

Abstract

Sri Lanka can contribute 70% of the world amount exports, which are mainly in the form of quills. Cinnamon quills are peeled from the stem *Cinnamomum zeylanicum*, a tree, indigenous to Sri Lanka. Currently, cinnamon peeling involves harvesting of sticks and transporting to peeling sheds, removing knots, scraping, robbing with brass rod, peeling with a knife, packing, making quills, air drying, trimming, and bundling. Current processing technology involves high manual labour inputs and poor phytosanitation. Inconsistent shape and strength of cinnamon sticks have prevented mechanization of the peeling process. Thirty percent of the peeling time is consumed in scraping the outer bark of the cinnamon stick. After scraping, the stick is rubbed with a brass rod to detach the bark. This process takes an even longer time and more energy than scraping. The detachment of the cinnamon bark depends on the completeness of the rubbing process. We have developed a rubbing mechanism involving spin loaded spindles mounted in a circular device provide the exact load needed for bark detachment. Machine rubbing of a single cinnamon stick take only 23 seconds, which is one third that is needed for hand rubbing. The added advantage of the machine rubbing is the evenness of the rubbing process compared to hand rubbing, thus producing better quality cinnamon quills. A cinnamon processing bench including a rotating chair and insect table has also been designed and tested taking special consideration of the peeler comfort, safety and phytosanitation of the product.