

ACCELERATED AGING TESTS AND ELECTRICAL CONDUCTIVITY OF CALOPO SEEDS

TESTES DE ENVELHECIMENTO ACELERADO E CONDUTIVIDADE ELÉTRICA EM SEMENTES DE CALOPOGÔNIO

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The physiological quality of forage legume seeds is a fundamental factor for their successful sowing in pastures, since once the seeds reach their physiological maturity, a continuous process begins. The irreversible deterioration of seeds makes it necessary to evaluate their vigor during the legume planting process in the pasture area, and later to ensure productivity. Calopogonium (*Calopogonium mucunoides* cv. Comum) is one of the forage legume species recommended for use in integrated grass-legume swards. Thus, the best combination of temperature and time of submission of the accelerated aging vigor test was evaluated to determine the vigor of this species. The experiment was carried out in the Plant Production Laboratory of Instituto Federal de Educação, Ciência e Tecnologia do sul de Minas Gerais, Inconfidentes Campus, Inconfidentes, MG in 2016. In the experiment, a single batch of calopo seeds was used, which was submitted to three accelerated aging temperatures (35, 40 and 45 °C) for three time periods (12, 24 and 36 h) with four replications in a completely randomized design in a 3x3 factorial arrangement. Treatments were evaluated simultaneously and the parameters evaluated were seed water content, germination speed index and electrical conductivity. Analysis of variance was performed through the MIXED procedure of the SAS® (Statistical Analysis System) statistical package. The accelerated aging test promoted adequate conditions for the water absorption by the seeds, demonstrating a gradual increase of the water content with increasing time intervals. However, with the increase of temperature, although there was still water absorption, this absorption was reduced. The evaluation of the germination rate showed that temperature interfered negatively in the germination process. It was also found that seeds with the fastest development (showing greater vigor) were those aged at 35 °C for 12 h. For electrical conductivity, lower leaching of ions to the solution was observed when the seeds were submitted to the temperature of 35 °C in relation to the others, demonstrating superior physiological quality, because when subjected to higher temperatures there was higher leaching due to the damages caused to the components of the cell membranes by high temperatures. Therefore, the accelerated aging test is recommended for the species under study at temperature of 35 °C for 12 h.

Keywords: *Calopogonium mucunoides*; legume forage; seed vigor tests.

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