



Changes at the nitrogenated fractions in cashew (*Anacardium occidentale*) seedling exposed to high temperature

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This work was carried out to investigate the hypothesis that the high temperatures can to cause changes at the nitrogenated fractions in cashew (*Anacardium occidentale*) seedling. With the increase of the temperature of 25°C to 45 °C was observed an increase of approximately 45% in content leaf soluble proteins. The increase of the temperature can result in the solubilization of insoluble proteins and the *de novo* protein synthesis in response to stress. In this work was investigated the temperature effect in the protein fractions of roots, stems and leaves cashew seedling. Also, it was evaluated if these alterations would be related with the mobilization of the nitrogenated fractions or with the *de novo* protein synthesis. Therefore, the differential accumulate of proline, amino acids and ammonia were analyzed. The cashew (clone CCP 06) seedling with 8 leaves were transferred to controlled conditions, temperature of 25 ± 2 °C, 80% of relative humidity, 12 h photoperiod and maximum photosynthetically active radiation of 240 mmol m⁻² s⁻¹. The material for analyses was collected following the usual methodology. With the increase of the temperature of 25°C to 45 °C was observed an increase of soluble proteins in the leaves, of approximately 45%. In comparison, the increase of the insoluble protein was only 20%. The proline content in leaves was higher than that observed for roots. The free amino acids concentration was so high in leaves (5%) as in roots (9%). The ammonia content was reduced in the roots (30%) and in the leaves (60%) with the increase of the temperature (25°C to 45°C). The increase of the proteins content induced by heat is related with the mobilization of nitrogen storage (in roots and stems) and/or protein synthesis in leaves tissue.

Key words: Cashew, Proteins, Temperature

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