

INFLUENCE OF THE TEMPERATURE IN GERMINATION OF SEEDS OF JABUTICABA TREE¹

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ABSTRACT - The jaboticaba tree (*Myrciaria* spp.) is originated from the center-south of Brazil and presents different types. It's a medium size tree, with tendency to form a crown with great number of branches. A characteristic considered as limitant for the commercial crop is the great juvenility, advising producing good rootstocks of seedlings and graft wanted varieties, and other vegetative processes. With the purpose of evaluating the effect of temperature on germination of three clones of jaboticaba tree, was carried out a laboratorial research. It was observed influence of the temperature on germination. The highest percentage of germination was obtained at low temperature (15°C and 20°C). When it was used the temperature of 35°C, two clones had only 8% of germination, while the other one was verified 35%. These values show the possibility of the occurrence of variability among the clones of jaboticaba tree.

Index terms: *Myrciaria* spp.; seeds; germination.

INFLUÊNCIA DA TEMPERATURA NA GERMINAÇÃO DE SEMENTES DE JABUTICABEIRA

RESUMO - A jaboticabeira (*Myrciaria* spp.) é uma fruteira originada do centro-Sul do Brasil e apresenta tipos diferentes. É uma árvore de tamanho médio, com tendência a formar copa com grande número de ramos desde pouco acima do solo. Uma característica considerada como limitante para a cultura comercial dessa frutífera é o grande período juvenil, aconselhando-se então produzir bons porta-enxertos de pés-francos e enxertar as variedades desejadas, ou ainda por outros processos vegetativos. Objetivando-se avaliar a influência da temperatura na germinação de sementes de três clones de jaboticabeira, realizou-se um experimento em condições de laboratório. Observou-se que há influência da temperatura na porcentagem de germinação, sendo que, nas mais baixas temperaturas (15°C e 20°C), foi verificada uma maior porcentagem de germinação para os três clones em estudo. Quando do uso da temperatura de 35°C, dois clones tiveram apenas 8% de germinação, enquanto, para o outro, foi verificado 35%. Estes dados mostram a possibilidade de ocorrência de variabilidade entre clones de jaboticabeira.

Termos para indexação: *Myrciaria* spp.; sementes; germinação.

The jaboticaba tree (*Myrciaria* spp.) is originated from the center-south of Brazil and presents different types. It's a tree of medium size, with tendency to form crown with great number of branches (Andersen & Andersen, 1989). The leaves are red in the new buds; the flowers are white and located along the log and of the matured branches, of the which are formed fruits (Benza, 1993), that when ripe they present peel black, fine and fragile, being the pulp of white coloration, lightly acid and very sweet.

According to Andersen & Andersen (1989), for propagation of the jaboticaba tree is more used the seedlings, however, an grafting can result in more than 75% of cathing.

A characteristic considered as limitant for the commercial culture of the jaboticaba tree is the great juvenility period of the plant, being necessary to produce good rootstocks of seedlings and graft the wanted varieties, or still multiplying for other vegetative processes. For the rootstocks formation is necessary about 1 year and to obtain a seedling in production are necessary approximately 10 years. The value of a jaboticaba tree seedling, in production is nearly R\$70,00.

The objective of this research was to evaluate the effect of the temperature in the germination of jaboticaba seeds.

The experiment was carried out at the Laboratory of Seeds, located in the Department of Vegetable Production of "Faculdade de Ciências Agrárias e Veterinárias - UNESP - Campus of Jaboticabal/SP".

The treatments were constituted by five temperatures: 15°C, 20°C, 25°C, 30°C and 35°C, being used three jaboticaba clones, four repetitions and 10 seeds by repetition. The clones were chosen randomized in an orchard with about 157 jaboticaba trees, originated of seeds, located at "Faculdade de Ciências Agrárias e Veterinárias". The differences among the selected plants were observed visually, such as: carry of the tree; format of the cup; size and aspect of the leaves; coloration of the new buds; size, forms and coloration of the fruits and size of the seeds.

The seeds were extracted of ripe fruits, washed and placed to drying in to the atmosphere for 24 hours; after this, they were placed in gerbox, having as substrate fine vermiculite and maintained at germinator. Was evaluated the number of seeds germinated for 3 months, and the

values were later transformed in percentage for accomplishment of statistical analysis. For seed germination was considered the emission of the primary root. The obtained values were analyzed through the test of Tukey, to the 5% of probability.

