

PENGARUH PEMBERIAN PAKAN TERHADAP PEMBENTUKAN RATU LEBAH BARU (*Apis cerana*) DI HUTAN PENDIDIKAN WANAGAMA I, GUNUNG KIDUL

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Abstrak

Lebah madu *Apis cerana* di Hutan Pendidikan Wanagama I sering mengalami serangan hama pada musim kemarau yang menyebabkan kerusakan koloni lebah atau hijrahnya koloni lebah. Perbanyakan koloni lebah dengan cara perbanyakan ratu lebah perlu dilakukan. Pada musim kemarau ketersediaan pakan alami lebah sangat sedikit, sedangkan untuk melakukan perbanyakan ratu perlu sumber makanan yang mencukupi. Oleh karena itu, penelitian pengaruh pemberian pakan tambahan terhadap pembentukan ratu perlu dilakukan. Penelitian ini bertujuan untuk mengetahui: 1) pengaruh pemberian pakan tambahan terhadap pembentukan ratu lebah baru (sel ratu lebah, pupa ratu lebah dan imago ratu lebah) dan ukuran tubuh ratu lebah baru; 2) pengaruh pemberian pakan tambahan terhadap jumlah telur yang dihasilkan ratu lebah baru.

Penelitian dilakukan pada petak 17 di bawah tegakan *Eucalyptus urophylla*, Hutan Pendidikan Wanagama I pada bulan Juli-Agustus 2019 dengan menggunakan rancangan CRD (*Completely Randomized Design*). Pada penelitian ini, terdapat 15 kotak koloni *A. cerana* yang diberi perlakuan pakan tambahan sebanyak 350 ml per koloni setiap 3 hari. Perlakuan berupa larutan gula, larutan gula inversi dan kontrol (tanpa pakan tambahan) dengan masing-masing perlakuan dibuat 5 ulangan. Pelaksanaan penelitian dilakukan dengan: 1) mengkarantina ratu lebah, 2) memberi perlakuan pada masing-masing koloni, 3) mengamati sel ratu, pupa, imago, panjang dan berat ratu dan jumlah telur yang dihasilkan ratu baru.

Hasil penelitian, menunjukkan pemberian pakan buatan larutan gula sebanyak 350 ml per koloni setiap 3 hari saat paceklik berpengaruh signifikan terhadap peningkatan jumlah sel ratu lebah yang menutup (fase pupa) dan jumlah ratu lebah yang berhasil muncul (fase imago). Pemberian pakan larutan gula tidak memberikan pengaruh signifikan terhadap jumlah sel ratu lebah, ukuran tubuh ratu lebah, dan jumlah telur yang dihasilkan ratu lebah baru. Pemberian pakan larutan gula pada koloni lebah dapat meningkatkan pembentukan ratu baru pada musim kemarau (paceklik).

Kata kunci: *Apis cerana*, ratu lebah, pemberian pakan, Hutan Pendidikan Wanagama

EFFECT OF FEEDING ON THE EMERGENCE OF NEW QUEEN BEE (*Apis cerana*) IN WANAGAMA EDUCATION FOREST I, GUNUNGKIDUL

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Abstract

Honey bee (*Apis cerana*) colony often experience pest attacks in the dry season that cause damage to bee colonies or absconding of the colonies in the Wanagama Education Forest I. Propagation of bee colonies by production of the queen bee needs to be done. In the dry season the availability of bees' natural food is very little, whereas for production of the queen needs an adequate source of food. Therefore research on the effect of supplementary feeding on queen production needs to be done. This study was aimed to determine: 1) the effect of supplementary feeding on the production of new queen bees (queen bee cells, pupa queen bees and queen bee imago) and new queen bee body size.; and 2) the effect of supplementary feeding on the number of eggs produced by the new queen bee.

The study was conducted in plot 17 under the stand of *Eucalyptus urophylla*, Wanagama Education Forest I in July to August 2019 using the CRD (Completely Randomized Design) design. In this study, there were 15 boxes of *Apis cerana* colonies that were treated with additional 350 ml of feed per colony every 3 days in the form of sugar solution, inverted sugar solution and control (without additional feed) with each treatment made 5 replications. The research was carried out by: 1) quarantining the queen bee, 2) treating each colony 3) observing queen cells, pupae, imago, the length and weight of the new queen and the number of eggs produced by the new queen.

The results of the study showed that the feeding of 350 ml of sugar solution per colony every 3 days during dearth period significantly affected the increase in the number of cells closing (pupal stage) and the number of queens that successfully emerged (imago stage). However, feeding the sugar solution has no significant effect on the number of new queen bee cells, new queen bee body size and number of eggs produced by the new queen bee. Feeding sugar solution to bee colonies can increase the emergence of new queens in the dry season (dearth period).

Keywords: *Apis cerana*, Queen bee, Feeding, Wanagama Educational Forest