

## CHEMICAL TREATMENT TO INACTIVATION OF CASTOR CAKE'S ALLERGEN

Oliveira, N. D.<sup>1</sup>, Felix, S. P.<sup>1</sup>; Da Matta, R. A.<sup>2</sup>, Machado, O. L. T.<sup>1</sup>  
LQFPP<sup>1</sup>, LBCT<sup>2</sup> - CBB - Universidade Estadual do Norte Fluminense Darci Ribeiro  
(UENF) - Campos dos Goytacazes RJ

*Ricinus communis* is an euphorbiaceae that contains about 50% oil. The modern industry uses the oil extracted from its seeds in the manufacture of explosives, varnishes, lubricants, dyes, plastics, fertilizers, cosmetics and Biodiesel. However, castor bean seeds contain a strong toxin (ricin) and allergenic protein fraction (2S albumin isoforms), which severely limits the usefulness of the castor cake. The structure and the mechanism of the action of toxin, ricin, were established and some treatments were proposed to eliminate its toxicity but there is no treatment to inactivate the allergenic fraction. In previous studies we have identified six IgE epitopes in the major allergens and have demonstrated which amino acid residues are involved in cross linkage between 2S albumin and IgE. The objective of this study was to develop chemical treatment to inactivate the allergenic fraction. The 2S albumin and the castor bean cake treated with  $\text{Ca}(\text{OH})_2$  were incubated with sensitized mast cells. Granulated and degranulated mast cells were counted under a light microscope in Neubauer chamber. The treatment reduced mast cell degranulation of 70% to 30%, values near the negative controls. The treatment was efficient for both 2S Albumin pool and castor cake samples.

Supported by: Tecnorte, CAPES, CNPq and FAPERJ