When talk about tropical fruits, as the case of the jaboticaba tree, it's waited almost that instinctively, that the best temperatures for the germination of your seeds to be in a strip between 25 and 30°C, once the production of fruits, for the local conditions, felt in October, in other words, in the middle of the summer. However, by the data analysis was observed that, in a general way, was at 15°C where happened the largest germination percentages (Figure 1), not differing significantly, however, of the temperature of 20°C; as was increased the temperatures a corresponding diminish was observed in the germination. When were used temperatures of 25 and 30°C was verified that just about 50% of the seeds germinated and can considered that the worst results were the obtained for the seeds exposed to the temperature of 35°C.

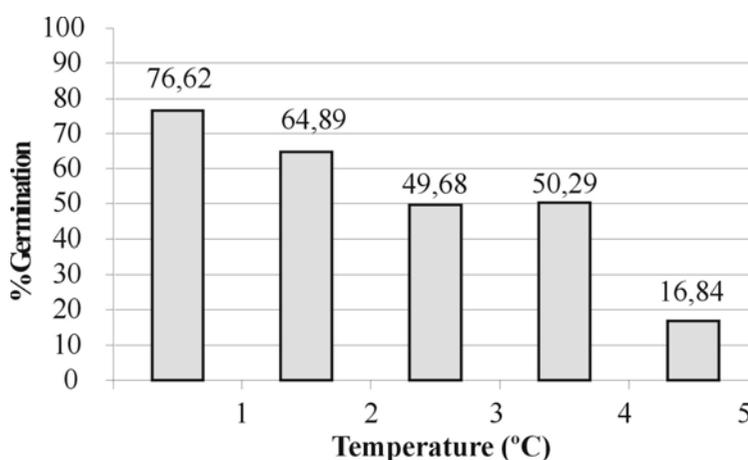


FIGURE 1- Influence of the temperature in the seed germination of jaboticaba tree.

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The experiment allowed to also visualize differences with relationship to the different plants, once the largest germination percentage can be verified for the clone 3, although it hasn't differed significantly of the number 1 (Table 1), which presented a better behavior in relation to the germination in function of the temperature, getting to support higher values (Figure 2).

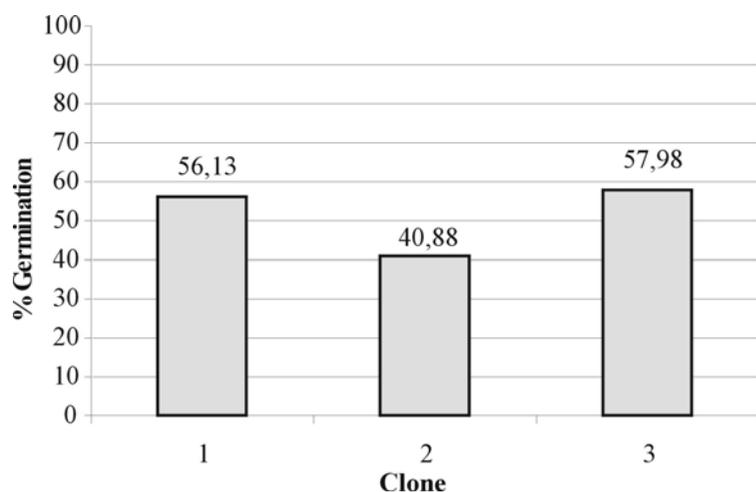


FIGURE 2- Percentage of germination of seeds of three clones of jaboticaba tree.

When was compared the values obtained to the related by Pereira & Andrade (1994), that studied which would be the best temperature for the germination of guava seeds, other representative of the family *Myrtaceae*, as well as the jaboticaba tree, is noticed conclusive differences, once the values obtained the 25 and 30° C were respec-

tively of 40 and 34%, while for jaboticaba tree, in this strip was obtained a value near to 50% (Table 1).

TABLE 1 - Percentage of seed germination of three clones of jaboticaba tree in different temperatures.

Clone	Temperature C				
	15	20	25	30	35
1	70,25 Aa	68,31 Aa	50,48 Aa	56,61 Aa	34,98 Aa
2	74,38 Aa	66,25 Aa	28,57 Bb	27,45 Bb	7,77 Bb
3	85,23 Aa	60,11 Aa	69,99 Aa	66,80 Aa	7,7 Bb

Averages followed by same letter don't differ significantly, minuscule in the column and maiuscule in the line. Test of Tukey to the 5% of probability. CV = 22,93.

Based on the obtained results was concluded that:

The temperature have influence on percentage of germination of seeds of jaboticaba tree, being the 15°C the most adequate, and the worst of them were the 35°C;

The values obtained show the great variability existent among the clones of jaboticaba tree.

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