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DEGRADATION OF ROTENONE IN YAM BEAN SEEDS (*PACHYRHIZUS SP.*) THROUGH FOOD PROCESSING

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The purpose of this research is to screen different processes for *Pachyrhizus* seeds able to decrease or even eliminate rotenone, a toxic isoflavonoid. These seeds are very interesting because of their high contents in proteins (28.3%) and lipids (26.3%)¹. Different kinds of processes (drying, roasting, boiling, frying, alcohol extraction) and traditional Beninese culinary recipes were tested and rotenone was quantified by a validated method associating microwave extraction, solid phase extraction (SPE) and HPLC-UV^{2,3}. The influence of removing the tegument was also investigated. In the best conditions, an important degradation of rotenone was obtained with up to 80% removal. The most effective methods were drying and roasting the seeds and macerating their flour in local alcohol. This rotenone degradation/elimination induced a decrease of samples toxicity which was confirmed by cytotoxic assays.

¹ Grüneberg *et al.* *Journal of the American Oil Chemists Society* (1999) 76 (11): 1309-1312. ²Lautié E *et al.* (2012) *Journal of Separation Science*, 36, 758–763. ³ Lautié E *et al.* (2011) *Food Chemistry*, 131 (4):1531-1538.

BIOACTIVE PHENOLIC COMPOUNDS FROM WILD SALAD SPECIES USING SPECTROPHOTOMETRY AND HPTLC CHROMATOGRAPHY

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The great interest of antioxidant phenolic derivatives used in food supplements and foodstuffs for health benefits requires fast chemical analyses and efficient control methods of raw natural resources. The phenolic profile of plant materials from various species is, indeed, complex and variable. Three wild salads (*Cichorium intybus*, *Lactuca serriola*, *Taraxacum officinale*) were investigated for their phenolic compound content regarding their medicinal properties¹⁻³ using optimized parameters of spectrophotometry and cellulose HPTLC chromatography. Total caffeic acid derivatives and flavonoids amounts were evaluated using spectrophotometry. The use of high performance plates and of spray-application obtained with an automated sample applicator ATS3 gave us sharper bands and a higher sensitivity. Major phenolic compounds contents of each plant, *i.e.*, chicoric acid, chlorogenic acid, luteolin-7-O glucoside were compared. We might now use anti-oxidative tests directly on the plate to confirm and ensure the real activity and compare its level in our samples.

¹Fons *et al.* *Phytochemistry* (1998) 49: 697-702. ²Schütz *et al.* *Journal of Ethnopharmacology* (2006) 107: 313-323.

³Rammal *et al.* *Phytothérapie* (2008) 6:184-186.