The rate of development in any organism is an outcome of several causes, both genetic and environmental. Environmental factors such as crowding, food and several others are known to influence the rate of development. The present communication deals with the differential rate of development and the effect of crowding on the rate of development in Drosophila nasuta.

The strain of D. nasuta from Biligirirangana Hills has been used for these studies. The eggs of the same age were observed to exhibit differential rate of development in the same environment. In order to assess the effect of crowding on the rate of development the eggs of the same age were collected (± 4 hours) following the procedure of Delcour (1969). The eggs were then placed in 3" x 1" vials with yeast sprayed wheat cream agar media and permitted to develop at a constant temperature of 20°C (± 1°C). The eggs in different vials were distributed and divided into three groups - A, B and C. In the group A each vial has 10 eggs, B group has 50 and C has 100 eggs. The flies were scored each day right from the time of their emergence up to one month. The eclosion of the flies began from 13th day and continued even after 27th day. The effect of crowding has been measured by the number of flies emerged in each group. Thus the number of flies obtained in group A is 98%, while in B and C the number of flies emerged are just 50%. This is due to severe competition that existed in B and C groups. The percentage of flies emerged each day is graphically depicted in the figure 1. Survey of this graph reveals that in the group A the maximum eclosion of flies occurred on the third day followed by a sudden decline while in B and C there is approximately even distribution of emergence followed by a gradual decline.

It is probable that this difference in the pattern of emergence is under the influence of overcrowding.

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