

BOONMEE KAVINSEKSAK : PRODUCTION AND QUALITY OF ROYAL JELLY FROM

Apis cerana. THESIS ADVISOR : PROF. SIRIWAT WONGSIRI, PH.D., THESIS

CO-ADVISOR : ROMANEE SANGUANDEEKUL, PH.D. 114 PP. ISBN 974-584-511-6

Queen rearing techniques have been modified to produce royal jelly from Apis cerana indica colonies. The results show that when using 24 cups each for twelve sizes of wax queen cups, 7x9, 7x10, 7x11, 8x9, 8x10, 8x11, 9x9, 9x10, 9x11, 10x9, 10x10 and 10x11 mm², the total royal jelly product was 1.4, 1.4, 1.7, 1.7, 1.8, 1.6, 1.8, 2.0, 1.2, 1.7, 1.1 and 0.4 g, respectively. When the numbers of 9x10 mm² queen cups in the colony were 40, 60 and 80 cups/colony, the product was 4.6, 5.4 and 6.6 g/colony, respectively. When the numbers of royal jelly collecting frames in the colony were one frame with 80 cups and two frames with 40 cups/frame, the product was 6.9 and 6.5 g/colony, respectively. The royal jelly product from 60 cups when the grafting larval age was <1 day and collecting times were 2, 3 and 4 days was 2.1, 3.9 and 5.3 g, respectively. When the grafting larval age was 1-2 day and collecting times were 2, 3 and 4 days, it was 3.3, 5.8 and 2.0 g, respectively. When the grafting larval age was 2-3 day and collecting times were 2, 3 and 4 days, it was 3.7, 4.6 and 3.7 g, respectively. The royal jelly product from 30 cups when A. cerana indica royal jelly priming in the cups was 15, 25 and 45 mg/cup was 2.8, 2.9 and 2.5 g, respectively. When A. mellifera royal jelly priming in the cups was 15, 25 and 45 mg/cup, it was 2.3, 2.2 and 2.1 g, respectively. Finally, the royal jelly product when using modified and normal colonies was 7.4 and 5.9 g/colony, respectively.

The chemical components of fresh royal jelly from A. cerana indica in Tumbol Bangkhuntak, Amphur Mueng, Smutsongkram Province, during 8-16 August 1993 were moisture (52.1 %), protein (19.5 %), carbohydrates (23.0 %), 10-HDA (1.49 %), ash (1.5 %) and fat (3.9 %). The quantities of frozen royal jelly components, namely moisture, 10-HDA, ash and fat, were not significantly different ($p \leq 0.05$) after storage at -5 °C for 3 months, while the amount of protein decreased after storage for 2 months but acidity increased after storage for a month (significant with $p \leq 0.05$).