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Introduction and Evaluation of Persimmon (*Diospyros kaki*) Varieties under Irrigation in the Brazilian Semi-Arid Region

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Persimmon (*Diospyros kaki*) is a subtropical leaf dropper species native to China, that belongs to the Ebenaceae family The plants are arboreous, rustic, with high adaptation ability. It was introduced in Brazil at the end of the 19th century, as a alternative crop for the temperate regions of Brazil by the Agronomic Institute of Campinas – IAC. São Paulo is the greatest state producer of persimmon. Other important producers are the States of Rio Grande do Sul, Paraná, Rio de Janeiro, Minas Gerais and Santa Catarina. The yield varies from 15 to 35 ton/ha/year in properly managed orchards. The most cultivated varieties in Brazil are Rama Forte, Guiombo and Taubaté, and the production is concentrated from February to June. With the objective of making available new alternatives crop available to fruit growers of the irrigated areas of the Brazilian semi-arid region, a collection of 13 persimmon varieties was established in the Experimental Station of Embrapa, at Petrolina, Brazil. Evaluations were performed to generate information about the new cultivars on adaptation for local climatic conditions, phenology, occurrence and management of insect pests and diseases. All practices were addressed to make fruit production feasible in different seasons for the traditional region producer. A trial was established and made up of six plants of each variety, spaced by 6.0 m x 4.0 m. The following parameters were evaluated: phenology (plant vigor, canopy type, branch emission, leaf type, yield); use of plant growth regulators; beginning o flowering sprout date; branch size; number of leaves, flowers and fruits per branch; cycle; fruit set; period of ripening; fruit characteristics (size, shape, skin color, flesh texture, color and succulence, total soluble solids content, titrable total acidity, and post-harvest conservation). The results showed that is possible to produce persimmons at any time of the year in the semi arid region under irrigation and doing applications of hydrogen cyanamide for sprouting induction. The evaluations showed that all the varieties responded well to bud induction. In Brazil, persimmon is traditionally produced in the southeast and south regions from March to June. From July to February, persimmon fruits are imported from Spain and Israel and sold at prices four times higher for customers. Taking advantage of the favorable climatic conditions of the Brazilian semi-arid region, it is possible to develop a cropping system to produce persimmon when national fruit offer in the market is low. Based on these results, the persimmon cultivars will be evaluated for one more year and recommendations will be available for commercial growing under irrigated conditions in the fruit planting areas of the Brazilian semi-arid.

Keywords: *Diospyros kaki*, Brazilian semi-arid, irrigation.

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Effect of Foliar Application of Polyamines on the Flower Bud Retention in Pistachio Tree

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The present study was conducted in order to examine the role of polyamines in flower bud abscission of pistachio (cv. Ahmad-aghaei) trees in heavy cropping year. Aqueous solutions (0, 0.01, 0.05 and 0.1 mM) of polyamines (putrescine, spermine and spermidine) containing a surfactant Tween -20 were sprayed on to flower buds, leaves and fruits of pistachio trees at June (beginning of filling kernel). The factorial experiment was arranged in randomized completely block design with four replications. The results showed that polyamines significantly increased the flower bud retention.