

NEW TECHNICAL PROGRAMME

Department of Forest Products and Utilization

Experiment No. 21.5.3.9

01.	Experiment No. and Title	:	Assessment of physical and biochemical properties of different floral honey
02.	Budget Head	:	12101 and 12952
03.	Collaborative department, if any	:	-
04.	Background information	:	
	<p>Honey may be categorized and show variation according to its origin, floral source such as monofloral and polyfloral, harvesting method, processing (comb honey, strained honey, chunk honey, extracted honey, pressed honey, crystallized or granulated honey) and its use such as table honey, industrial or baker's honey (Alvarez-Suarez <i>et al.</i> 2014).</p> <p>The quality of honey is mainly determined by its physical and biochemical properties (Khalil <i>et al.</i>, 2012). Important physical parameters of honey are pH, EC (Electrical Conductivity), moisture content, specific gravity, colour, ash content, optical density and minerals.</p> <p>The physical and biochemical properties may vary among different unifloral or multifloral honey. The research related to physical and biochemical properties of different kinds of honey is scanty in India. Therefore, the present research is proposed to find out physical and biochemical variation in different floral honey. Further, such kind of study will be used for knowing the range of quality parameters in different floral honey and may also be useful for setting quality standards in various floral honey in India. The variation in the quality parameters can be further exploited for its efficient utilization.</p>		
	Hypothesis	:	The present study is proposed with the null hypothesis (H ₀) that different floral sources of honey would not differ in its physicochemical and biochemical properties
05.	Objectives	:	1. To study the physicochemical properties of honey from different floral sources 2. To study the biochemical properties of honey from different floral sources
06.	Principal investigator and associates	:	PI: Dr. A. A. Mehta, Assoc. Professor (FPU) Co-PIs: Dr. D. P. Patel, Assoc. Professor (NRM) Dr. L.K. Behera, Assoc. Professor (Silviculture) Associate scientist: Dr. S. K. Sinha, Assoc. Professor (WST) SRF: Dr. Govind
07.	Location and Agro-climatic sub-region	:	Dept. of FPU and FRM, College of Forestry, NAU, Navsari
08.	Year of commencement	:	2025
09.	Tree species	:	NA
10.	Experimental details	:	

	(a)	Treatments	:	Floral Sources of Honey T ₁ : Ajwain (<i>Trachyspermum ammi</i>) T ₂ : Coriander (<i>Coriandrum sativum</i>) T ₃ : Indian mesquite (<i>Prosopis juliflora</i>) T ₄ : Sesame (<i>Sesamum indicum</i>) T ₅ : Mustard (<i>Brassica spp.</i>) T ₆ : Fennel (<i>Foeniculum vulgare</i>) T ₇ : Dill (<i>Anethum graveolens</i>) T ₈ : Forest
	(b)	Experimental Design	:	CRD
	(c)	Repetition	:	3 (Number of Samples per Repetition: 3)
	(d)	Plot size (if applicable)	:	NA
	(e)	Spacing	:	NA
	(f)	Seed rate (kg/ha)	:	NA
	(g)	Manures and fertilizer	:	NA
	(h)	Any other detail, if required	:	NA
11.		Observations to be recorded	:	<p>A. PHYSICOCHEMICAL PROPERTIES</p> <ol style="list-style-type: none"> 1. pH 2. EC (dS/m) 3. Moisture content (%) 4. TSS (°Brix) 5. Specific gravity 6. Colour intensity (mAU) 7. Ash content (%) 8. Optical density <p>B. BIOCHEMICAL PROPERTIES</p> <ol style="list-style-type: none"> 1. Total phenol content (mg/kg) 2. Total flavonoid content (mg/kg) 3. DPPH - RSA (%) 4. FRAP values (µM Fe (II)/100 g) 5. Sugar content (%) 6. HMF(mg/kg) 7. Acidity (% w/w)(expressed as formic acid)
12.		Methodology	:	<p>Honey will be collected from different floral sources as per treatments. For each treatment, honey will be collected from three farms randomly. Collected samples will tag as per treatments and store as per guidelines.</p> <p>Different physical and biochemical properties will be analyzed in FPU and FRM laboratories of College of Forestry, NAU, Navsari by standard procedures.</p>