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## **Cassava peeling using a combination of chemical and mechanical methods**

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**ABSTRACT** In an attempt to address the challenge of Cassava peeling, two chemical dips (solutions of a base and an acid) were used to loosen the peels of the root (TMS 30572 variety) and a rotary brushing machine which is expected to remove the loosened peels of the roots was designed. The optimal concentration temperature and time of root immersion in dilute sodium hydroxide (NaOH) were obtained as 15%, 600C and 20 minutes respectively. The roots were dipped in dilute hydrochloric acid (HCL) also at corresponding concentration, temperature and time to neutralize the effect of the base. The results were used as a basis for the design of the rotary brushing machine. The machine consists of the following: a hopper, a conveyor, a peeling chamber, a rotary brush, a slited and inclined tray, a collection tray a transmission system and a 2Hp engine. The percent moisture content of the roots was obtained as 55.96%. The capacity of the machine based on design calculations employed was estimated as 44,064Kg / day.

**Keywords:** Cassava, peeling, mechanical, chemical, machine