

FUNCTIONAL AND PASTING PROPERTIES OF CASSAVA FLOURS PROCESSED WITH RED PALM OIL. Joseph Oneh Abu, Iorbee Ayangealumun, Chinma Chiemela Enyinnaya and Yakubu Caleb Maina, Department of Food Science and Technology, University of Agriculture, Makurdi, Nigeria.

Food based approach is considered the most sustainable means of combating both macro and micronutrient deficiencies in developing countries. Cassava, a major source of calories in the diets of most people living in Africa, is a useful vehicle for the delivery of much needed, inexpensive provitamin A rich sources such as red palm oil (RPO). However, the effect of adding RPO during processing of cassava flour on the functional and pasting properties of flours is unknown. In this study, cassava flour processed with red palm oil (0 - 3% w/w) were analysed for functional and Rapid Visco Analyser (RVA) pasting properties using standard procedures. Addition of RPO (3%) significantly ($p < 0.05$) reduced flour water absorption capacity (from 4.21 to 1.34 g/g⁻¹) while bulk density, swelling index, reconstitution index and oil absorption capacity were unaffected. Peak and final viscosities increased by 58 and 16%, respectively, while setback, pasting temperature and peak time decreased with RPO addition in a concentration-related manner. The practise of adding RPO to cassava flour may not only be useful in terms of provitamin A and enhanced product viscosities, but may also result in energy savings during cooking to obtain stiff porridges since flours with RPO gelatinised at lower temperatures (70.6 compared to 78.7°C) and quicker (3.9 compared to 4.5 min) than the control.