

Development of a suitable method to minimize chilli (*Capsicum annum*) seed pungency

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Abstract

Chilli is one of the most important cash crops grown in Sri Lanka. Hot flavor or pungency is one of the key characteristics of chilli. In chilli production, good quality seeds are very important to obtain a better yield. Few private seed Companies and the Department of Agriculture are issuing chilli seeds to the Sri Lankan market. In chilli seed processing, there are several steps to be followed and chilli seed packaging become tedious process due to the seed pungency. This study used KA-2 and MI-2 chilli varieties, having a higher market demand. Three treatments were used to minimize chilli seed pungency. Chilli seed was treated with absorbent (charcoal), detergent (teepole) and solvent (Water). Three seed samples (each samples contain 50 g of seeds) were treated with above materials and one sample was kept as a control sample. Each treatment had three replicates. Chilli seeds were mixed with 20 g of charcoal and kept for one and half months at room temperature. Other samples were washed with 1% teepole solution and water separately followed by air drying for one and half hours. Pungency level was determined by using a sensory evaluation with untrained panel which comprise 30 individual panelists and smell of the pungency was used as the sensory property with a five point hedonic scale. Non parametric Friedman test was used to determine the best treatment for minimizing pungency of chilli seeds by using MINTAB statistical package. Germination percentage and moisture content of treated seeds were determined to evaluate the storage quality of the seeds. Germination tray method and oven dry method were used to determine the germination percentage and moisture content of the treated seed respectively. The statistical results showed that, water is the best treatment in minimizing the seed pungency of both chilli varieties. Overall germination percentage was very similar to the control sample in both varieties. There was no significant difference in seed germination process among treated seed samples, even after two months. The overall result implies that water treatment was the best option to minimize the chilli seed pungency and further it did not affect seed germination considerably, either before or after the storage period.

Keywords: Chilli Seed, Pungency, Water, Teepole, Charcoal