

FORM – A : RESULT OF ONGOING EXPERIMENT

01.	*Experiment number and title (As per CJA)	:	19.4.3.43 and Evaluation of different bamboo species for vinegar production and nutritive value
02.	Budget Head	:	352/12029
03.	Collaborative department, if any	:	NA
04.	Location and Agro-climatic sub region	:	Bamboo Resource Centre, College of forestry, NAU, Navsari – 396450 and AES-III (Heavy Raifall Zone), South Gujarat
05.	Background Information	:	<p>Perennial grasses with large woody stem or culm belonging to subfamily Bambusoidae under family Poaceae is taxonomically known as bamboo mainly growing in temperate and tropical parts of the world. Bamboos have multiple utilizations (including building materials, medicinal ingredients, nutritious vegetables and animal feed stocks) depending on bamboo species, bamboo types, plant parts and growing regions of a country. Apart from these bamboo can be leading plant material in bio-energy sectors.</p> <p>Vinegar is an acidic liquid produced through the fermentation of ethanol by acetic acid bacteria. It is used in cooking not only for its flavor qualities but also for its chemical properties.</p> <p>Bamboo vinegar a natural liquid derived from the condensation produced during bamboo charcoal production, has been used in agriculture and as a food additive. It is composed of water (~80–90%), acetic acid, and many other organic constituents, and has a sour and smoky odor and a pH of 2.5 to 2.8. Bamboo vinegar have been used in food processing and as a food additive and shows medical properties, including the ability to eliminate toxins from the human body (Lung Ho et al., 2013). Looking to its various application, health benefits and natural or bio bi-product present experiment taken entitled “Evaluation of different bamboo species for vinegar production and nutritive value” with following objective.</p>
06.	Objectives	:	<ol style="list-style-type: none"> 1. To evaluate different bamboo species for charcoal production 2. To analyze the quality of charcoal from different bamboo species.
07.	Investigators	:	<p>PI: Dr. Jayesh Pathak, Assistant Professor (Agroforestry)</p> <p>Co-PIs:</p> <ol style="list-style-type: none"> 1. Dr. S. K. Sinha, Assistant Professor (Wood Science and Technology) 2. Dr. D. P. Patel, Assistant Professor (NRM) and I/c. HOD <p>Associates:</p> <p>Dr. A. A. Mehta, Assistant Professor (FPU)</p>
08.	Year of commencement	:	2022-23
09.	Season	:	NA

10.	Crop and variety	:	Different Bamboo Species			
			Treatments	Bamboo Species	Treatments	Bamboo Species
			T ₁	<i>Bambusa bambos</i>	T ₉	<i>Dendrocalamus hamiltonii</i>
			T ₂	<i>Bambusa vulgaris</i> var. <i>vulgaris</i>	T ₁₀	<i>Dendrocalamus stocksii</i>
			T ₃	<i>Bambusa vulgaris</i> var. <i>vitata</i>	T ₁₁	<i>Dendrocalamus sikkimensis</i>
			T ₄	<i>Bambusa balcooa</i>	T ₁₂	<i>Dendrocalamus brandisii</i>
			T ₅	<i>Bambusa nutans</i>	T ₁₃	<i>Dendrocalamus longispathus</i>
			T ₆	<i>Bambusa tulda</i>	T ₁₄	<i>Gigantochloa atroviolacea</i>
			T ₇	<i>Bambusa polymorpha</i>	T ₁₅	<i>Guadua angustifolia</i>
T ₈	<i>Dendrocalamus strictus</i>	T ₁₆	<i>Thyrsostachys oliveri</i>			
11.	Experimental details	:				
	(a) Treatments	:	16			
	(b) Design	:	Randomized Block Design (RBD)			
	(c) Replications	:	3			
	(d) Plot size	:	Gross	-	_____ m x _____ m	
			Net	-	_____ m x _____ m	
12.	Cultural details	:				
	(a) Previous crops and fertilizers	:	NA			
	(b) Sowing date	:	NA			
	(c) Seed rate	:	NA			
	(d) Spacing	:	NA			
	(e) manures and fertilizers	:	NA			
	(f) No. of irrigation with date	:	NA			
	(g) Cultural operations with date	:	NA			
	(h) Plant protection measures	:	NA			
	(i) Harvesting date	:	NA			
13.	Soil analysis	:	NA			
14.	Input analysis	:	NA			
15.	Results (Table/s with statistical analysis and Interpretation)	:	For understanding of machineries required for charcoal, biochar and vinegar we have visited Department of Renewable Energy, SVNIT, Surat. Procurement will be initiated.			
16.	Remarks (for abnormal experimental results only)	:	-			

17.	Reasons for abnormal conditions affecting experimental results and low yield if any be given in brief. e.g. uneven plant stand, pest and disease incidence, weather conditions, etc.	:	NA
18.	Any other information	:	NA