

Studies on the Centrifugal Separation of Royal Jelly¹

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Summary

With more nutrient contents than honey, royal jelly is regarded as an especially healthy food. Separation of royal jelly from larvae is a difficult, labor intensive process. However, production of royal jelly in Taiwan still relies completely on time-consuming, manual production. The objective of this study is to develop a machine for harvesting royal jelly. During the last year, a prototype 'centrifugator' powered by an alternative motor (1/2 PS and 110V) was manufactured and tested for effectiveness in separating royal jelly. The best results were obtained with the centrifugator operating at 1750 rpm and equipped with a larva-separating screen having a mesh size of 0.608 mm. In related experiments, the percentage of royal jelly residue on screen, royal jelly residue in holders, and damaged larvae are 0.73%, 1.59% and 1.45%, respectively. The harvesting operation of royal jelly by using this centrifugator takes 9.42 minutes for one run (51 holder strips) neglecting time required for the last process of scraping-off the harvested royal jelly. When compared with the operating time of the manual harvesting operation (74.8 minutes) for the same workload, the developed centrifugator reduced the required labor tremendously.

Key words : Honeybee, Royal jelly, Centrifugator, Separation.

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