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PROMOÇÃO:



## **Relationship between proteolytic activity and reserve protein mobilization rate during cashew seedling establishment under salinity**

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Seedling establishment is a critical process to crop productivity, especially under saline conditions. This work was carried out with the purpose of establish relationship between proteolytic activity and the salt-induced delays in the mobilization of cotyledonary proteins during seedling establishment in *Anacardium occidentale*. The cashew nuts were sown in vermiculite irrigated daily with distilled water (control) or 50 mM NaCl solution and the cotyledons were harvested at 4, 8, 12, 16, 20, and 24 days after sowing, following discrete physiological stages. The globulin fraction represented the most important storage proteins of cashew cotyledons and its mobilization was markedly delayed by NaCl treatment. In contrast, prolamins showed the slowest mobilization follow by albumins in both treatments. The 2-D eletrophoretic profiles showed as the most abundant reserve proteins were globulins with 22 kDa and PI 4.3-5.3 and 33kDa and PI 7.0-7.5. The mobilization these proteins was strongly delayed by salinity especially from 16 to 20 days-old. The *in vitro* and in-gel proteases activities also were intensely affected by salinity especially from 16 to 20 days-old. The main proteolytic activity involved in the cotyledonary protein mobilization was a serinic type, follow by cysteinic and aspartic ones. The salt treatment coordinately delayed the seedling growth and the reserve protein mobilization. This delay is also strongly associated to proteolytic activity inhibition especially at late seedling establishment stages.

**Keywords:** *Anacardium occidentale*, cashew, cotyledon reserves, proteases, protein, salt stress.

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