

The Effect of Fresh Coffee Fruit Assisted Decomposition on the Roasted Coffee Beans Organoleptic from Natural Harvests by BSF (*Hermetia illucens*) Larvae

by Suhandoyo, Tri Harjana, Ciptono, Himmatul Hasanah

ABSTRACT

BSF (*Hermetia illucens*) larvae liked media that smells of fermentation and tend to be in humid conditions to near dryness. The BSF life cycle provides more benefits, so the potential of BSF larvae in decomposing organic materials needs to be implemented in order to help organoleptic improvements in roasted coffee beans.

This study used basic media for feeding BSF larvae in the form of finely fermented rice bran, 3 types of fresh coffee fruit Arabica (A), Robusta (R) and Liberika (L) trees obtained from coffee plantations in the Magelang and Kendal Regencies, as well as aromatic leaves. Which consists of leaves: Basil (Ke), Katuk (Ka), Tea (Te) and Beluntas (Lu). Positive control (K+) for rearing BSF larvae with basic feeding and addition of fresh coffee cherries without aromatic leaves, while negative control (K-) for fresh coffee cherries without BSF larvae or aromatic leaves. All treatments were repeated 3 times. The rearing area was a 30 x 40 x 6 cm plastic tray with a total weight of 500 grams of each media composition. Each tank was given larvae aged 5 days after hatching with a total biomass of 5 grams/tub until they reached the pupal period.

The results showed that the period of BSF larvae in the decomposition process of fresh coffee fruit peels resulting from natural harvesting was shorter when the addition of basic feed with Arabica coffee types combined with aromatic types of Basil leaves when compared to other treatments. Biomass gain as the main indicator of BSF larvae growth performance during the process of decomposition of fresh coffee berry skin from natural harvesting obtained the highest figure of 282.3 grams in the positive control for both Arabica, Robusta and Liberika coffee types. The organoleptic characteristic test of roasted coffee beans during the decomposition process of fresh fruit with the help of BSF larvae was carried out by a panel tester by tasting the ground coffee brew served: The sour taste score for all types of coffee and all types of additional aromatic leaves was 3.92 with a mild sour taste level approaching moderate. The bitter taste got a score of 3.98 which means that the bitter taste was mild to moderate. Sweet taste with an average score of 2.31, there was an impression of a sweet taste, but it was very light. The impression of the depth of taste with an average total score of 2.57 indicates the lingering taste of coffee in the taste buds after tasting the coffee brew in a relatively short to moderate time, especially for the sour and bitter taste of coffee.

Kata Kunci: *BSF, Larvae, organoleptic, roasted, coffee beans*