

HAEMOCYTE POPULATION DYNAMICS IN FIFTH INSTAR SILKWORM *BOMBYX MORI* L INOCULATED WITH *BEAUVERIA BASSIANA* (BALS.) VUILL

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ABSTRACT

Total and specific haemocyte population indicates the immunological status of the insect. In view of the significance of the haemolymph and haemocytes in the various life process and protection mechanism from foreign bodies, the present study was carried out to understand the day to day changes in Total Haemocyte Count (THC) and Differential Haemocyte Count (DHC) in 5th instar silkworm larvae inoculated with fungal pathogen **Beauveria bassiana**. Significant enhancement of Total Haemocyte Count (THC) was observed till third day (121.0 to 139.75 $\text{THCx10}^3/\text{mm}^3$), and then gradual reduction of the haemocyte population was noticed according to the progress of the fungal pathogen (119.25 to 89.5 $\text{THCx10}^3/\text{mm}^3$). In case of Differential Haemocyte Count (DHC) viz., plasmatocytes (35.75 to 45.75 $\text{DHCx10}^3/\text{mm}^3$), granulocytes (39.5 to 48.75 $\text{DHCx10}^3/\text{mm}^3$) and spherulocytes (16.25 to 21.0 $\text{DHCx10}^3/\text{mm}^3$) number was increased up to 3rd day of the instar and from 4th day onwards the number of plasmatocytes (39.25 to 32.0 $\text{DHCx10}^3/\text{mm}^3$), granulocytes (43.0 to 35.5 $\text{DHCx10}^3/\text{mm}^3$) and spherulocytes (17.5 to 10.0 $\text{DHCx10}^3/\text{mm}^3$) were decreased in experimental animal. Gradual reduction of oenocytes (3.75 to 1.0 $\text{DHCx10}^3/\text{mm}^3$) and prohaemocytes (25.75 to 11.0 $\text{DHCx10}^3/\text{mm}^3$) was noticed in the experimental silkworm.

KEYWORDS: *Beauveria bassiana*, *Bombyx mori*, Haemocytes, Silkworm