Production improvement of zaghloul date palm fruit

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The present study was conducted at Maryut Experimental Station during 2003 and 2004 seasons to find out the effect of different sources of pollen grains as well as thinning treatments i.e. strand shortening, strand removal and their combination on yield, physical and chemical properties of Zaghloul date fruits. Also, leaf nutrient contents of palms were evaluated at different leaf ages and leaf sampling dates. Pollen grains were collected from three main sources i.e.Aswan, Giza and Rashid for pollinating palms under thinning treatments i.e. control, strand shortening, strand removal, and combinations of both. Also, another palms were used for determination of leaf nutrients content concerning leaf ages or sampling dates.The obtained results could be summarized as follows: 1.Effect of pollen grains sources:I. a. Pollen grain viability:Either Rashid or Aswan pollen grain source surpassed Giza pollen grain source in increasing pollen germination percentages.1. b. Fruit set and total yield:Aswan pollen grain source proved to be more effective in increasing fruit set percentage and total yield of date palm.SUMMARY AND CONCLUSION -100-1. c. Fruit quality :1.c.a. Physical properties1-Rashid pollen grain source was more preferable in increasing fruit weight, and decreasing seed weight and seed fruitpercentage.2-Different pollen grain sources failed to induce any significant effect on fruit dimensions (fruit length & diameter). 1.c.b. Fruit chemical properties:1-Either Rashid or Giza pollen grain source were effective in increasing percentages of moisture and total soluble solids contents of Zaghloul date fruits.2-Aswan or Giza pollen grains were succeeded in reducing titratable acidity and tannins contents.3-Aswan pollen grain source enhanced the highest accumulation of fruit reducing sugars and total sugars contents while non-reducing sugars were maximized by using Rashid pollengrain source.2. Effect of thinning treatments: 2. a. Fruit set and total yield:Application of thinning to Zaghloul date palms had an adverse effect on fruit set percentage and total yield per palm. However, control treatment surpassed all other thinning treatments in increasing fruit set percentage and total yield.SUMMARY AND CONCLUSION -101-2. b. Fruit quality:2. b. 1. Fruit Physical properties:Combination method of thinning (removing 12.5% of inner strands plus shortening 12.5% of strands length) was more preferable in improving physical fruit quality via increasing both fruit weight and fruit dimensions (fruit length and diameter)while decreased seed weight and seed fruit precentage.2.b. 2. Fruit chemical properties.Chemical fruit quality parameters were improved obviously through increasing precentage of moisture content and total soluble solids as well as maximizing reducing sugars and total sugars contents while titratable acidety, non-reducing sugars and tannins contents decreased when combination method of thinning treatment was used.3.Effect of the Interaction between pollen grains sources and thinning treatments :Fruit set percentage and total yield per palm were greatly maximized by using a combination between Aswan pollen grain source and control treatment.3. a. 1. Fruit physical properties.1-Interaction between Rashid pollen grains source and combination thinning treatment proved to be more effective in increasing fruit weight and fruit length while reduced seed fruit percentage.2-Fruit diameter increased as different pollen grain sources were used in combination with thinning treatment.