

Microsomal Detoxification Enzymes in Yam Bean [*Pachyrhizus erosus* (L.) Urban]

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Cytochrome P450s and glutathione-S-transferases (GSTs) constitute two of the largest groups of enzyme families that are responsible for detoxification of exogenous molecules in plants. Their activities differ from plant to plant with respect to metabolism and substrate specificity which is one of the reasons for herbicide selectivity. In the tuber forming yam bean, the legume *Pachyrhizus erosus*, their activities at the microsomal level were investigated to determine the detoxification status of the plant. The breakdown of the herbicide isoproturon (IPU) to two distinct metabolites, 1-OH-IPU and monodesmethyl-IPU, was demonstrated. GST activity was determined with model substrates, but also by the catalysed formation of the fluorescent glutathione bimine conjugate. This study demonstrates for the first time microsomal detoxification activity in *Pachyrhizus* and the fluorescence image description of microsomal GST catalysed reaction in a legume.

Key words: Fluorescent Conjugate, P450 Monooxygenase, Glutathione S-Transferase