

and Zn elements and it should be noticed that Cu is frequently used as algicide in the reservoir, as CuSO<sub>4</sub>. PC3 included only Mn, suggesting distinct behavior of this element. Eventually, this work should be extended to monitoring programs.

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### **ASSESSMENT OF TRACE ELEMENTS CONCENTRATION IN NICOTIANA TABACUM L., VIRGINIA VARIETY**

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Tobacco plant *Nicotiana tabacum L.* is used in the manufacture of all derivate products and the chemistry composition resulting of smoking varies with the kind of tobacco leaves, how they are grown, their original region, the features of preparation and the temperature variations resulting from the incomplete combustion of tobacco. There is a lack of information about the radiological and chemistry characterization of the tobacco plant in international and mainly Brazilian literature. The objective of this study was to determine the concentration of the elements As, Ba, Br, Ca, Ce, Co, Cr, Cs, Eu, Fe, Hf, K, La, Lu, Na, Nd, Rb, Sb, Sc, Se, Sm, Ta, Tb, Th, U, Yb and Zn in the *Nicotiana tabacum L.*, Virginia variety, by the Instrumental Neutron Activation Analysis (INAA) technique. The INAA was used in the Virginia variety cultivated at IPEN and the same variety cultivated in the city of Arvorezinha, Rio Grande do Sul by a regular producer. The samples cultivated in Arvorezinha were separated in soil, root, stem and leaves and the samples cultivated at IPEN were separated in substrate, root, stem and leaves. The results of rare earth elements showed a similar behavior among the plants, with higher results in soil and substrate and in the leaves. It was observed that the plants of the producers presented higher concentration of the studied elements when compared to the plants cultivated in IPEN. These higher concentrations are probably due to the addition of fertilizers to the producer's crop and also because these elements can accumulate in the soil due to many years of use, different from the substrate used in the IPEN cultivation.

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