

Starch characteristics of selected *Ipomea batata* (sweet potatoes) cultivar in Sri Lanka

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This study aimed to make available data on some starch characteristics of selected sweet potato (SP) cultivars available in Sri Lanka and to see whether there is a correlation with the high glycaemic indices (>70) of these tubers. Sweet potato varieties Ama, Wariyapola Red, Wariyapola White and Dhawala were selected for the study. Both raw and boiled sweet potato flours were used for the determination of size distribution of carbohydrate by using Sepharose™ CL-6 B column with KOH and carbohydrate contents were quantified by phenol-sulphuric assay. Bed volume was determined using glucose (5mg/ mL). Amylose content of flour was determined calorimetrically. High molecular weight carbohydrate (HMWC; $K_{av} < 0.2$) contents of studied SP ranged between 7-11% in raw and 6-10% in boiled flour. Intermediate molecular weight carbohydrate (IMWC) ($0.2 < K_{av} < 0.8$) contents of both raw and boiled sweet potato varieties were high and ranged between 86-89% and 89-94%. The low molecular weight carbohydrate contents (LMWC; $K_{av} > 0.8$) constituted <6% of carbohydrates in both raw and boiled, indicating low free sugar content. Amylose contents of the raw and cooked samples were less than 30 indicating high amylo pectin contents in SP. The high amylo pectin with intermediate molecular weight may have contributed to the high glycaemic indices observed in the sweet potato varieties.

Keywords: Sweet potatoes, starch, gel filtration, amylase

Acknowledgements: Authors wish to thank the University of Sri Jayewardenepura for the research grant provided under the ASP/01/ RE/MED/2015/48.

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