University

Dr. MOHAMED AHMED FAYEK ……...…
Professor of Pomology, Fac. Agric., Cairo University

Dr. GAMAL MOHAMED HASEEB……..
Professor of Pomology, Fac. Agric., Cairo University

Date: 7 / 6 / 2010

SUPERVISION SHEET

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SUPERVISION COMMITTEE

Dr. GAMAL MOHAMED HASEEB
Professor of Pomology, Fac. Agric., Cairo University

Dr. AHMED EL-SAIED KELANY
Professor of Pomology, Fac. Agric., Cairo University

Dr. MAHMOUD SAMY ABOU-RAYA
Professor of Researcher of Pomology, N.R.C, Giza

Name of Candidate: Amal Masoad Abdel-Latief Rakha **Degree:** M.Sc.
Title of Thesis: Evaluation of the Productivity of some Newly Introduced Mango Cultivars under Local Conditions.
Supervisors: Dr. Gamal Mohamed Haseeb
Dr. Ahmed El Saied Kelany
Dr. Mohamed Samy Abou-Raya
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ABSTRACT

Three mango (*Mangifera indica* L.) cultivars were evaluated under Nubariya region conditions, Egypt in 2007 and 2008 seasons. The selected mango trees were about nine years old, budded on seedling rootstocks and planted at 3 × 5 m apart in sandy soil and irrigated by drip irrigation system. Trees were subjected to the same horticultural practices. Results indicate that, under Nubariya conditions, the three mango cultivars exhibited three growth cycles, spring, summer and autumn. Kent mango cv. recorded the highest percentage of growth flushes in the two seasons. Tommy Atkins mango cv. recorded the highest shoot length. Tommy Atkins mango cv. had the largest number of leaves / shoot followed by Keitt mango cv. then Kent. Tommy Atkins mango cv. was found to have the largest leaf area in the autumn growth cycle .Tommy Atkins cv. was the earliest blooming mango cv., followed by Kent cv. then Keitt cv. in the two seasons. Tommy Atkins cv. required the minimum number of days (Julian date) to reach first bloom followed by Kent cv. while Keitt cv. required the maximum number of days for blooming. Tommy Atkins cv. was the earliest cv. that reached full bloom, followed by Kent cv. then Keitt cv. in the two seasons. Tommy Atkins cv. required the minimum number of days (Julian date) to reach the full bloom, followed by Kent cv.; whereas, Keitt cv. required the maximum number of days for full bloom. Tommy Atkins cv. showed the highest percentage of perfect flowers, in the two seasons. The lowest sex ratio i.e. more perfect flowers was found in Tommy Atkins cv. followed by Kent cv. Meanwhile, Keitt cv. had the maximum percentage of initial fruit set, followed by Tommy Atkins cv. then Kent cv. in the two seasons. The maximum and minimum percentages of fruit retention were recorded in Tommy Atkins and Kent cvs., respectively. The highest percentage of fruit drop, was detected in Kent cv. followed by Keitt cv. while Tommy Atkins cv. recorded the minimum percent. Fruit maturity of the three cultivars was adjusted; it was reached in Tommy Atkins cv. at fruit age 113 days, while Kent and Keitt cvs. was at age 122 days. Keitt cv. had recorded the highest fruit weight values followed by Kent cv.and Tommy Atkins cv. Kent cv. had recorded the highest value of total soluble solis in the two seasons at maturity stage. Fruits of Tommy Atkins cv. contained the highest values of acidity in both seasons. In addition, Keitt cv. produced the greatest yield (kg.) per tree, in the two seasons.

Key words: Mango, Mango cultivars, Evaluation, vegetative growth, Flowering, Fruit set, Fruit drop, Alternate bearing, Maturity stage, Fruiting and Yield.

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DEDICATION

I dedicate this work to whom my heart felt thanks; to ***my Father*** *and* ***my Mother*** *for their patience and help, as well as to* ***my Grandmother*** *,* ***my brothers*** *Ahmed , Abd El-Rahman and Abd Allah and* ***my fiance*** *for all the support they lovely offered along the period of my post graduation.*

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