ACETONE-PRECIPITATED PROTEINS IN CASSAVA (*Manihot esculenta* Crantz) TUBERS: ISOLATION AND PARTIAL PURIFICATION

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Rose Margaret F. Albacete
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ABSTRACT

ALBACETE, ROSE MARGARET F. University of the Philippines in the Visayas. April 2006. Acetone-Precipitated Proteins in Cassava (*Manihot esculenta* Crantz) tubers: Isolation and Partial Purification

Cassava (*Manihot esculenta* Crantz) is a low-protein starchy staple. In some countries, such as South Africa, cassava bread serves as the major, if not the only, food consumed for a long period of time. This diet causes a disease called protein-energy malnutrition.

The total soluble proteins in cassava tubers were extracted using 200 mM Tris-HCl pH 8.2. Protein fractions were precipitated out at different proportions using acetone (1:1, 1:2, 1:3 crude extract: acetone ratio). Bradford Standard Assay showed that 1:1 crude protein-acetone contained the most amount protein (1.02×10^{-4} g/mL protein). This sample and the dialyzed crude sample were both run in gel filtration column in which the eluted fractions generated two peaks each. The highest concentration of the purified protein was 2.67×10^{-5} g/mL protein. The pooled fractions, which made up the peak, were run in SDS-PAGE which revealed bands with molecular weights of 40, 66, 87 and 116 kDa comprised the crude sample (not dialyzed), while the dialyzed sample contained bands with molecular weights of 76 and 87 kDa. The number of proteins decreased after gel filtration.