

## **Design study of rotary and vibration mechanisms for chili harvesting**

### **ABSTRACT**

For the chili plantation in Malaysia, there are currently no harvesting mechanisation involved. The harvesting is still done manually utilising skilled labour and the cost of current harvesting process can reach up to 30% of the total price of the chili in the market. This high cost contributes to the inability of local chili production to compete with cheaper imported chili that had to be brought in to fulfil local needs. The current paper is concerned with the harvesting mechanism that is adapted from another crop type to be used in chili harvesting. The two mechanisms looked at in this paper are rotational harvesting mechanism and vibrational harvesting mechanism. The first utilizes rotational arm that either hits or plucks the fruit as it rotates using harvesting tips. The second vibrates the tree to dislodge the fruit from the tree. The adaptation of these mechanisms to chili is demonstrated with some success for both rotating and vibration mechanism however not without damaging the tree.

**Keyword:** Agricultural design; Agricultural mechanization; Chili harvesting; Innovation