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Determination of Total Cyanide Levels in Some Cassava Food Products in Jamaica

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Levels of cyanide in several processed cassava food products were measured using Protocol B2 or the picrate paper kit B for the determination of total cyanide cassava products, involving the retention of linamarase in a small filter paper disc loaded with a phosphate buffer at pH 6. This enzyme catalyses the hydrolysis of linamarin to acetone cyanohydrins, which then, between pH 6 and slightly alkaline conditions, rapidly degrades to HCN. The released gas subsequently reacts with the yellow picrate paper. The latter was matched against a 10 shaded-colour HCN chart, revealing the total amount of cyanide in the food products.

Cassava food products sampled from the four parishes tested exhibited cyanide levels at least twice (>20 mg/kg) the allowable daily intake (ADI) of 10 mg/kg of body weight. Dried cassava flour had lower levels of cyanide than the un-dried flour. As cyanide breaks down under atmospheric exposure, it was concluded that a longer drying time before further processing for the flour (which is the precursor for the other foods), could reduce cyanide levels in the cassava products.