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EVALUATION OF PRODUCTION OF CACTUS PERA (*Opuntia Ficus - Indica* Mill) IN THE DENSITY PRODUCTION SYSTEM

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Abstract - Worldwide, the cactus pear is used in human food, animal feeding, as a source of energy, in medicine, in the cosmetics industry, in the protection and soil conservation, among other noble uses, such as the manufacture of adhesives, glues, and fibers for handicrafts, paper, dyes, mucilage, antiperspirant and ornamentation. The purpose of the study was to evaluate the production of cactus pear culture *Opuntia ficus - indica* Mill, the type of crop used was the density. The research was conducted under field conditions in the Agrotechnical School Cajueiro in Catole Rocha-PB, was deployed in an area of 0.5 ha, from September 2006 until August 2007. The production of forage palm in half a hectare in dense system reached 192.5 tons in rainfed system; this result comes from the first cut, and may be influenced by external factors such as cultural adaptation of the region.

Keywords: Density system, cactus pear.

AVALIAÇÃO DA PRODUÇÃO DO CULTIVO DE PALMA FORRAGEIRA (*Opuntia Fícus – Indica* MILL) NO SISTEMA DE PRODUÇÃO ADENSADO

Resumo – Mundialmente, a palma forrageira é usada na alimentação humana, arraçoamento animal, como fonte de energia, na medicina, na indústria de cosméticos, na proteção e conservação do solo, dentre outros usos nobres, a exemplo da fabricação de adesivos, colas, fibras para artesanato, papel, corantes, mucilagem, antitranspirante e ornamentação. O objetivo da pesquisa foi avaliar a produção da cultura da palma forrageira *Opuntia fícus – indica* Mill, o tipo de cultivo utilizado foi o adensado. A pesquisa foi realizada em condições de campo, na Escola Agrotecnica do Cajueiro, em Catolé do Rocha-PB, foi implantado em uma área de 0,5 ha, de setembro de 2006 até agosto de 2007. A produção de palma forrageira no sistema adensado em meio hectare chegou a 192,5 toneladas em sistema de sequeiro, esse resultado é proveniente do primeiro corte, podendo ter influencia de fatores externos como a adaptação da cultura a região.

Palavras chaves: sistema adensado, palma forrageira.

INTRODUCTION

With the irregularities of rain in semiarid region it is necessary to find new alternatives to live with drought, generally being able to produce within our limited water resources, thus achieving a sustainable end.

The cactus pear (*Opuntia ficus-indica* (L) Mill), appears such as a promising alternative to solve

this problem, once it is a multipurpose species, native from Mexico, which exploits it since pre-Hispanic period, holding the greatest wealth of cultivars (AGUERO-REYES et al. 2005, OLIVEIRA et al., 2010). Around the world had already been decrypted about 300 species belonging to the genus Opuntia cactus, distributed from Canada until to Argentina (SCHEINVAR, 2001; REYNOLDS, ARIAS, 2004). According Chiacchio et al. (2006) there is great potential to contribute significantly in this culture development of arid and semiarid regions, especially in developing countries, where economic and exploration and rational of their species will help in conserving the environment and in the security feeding for herbs . The future of the arid and the semiarid regions depend on the sustainable development of agricultural systems based on a proper selection of crops (SEBRAE, 2001, FERREIRA et al., 2009).

Worldwide, the cactus pear is used in human food, animal feeding, as a source of energy, in medicine, in the industry of cosmetics, protection and keeping of soil, among others noble uses, such as the manufacturing de adhesives, glues, and fibers for handicrafts, paper, dyes, mucilage, antiperspirant and ornamentation (BARBER, 2001). The agroindustrialization of cactus pear results in various preparations, products and derivatives, allowing the use of diverse young bats, which results in adding value to production, with positive effects in generating jobs and income (GALDINO et al. 2010).

The United Nations Food and Agriculture Organization (FAO) have been recognizing the potential of palm and its importance in contributing to the development the arid and semiarid regions, especially in developing countries through economic exploration of several species, with excellent consequences for the environment and for the food security (FAO, 2001).

In Brazilian northeastern the palm is used mainly in the basins of the dairy states of Pernambuco and Alagoas, but is also found in the states of Paraíba and Bahia (CAVALCANTE et al., 2011)

Planting in density way is the density of plants per hectare, being made a mineral supplementation. The spacing of the planting cactus pear varies with soil fertility, rain quantity, purpose of exploitation and use or not in association with other crops, the cultivation of cactus pear in dense spacing has been more used recently (TELESet II., 2002).

The study aimed to evaluate the production of the crop of cactus pear (*Opuntia ficus - indica* Mill) in a dense crop.

MATERIALS AND METHODS

The cladodes were from the rural municipality belonging to João dias-RN (6 ° 16'24 "S 37 ° 47'44" W), were carried to Agrotecnical school of Cajueiro, in Catole do Rocha -PB (Latitude -06 ° 20 '38", Longitude 37 ° 44' 48"), where it was resting in the shade covered with plant material, to prevent excessive dehydration for 14 days for the healing of cuts harvest. The soil preparation consisted of a subsoiling, for added aeration, for a harrowing and leveling loosening; .were open furrows for planting, being adopting the spacing of 0.10 1.80 m between plants and between rows, the fertilization used was with ordinary superphosphate in the concentration of 18%, 475 g / m 2.20, two to three pounds of manure per meter tanned, in the planting need to verify that the cladodes are covered around 25% with soil, always planted with the face towards the east.

It was conducted in the planting in Agrotechnical School of Cajueiro in August 2006, with an area of 0.5 hectares, previously prepared, using the system density. There were three weeding; these may vary with crop need.

RESULTS AND DISCUSSIONS

The production of cactus pear in half a hectare in dense system reached 192.5 tons in rain-fed system, it is noteworthy that this result comes from the first cut, and may be influenced by external factors such as cultural adaptation of the region. Almeida et al. (2011) found approximate values in the properties evaluated in Western Cariri ranging from an average of 300-350 tons of palm per hectare a year. Dubeux Júnioret et al. (2006) found values with increasing density of plants per hectare varying Mg.ha from 6.0 to 17.0, a density of 5,000 plants and 17.8-to 33.7 Mg.ha 1 in 40,000 plants per hectare, occurring the interaction between fertilization and nitrogen, phosphorus and plant population, where there was a higher productivity in planting density. As can be concluded that to achieve high productivity you need a large population of plants.

The use of technology in the palm pear of dense planting has resulted in increasing of production, probably due to the absorption of sunlight, smaller action of weed and high photosynthetic efficiency (Medeiros et al. 1997; DUBEUXJÚNIOR et al., 2000).

CONCLUSION

The results for the production of cactus pear in dense system were satisfactory. It is necessary to further study the culture in question.

THANKS

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Figure I: Production system for dense cactus pear.

ANNEXES

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