

Improvement and Development of the Roselle Fruit Coring-Machine

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Abstract

Roselle fruits are one of the characteristic plants in Taitung County. Since it takes much time and work that use the artificial way to remove capsule from roselle fruit, The Taitung District Agricultural Improvement Station was used to developing the roselle fruit coring-machine and hoping to reduce the production cost by mechanical operation, nevertheless, the efficiency and functions of the machine were not accepted by the farmers. To improve the previous machines, this experiment develops a drilling-type roselle coring-machine in two years. The functions and efficiency of the new invention are better than before. The input way of this machine is artificial. The maximum quantity of input is 69 per minute. The coring-knife rod is drove by a round belt with the velocity of 350rpm; it can easily slice through the bottoms of roselle fruits and remove capsules from the calyxes. During the peaked harvest period of roselle fruits, after culling out the smaller than 24mm and bad calyxes, and to execute the coring operation immediately, the machine has best performance; the coring rate can reach over 85%. The efficiency and function of the machine is not been influenced by different harvests and areas. When the diameter of calyxes are sorted by the grades of each 3mm such as 24, 27, 30, 33, 36, 39, etc, except for 24mm and smaller ones are instable in the coring rate, other grades of coring rate can all keep within stable values.

Key words: Roselle fruit, Coring-machine, Agricultural processing-machine.

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