INTERNATIONAL JOURNAL OF RESEARCHES IN BIOSCIENCES, AGRICULTURE AND TECHNOLOGY
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www.ijrbat.in

CHEMICAL ANALYSIS OF SUMMER HONEYS COLLECTED FROM APISDORSATA HIVES OF NAGBHID TAHSIL OF CHANDRAPUR DISTRICT OF MAHARASHTRA STATE (INDIA)

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ABSTRACT:
The present investigation was undertaken to determine the chemical analysis of two honey samples were collected from forest area of village Girgoan and Kachepar of Nagbhid Tahsil , District Chandrapur , Maharashtra State (India) in summer. These samples were analysed for several parameters such as moisture, total reducing sugar, Levulose or Fructose, Dextrose or Glucose, L/D ratio, Sucrose, Acidity. This type of chemical analysis favours the utilization of the honey for good quality in this area.

Keywords: *Chemical Analysis, Summer Honey, Nagbhid Tahsil.*

INTRODUCTION:

Honey is a carbohydrate rich naturally complex product produced by honey bees from floral nectar. Honey has been used by all civilizations as nutrient food and in traditional medicine. The quality of honey depends on various physiological factors such as climate, soil, etc. Honey contains Sugar, Protein, Moisture, Vitamins, Minerals, Enzymes, Polyphenols and Flavonnoids (Manary et al., 2002) because of this unique complex nature, honey is proved to be useful in the treatment of burns, wounds, skin ulcers as an antioxidant and iin the treatment of external eye diseases (Balasubramanyam, 2011). Furthermore, honey is a highly valuable ingredient in condiments, beverage, sauces and sweets. In fact numerous studies have been reported on physical, chemical and melissopalynological parameter of honeys from all over the world. (Adenken et al., 2010; Anklam, 1998; Cherian et al., 201; Borkar Laxmikant and Mate Devendra, 2014; Downey et al., 2005; Ramnathnad Shivaramm, 2012, Terrab et al., 2002; Xesus *et al.*, 2010). The scientific literature revealed that the information is not available with respect to chemical characteristics of honeys collected from forest area of village Giroan and Kachepar which are located in Nagbhid Tahsil of Chandrapur District , Maharashtra State (India). The purpose of this study has to investigate some chemical parameters viz. Content of Moisture, Total Reducing Sugar, Levulose or Fructose, Dextrose or Glucose, Levulose/Dextrose, Sucrose, Acidity of honey.

METHOD AND MATERIAL:

Chemical analysis of the honeys are carried out by using Indian Standard Specification, IS: 4941 (1974) and IS: 8464 (1977). The percentage of Total Reducing Sugar, (Levulose or Fructose + Dextrose or Glucose), Levulose, Dextrose, Sucrose, Acidity, Moisture and L/D ratio were estimated.

RESULT AND DISCUSSION:

The chemical properties of honey samples collected from the two different places Viz. Girgoan and Kachepar in summer, from Nagbhid Tahsil of Chandrapur District of Mahartashtra State are reported in table no.1.

In the present study moisture content in the sample ranges from 24.8 - 30

Increase in the temperature moisture is low and decrease the temperature moisture is high. Increase in moisture content of honey is also indicative of adulteration. The low moisture content of honey forms an important part of the system which protect honey from attack by microorganism.

Sugars:

Honey consists of mostly Glucose and Fructose. The actual proportion of Fructose to Glucose in any particular honey depends largely on the sources of the nectar. All samples contained more Fructose than Glucose.

Acidity:

Acidity of the honey sample ranges by 0.2323 to 0.2875 respectively.

CONCLUSIONS:

Honey collected from these two places is rich in fructose. Fructose level in honey is higher than that of Glucose. This indicated that Nagbhid honeys would be less prone to granulation. . Honey with high Fructose to Glucose ratio would remain liquid for longer period. The Fructose/Glucose ratios may have an impact or honey flavour, since fructose is much sweeter than glucose and due to more content of fructose and sucrose it is beneficial for diabetic patients. Acidity values may indicative the fermentation of honey sugar by yeast.

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Table no. 1: Chemical Analysis of honey samples collected from two different places of NagbhidTahsil of Chandrapur District.

		Parameter (%)						
Sr.No.	**Location of sample**	**Moisture**	**Total Reducing Sugar**	**Levulose (Fructose)**	**Dextrose (Glucose)**	**L/D Ratio**	**Sucrose**	**Acidity**
1	CHN-NAG-GIR	24.8	71.681	39.592	32.189	1.303	2.545	0.2323
2	CHN-NAG-KAC	30	73.652	38.312	35.340	1.204	2.667	0.2875