B-131: A wax coating machine for mango

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Application of CFW wax on mango variety "Kartha kolomban" was tested to reduce the losses and to prolong the storability. The objectives of this study were to select a suitable wax coating method and to design a pilot scale waxing machine. Application of CFW was tested using spraying and dipping methods. Harvested mango was dipped in chlorinated water (200 ppm, 2 min) followed blanching (54°C, 2 min) and exposed to heated air (54°C). Wax treated samples (CFW: Distilled water, 3:1) were placed under the ambient condition (8 days).

A machine with spraying feature was designed and constructed with a power transmission system, wax spraying, drying and roller assemblies. The gear motor was 70 rpm. The blanched mango was fed directly to the spraying section.

Ripening of wax coated mango (dipping method) on 4^{th} and 6^{th} day were 41.6 % and 50 % respectively. For the spraying method the values were 32 % and 33.3 % respectively. The control recorded as 66.6 % (2^{nd} day). 91.6 % (3^{rd} day) and 100 % ripening thereafter. The shelf life of wax coated fruits (mechanical spraying) was six days due to even coverage of wax on fruit surface. Mechanical spraying of wax was a better method than that of dipping.

The fruits subjected to the spraying method were given the lowest rotten percentage (25 %). The changes of the external appearance were 93.3 % for better quality due to the shiny appearance of wax coating and lesser moisture loss during the storage.