

Temperature effects on the germination of *Plukenetia volubilis* L. seeds

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INTRODUCTION

Plukenetia volubilis L. is a species native to the Amazon region. Its seeds have a high content of mono and polyunsaturated fatty acids which have been found to be important for medicinal and aesthetic purposes. Knowing aspects of its ecophysiological characteristics is of strategic importance for a more efficient management of the production of plantlets of this species.

OBJECTIVE

The objective of this study was to evaluate how temperature affects the germination process of seeds of this species.

MATERIALS AND METHODS

The seeds were collected from 25 matrix plants in the germplasm bank of the Eastern Amazon Embrapa, located in Manaus, Amazon state, Brazil.

Seed germination was evaluated by a test in which four 20 seed replications were sown in rolls of wet paper towel and, at an eight hours regime of light, were submitted to the following temperatures: 10, 15, 20, 25, 30, 35, 40, and 45 °C. The normal seedlings were counted at each two days from 9 to 61 days after the beginning of the test. The last count was determined by the moment the seeds no longer germinated in most of the treatments. First count of germination, germination, the speed of germination index, and the mean time for seed germination were determined.

The results were submitted to the analysis of variance by the F test ($p < 0.05$) and the means were adjusted to polynomial regression models which presented biological explanation, normality and high R^2 .

RESULTS

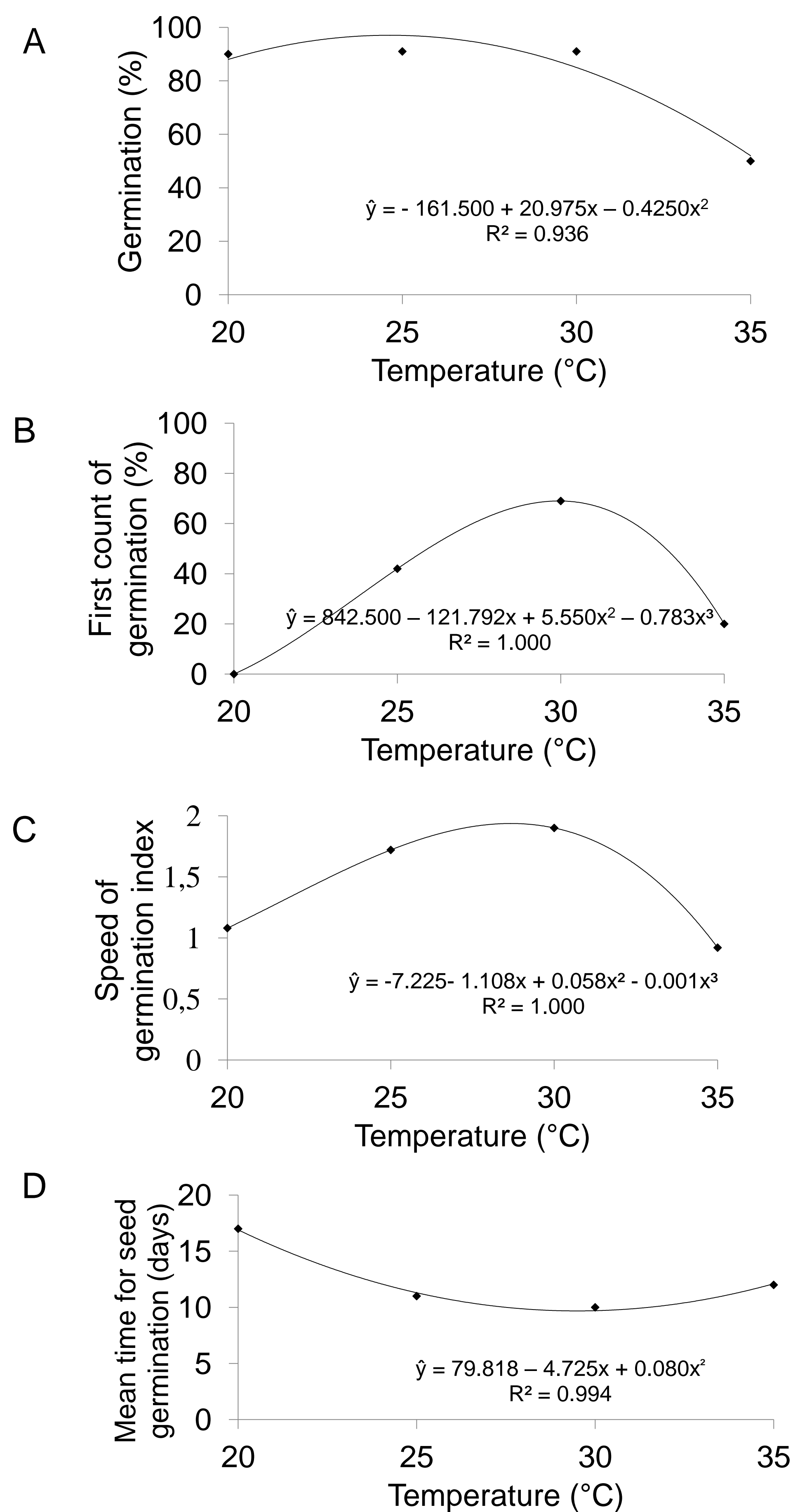


Figure 1. Germination (A), first count of germination (B), speed of germination index (C), mean time for seed germination (D) of *P. volubilis* at temperatures 20, 25, 30 and 35 °C.

CONCLUSIONS

It was verified the temperature of 30 °C to be the optimum one since it permitted maximum germination of *P. volubilis* seeds in the shortest period of time (10 days). The temperatures of 20 °C and 40 °C were, respectively, the minimum and the maximum, since below the lower and above the higher seed germination no longer took place.



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