

PRELIMINARY EVALUATION OF 30 VARIETIES OF NOPAL (*Opuntia* spp.) FOR FODDER PRODUCTION IN THE SEMI-ARID NORTHEAST, BRAZIL¹.

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Abstract

The main problems associated with cultivation of fodder nopal in the Sertão region, Semi-arid Northeast, Brazil, are poor soils, high minimum temperature (above 20.5° C), and the armoured scale insect (*Diaspis echinocacti* - Bouchè). An experiment with 30 varieties was established in December 1994 at Petrolina, State of Pernambuco, a site with 552.2 mm of rainfall (80% available in December-April). There were: 3 local varieties: - 'Gigante' (the most cultivated), 'Redonda' and 'Doce', nopal; .6 varieties introduced from South Africa in 1982 - Algerian, Corfu, Directeur, Fusicaulis, Guayaquil and Skinners Court; 19 varieties introduced from Texas (USA) in 1986; 2 varieties furnished by IPA: Clone IPA-19 and Clone IPA-20. Except 'Doce' (*Nopalea cochenillifera*), all varieties were *O. ficus-indica*. The experiment was organized, in a RCBD, with four replications. After disk plowing, the area was furrowed and manure was distributed, at the rate of 2.86 kg/m. The varieties were planted at the density of ca. 7,143 pads/ha. In September 1995, it was detected the armored scale in the first plots, which spread to other plots. In November 1996, a visual evaluation was performed by two technicians, and scores varying from 0 (no attack) to 10 (highest attack) were adopted. In May 1997, a test was performed with four products, each product for one block, and all of them controlled the insect. In January 1998, the first triennial harvest was done, leaving the basal-pad, all first order pads, and one second order pad in each first order pad. Average yield was 2.46 ± 1.86 ton DM/ha/year (CV = 75.5 %). The 12 most productive varieties, with DM production/ha/year and scale insect attack level in parenthesis were: **1317 - Chile fruit** (6.07 ton; 1.50); **1327 - Marmillon Fodder** (4.18 ton; 2.0); **1267 - Algeria Fodder** (4.14 ton; 0.50); **1294 - Mexico vegetable** (4.02 ton; 4.25); **1278 - Mexico Fodder** (4.02 ton; 7.00); **1258 - Additional cv.** (3.92 ton; 3.75); **1311 - Marmillon Fodder** (3.70 ton; 1.50); **Algerian** (3.65 ton; 2.00); **Clone IPA-20** (3.55 ton; 2.50); **Clone IPA-19** (3.37 ton; 2.75); **1316 - Chile fruit** (2.89 ton; 2.50); **'Gigante'** (2.85 ton; 7.00). Even with that difference in performance between varieties, due to high CV, only **1317 - Chile fruit** was superior ($P < 0.05$) to **'Gigante' nopal**. The local varieties were highly susceptible to scale insect, a trait that needs further research, (CV = 89.0%, due to block effect). In contrast to **1267 - Algeria Fodder**, which, presented high yield, and showed low susceptibility to the scale insect, maintaining the stand above 90% of initial population, six years after planting and three years after first harvest.

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