

IN THE SEMI-ARID NORTHEAST, BRAZIL¹.

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Abstract

Due to poor soils and high minimum temperature (above 20.5° C), the ‘Sertão’ region, located in the Brazilian Semi-arid Northeast, is probably one of the harshest cropping environments in the world, in which nopal is grown for fodder production. Recently, another problem appeared, the armored scale insect (*Diaspis echinocacti* - Bouchè). A field trial with twenty varieties was started in April 2000 in Petrolina, Pernambuco, (average rainfall 552.2 mm, 80% available in December through April). The varieties tested were: three local cultivars, ‘Gigante’, the most cultivated, ‘Redonda’ (both *Opuntia ficus-indica*) and ‘Doce’ nopal (*Nopalea cochenillifera*) and Clone IPA-20, eight varieties of highest performance in a preliminary evaluation², that are identified by a number such as, 1258 - Additional Cv.; eight varieties provided by IPA, and identified by a number such as, IPA-90-73, and never tested in the region.. The experimental design was, a randomized complete block, with four replications, in plots of 3.5 m², made up of one seven-plant line, for evaluation, only five plants/line were considered. Planting density was 20.000 plants/ha. Manure was applied on biannual basis at the rate of 2.86 kg/m.. Weeding was done with hoes. In May 2004, the first harvest was done, collecting all fresh material except the basal pad and the first layer of pads. Annual fresh matter (FM) production was calculated dividing total yield by four. Mean production was 75.24 ± 33.61 ton FM/ha/year (CV = 44.7 %). The eight most productive varieties, with FM production/ha/year, height and transversal canopy diameter in parenthesis were: **1258 - Additional cv.** (115.25 ton; 1.50 and 0.96 m); **IPA-90-73** (106.75 ton; 1.53 and 1.16 m); **Clone IPA-20** (101.12 ton; 1.46 and 1.09 m); **1278 - Mexico Fodder** (99.00 ton; 1.68 and 0.88 m); **IPA-90-155** (96.75 ton; 1.50 and 1.05 m); **IPA-90-75** (86.92 ton; 1.32 and 1.00 m); **1311 - Marmillon Fodder** (85.55 ton; 1.64 and 0.78 m); **1267 - Algeria Fodder** (85.25 ton; 1.18 and 1.18 m). ‘Gigante’ nopal (68.00 ton; 1.43 and 1.05 m) stayed in 13^o position, as in research cited below. There was no difference (P<0.05) among these treatments, due to high CV. Other data, such as, protein and fiber levels, that are still under analysis, might indicate that highest production does not assure the best variety for the region. Shorter transversal canopy diameter such as in **1278 - Mex...** and **1311 - Mar...**, would make these varieties more suitable for intercropping with annual crops.

¹ Approved for congress by Embrapa Semi-Árido Publishing Committee.

² See in this congress annals: Albuquerque, S.G. de. Preliminary evaluation of nopal (*Opuntia* spp.) varieties for fodder production in the Semi-arid Northeast, Brazil.