



Impact Of Brewers Yeast On Honey Production And Colony Growth Of *Apis mellifera* Sadguru Gadage Maharaj College Karad (An Autonomous),

Department of Zoology

Vijay S. Ranbhare, Associate Professor, S.G.M. College, Karad

Kajal V. Kolekar, P.G. Student, S.G.M. College, Karad

Vasudha A. Mahadik, P.G. Student, S.G.M. College, Karad

ABSTRACT

Honeybees use pollen and nectar as a food source to produce honey, they consume pollen and nectar from variety of flowers. In fall season (Autumn) leaves falling from trees and plants become dormant. It affects on the nectar and pollen coming into the hive and this factor influence on brood rearing of honey bees, colony growth and production of honey. Present paper list about the positive effect of brewer's yeast as supplementary food source to fulfill their need of nutrition, colony growth and production of honey. Brewer's yeast is known as rich source of vitamin B and protein. Experiment conducted with four colonies of *Apis mellifera*.

The data is collected for 45 days (16 Aug to 30 Sep 2021). Brewer's yeast is given in the form of jelly. It is prepared with Brewer's yeast (As main energy source) + Sugar + Honey + Water. Colonies fed by weekly interval. The results provide initial information that Brewer's yeast fulfills the nutritional need of honeybees and boosts their health. It also shows positive impact on the growth of colony and yield of honey.

Keywords- Brewer's yeast, Supplementary food, *Apis mellifera*, colony growth, honey production, Nutrition.

Introduction-

Brewer's yeast contains all the essential amino acids, 14 minerals, 17 vitamins. It is one of the best natural sources of the B-complex vitamins thiamin, riboflavin, niacin, pantothenic acid, biotin and folic acid [1]. In the fall a reduction in the amounts of nectar and pollen coming into the hive causes reduced brood rearing and diminishing population [2]. The decline in bee health has been linked to a variety of factors, including those influenced by the activities associated with beekeeping and crop production like lack of varied diet due to declining wild spaces and increased monocultures have lead to malnutrition of honeybees. Use of pesticide and other crop protection products can incidentally expose bees [3]. Production of honey and wax is no longer dependent on the availability of flowers in the surrounding environment, but rather appears to be intimately linked to the quality of food that the bees collect. It is now clear that the pesticide, contaminated flowers affect the health of honeybee colonies to the extent that their productivity declines [4]. Brewer's yeast is essential for the activity and development of honeybee colonies, especially when the natural protein resources are in shortage [5].

Materials and Methods:

The experiment performed at botanical garden of S.G.M. College, Karad. It was conducted with 4 colonies of *Apis mellifera* in August and September. These colonies are divided into 2 groups i.e control colonies and experimental colonies respectively.

Nutritional value-

As these colonies divided into 2 groups, 1st group (control colonies) were provided with 50 ml of 25 % sugar syrup per colony and 2nd group (experimental colonies) were provided with 50 ml of 25 gm Brewer's yeast + 10 % sugar syrup + honey per colony.

This supplementary nutritional food feeding started on 16 August 2021 to 30 September 2021. Data is described on supplementary food consumption, colony growth and honey yield.

Preparing and feeding diet for experimental colonies:

Brewer's yeast jelly is prepared by using Brewer's yeast as main protein source and honey and sugar syrup and provided weekly. Dose is prepared by using 50 ml of 25 gm Brewer's yeast + 10 % sugar syrup + honey.

Result and Discussion:

Group 1 (Control colonies) consume entire food. The sugar syrup not increased their weight and growth significantly. The effect on honey production is also not gained.

Group 2 (Experimental colonies) consume food. The Brewer's yeast significantly increase the growth of colonies and yield of honey is also increased significantly.

The results clearly shows in nonflowering season, giving Brewer's as a supplementary food diet is more useful and beneficial for colony growth and also honey production.

Conclusion :

Honeybees increases their colony growth and quality and quantity of honey when Brewer's yeast is fed as their supplementary food during shortage of food period.

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