

The development of hand carried bagging machine for mango on the tree

Shu-Wen Chen & Chun-Wen Chen¹

Abstract

Mango is one of the important economy fruits in Taiwan, and generates big revenue to growers every year. However no matter to consume locally or export, to protect mango from diseases and insects is an important task for growers in order to produce high quality fruit. Before harvesting, growers have to use tremendous labor to bag individual fruit on the tree, which is proven to be the most efficient way to protect from disease and insect, and to reduce the chemical contamination. At present, farmers only use hands to complete the bagging work in the fruit field. it is a very labor intensive and labor cost work. Therefore the farmers need a handy tool to assist the bagging work in the field earnestly.

The object of this project is to develop a handy tool to bag mango on trees to reduce the labor cost. The developed handy bagging machine can be used in the field to bag the fruits on the tree directly. The mobility of the developed tool is good, and it can be operated in the field easily. The tool can sequentially and continuously be used by a grower to complete the following works: sucking bag, opening bag, and sealing bag. The developed tool can operate in the speed of 85-100 bags/hr. The operated speed is 1/2.4, as comparing to speed of pure labor. Due to position of mango is around the bud tip of the bud tip of tree, of the tree, fruits are placed very close and even overlapping; therefore, it makes the bagging work to become more difficult. Otherwise, the sealing process needs 30-40 seconds to melt PE plastic to complete the sealing work. Due to the lack of efficiency of the developed tool, the further study will be conducted to improve its operating speed and efficiency.

Key word: Hand holdings, Mango, Set bag machine

¹Assistant researcher and technician, Kaohsiung District Agricultural Improvement Station