

# Pengaruh pemberian pollen substitute menggunakan komponen tunggal candida hawaiiiana cr014 terhadap jumlah larva dan madu apis mellifera l = Effect of feeding a pollen substitute containing candida hawaiiiana cr014 on apis mellifera l larvae and honey

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## Abstrak

Penelitian bertujuan untuk mengetahui pengaruh pemberian PS terhadap jumlah larva, sel madu, volume dan kualitas madu hasil panen. Pemberian PS dapat menggantikan pollen sebagai sumber protein bagi Apis mellifera untuk mempertahankan produktivitas koloninya. Pollen substitute dibuat menggunakan 6 g biomassa basah Candida hawaiiiana CR014 dicampur dengan 100 mL sirup nanas. Dua koloni (P.2 dan P.3) sebagai perlakuan diberi PS, sedangkan dua koloni (K.1 dan K.2) sebagai kontrol positif diberi campuran pollen jagung dengan 100 mL sirup nanas, setiap minggu selama enam minggu pada musim kemarau.

Jumlah larva dan sel madu diamati setiap minggu selama delapan minggu.

Data dianalisis menggunakan uji ANOVA satu faktor, HSD Tukey, dan uji T. Volume dan kualitas madu hasil panen ditentukan pada minggu ketujuh setelah pemberian PS. Rerata jumlah larva pada koloni perlakuan tidak berbeda nyata ( $P > 0,05$ ) dengan kontrol positif. Rerata jumlah sel madu pada koloni perlakuan berbeda nyata ( $P < 0,05$ ) dengan kontrol positif. Volume madu hasil panen dari setiap koloni relatif stabil. Kualitas madu dari koloni perlakuan dan kontrol positif secara umum memenuhi SNI Madu 01-3545-2004, kecuali konsentrasi sukrosa. Pemberian PS selama enam minggu pada musim kemarau dapat mempertahankan produktivitas koloni A. mellifera (jumlah larva, sel madu, dan volume madu yang dihasilkan).

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The study aimed to examine the effect of PS on the number of larvae, honey cells, volume and quality of honey yields. Feeding PS can replace pollen as a protein source for Apis mellifera to maintain productivity of colonies. Pollen substitute was made from 6 g of wet biomass of Candida hawaiiiana CR014 mixed with 100 mL pineapple sugar. Two colonies (P.2 and P.3) as treatment, were each fed with PS, while two colonies (K.1 and K.2) as positive control, were each fed with 100 mL of a mixture of maize's pollen and pineapple sugar, once a week for six weeks during dry season. The total number of larvae and honey cells were counted every week for eight weeks.

The results were analyzed using one way ANOVA test, HSD Tukey, and independent T test. The volume and quality of honey yields were determined on seventh week after the PS feeding. The number of larvae in treated colonies was not significantly different ( $P > 0,05$ ) from positive control. The number of honey cells in treated colonies was significantly different ( $P < 0,05$ ) from positive control. The volume of honey yields from each colonies relatively stable. The quality of honey yields from treated colonies and positive control met the National Quality Standard based on SNI 01-3545-2004, except sucrose concentration. It is concluded that feeding of PS for six weeks during dry season could maintain productivity of A. mellifera colonies (the number of larvae, honey cells, and volume of honey yields).