

STUDY ON POLLEN QUALITY AND QUANTITY AS PROTEIN SOURCE OF
HONEYBEE *Apis mellifera* IN RUBBER PLANTATION AREA (*Hevea brasiliensis*)

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ABSTRACT

This research was conducted in the spring rubber in the rubber plantation area in Loncatan Village Leap District Mangaran Aju ng Jember district for 2 (two) months. The research objective is to observe the pollen combs area in rubber plantation area, know the protein content of combs pollen and assess the type and composition of amino acids of combs pollen.

The materials used in research is the honey bee *Apis mellifera* colony of 7 colonies, each containing 9 units active frames. Adapted colonies in the study site for a week to eliminate the influence of feed from the previous place. During the study, colonies of bees do not get extra food so that all food comes from nature. Observations were carried out after a period of adaptation with a collection combs pollen. Measurement of pollen combs area done every week during the study period. Analysis of proteins made from combs pollen is collected each week, using the Kjeldahl method. Analysis of a type and composition of amino acids using amino acid analyzer (Hitachi, 1984) and then compare with the results of research de Groot (1953). Data obtained from these observations were analyzed descriptively to get an overview of research results.

The results showed that during the study period in the area of rubber plantations there are variations in the comb area pollen honey bees collected at each week during the study with an average of 60.80 ± 2.857 cm², the protein content is $3.77 \pm 0.629\%$, there are 10 species amino acids in very low levels between 0,212 - 1,251 %.

The conclusion of this research is during migratory beekeeping in the area of rubber plantation, bees get pollen low amounts of protein and amino acid levels below the requirement.

Keywords: Pollen, Protein, Amino Acids, Honey Bee, Rubber