Fruits and seeds biometry, germination and growth of angico Anadenanthera colubrina (VELL.)Brenan var. cebil (Griseb.) Altschul) in different conditions of substrates and luminosities

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Abstract

Most of the Northeast area of the Brazil is composed by two important Biomas, the Savanna and the Atlantic Forest, with peculiar characteristics of climate and physiognomy, possessing vegetable species of great importance, many Fabaceae, that can take the Northeasterner to overcome the difficulties imposed by the nature and environmental impacts caused by the own man. One of those species, little frequent but thoroughly spread for Brazil and neighboring countries, is known by angico (Anadenanthera colubrina (Vell.) Brenan var. cebil (Griseb.) Altschul) - Fabaceae, Mimosoideae - that it possesses high economical potential being quite used as ornamental, medicinal, for the tannin supply, resins, wood and honey, and due to that allied intense use to the problems of environmental degradation, it is considered under extinction risk. Based on those presented relevances and tends in view the problems of inadequate use of the soil, poverty, among other in the Northeast, the present work had as objectives to develop comparative studies, of fruits and seeds biometry, germination and of growth, of individuals from two different climatic areas, to verify morphophysiological differences among the populations and the variability inside of them, also when submitted to laboratory conditions and of nursery, with different types of soils and luminosities. Firstly, fruits and seeds were measured and the moisture contents done to 60ºC for 72 hours or until that the weight was stabilized. To evaluate the germination, were observed the germination percentage (% G), the medium time (t) and the germination speed index (IVG) in germination chambers to 30ºC ± 1 with 12 hours of light and in nurseries with different types of soils and luminosities. To evaluate the growth, the experimental design was completely randomized in a 2X5X3 factorial arrangement. Were appraised height of the plants (cm), the number of leaves, diameter of the stem (mm) and dry material of aerial part and roots (g/plants). The averages of the fruits of Cruz das Almas and Tanquinho varied, respectively, between 21,64 and 17,73cm for length, 14,25 and 12,72cm for width, and 7,33 and 4,78g for weight. For the seeds, the averages varied between 14,25 and 12,72mm for the length, 13,75 and 10,20mm for width and 0,18 and 0,11g for weight, respectively Cruz das Almas e Tanquinho. The moisture contents was found between 6,92 and 8,14%. For germination, the most appropriate luminosity is 30% of light in the sand. The population of Tanquinho was shown more vigorous could be explained as strategically adapted for establishment in field, taking advantage of from the favorable conditions to the subsequent development. Regarding the growth, the different types of soils and luminosities used interfered significantly, causing considerable variations in the measured characters and the different origins also behaved in a different way. The soil 2 under 30% of light favored larger growth in height and larger number of leaves. The soil 2 to full sun favored larger diameter of the stem and the treatments maintained in that luminosity presented smaller matter weight dries. Those results show evidence of morphophysiological variations of the two populations, suggesting adaptation of a same species to different climates conditions, contributing to the ecological and evolutionary success of that species.

Key-words*:* ecophysiology, development, production, adaptation

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