

NEW TECHNICAL PROGRAMME

Department of Silviculture and Agroforestry

Experiment No. 21.5.3.5

01.	Experiment No. and Title	:	Endozoochorous plant diversity in goat faeces from pens of South Gujarat	
02.	Budget Head	:	12952	
03.	Collaborative department, if any	:	Department of animal nutrition, Kamdhenu University (Navsari Campus)	
04.	Background information	:		
	<p>India occupies first position in terms of goat population and milk production. Chevon (goat meat) is most preferred and widely consumed meat in the country. Commercial goat farming in India is becoming very popular day by day. As goat farming is a proven highly profitable business idea so, the popularity of this business is increasing rapidly in India. It is also one of the finest and established livestock management department in the country. Intensive livestock farming within the forest remnants is considered one of the main causes of these degradation processes. However, domestic ungulates could also be fulfilling the role of seed dispersal for some wild species. Herbivores can play an important role as seed dispersal vectors, ungulates constituting potential seed dispersal agents of Mediterranean grasses and shrubs. It has been documented that goats can disperse the seeds of shrub species in many parts of the world. There are reports on germination of defecated or regurgitated seeds of several species. However, reports on quantification of plant diversity in endozoochory process are meagre. Endozoochory is a process where animals disperse seeds by eating fruits that contain them. The seeds then pass through the animal's digestive system and are either defecated or regurgitated. This is a mutualistic relationship between the plant and the animal. Such studies would be helpful in quantifying the plant species available for browsing for goats as well as seed dispersal in the goat free ranging. Therefore, the present study is proposed with objectives cited in forgoing background information with the null hypothesis (H₀) assuming that collections would not differ, while the alternative hypothesis (H₁ or H_a) with assumption that collections would differ in endozoochorous plant diversity of goat feces.</p>			
	Hypothesis		The present study is proposed with the null hypothesis (H ₀) that feces collections would not differ in endozoochorous plant diversity of goat feces	
05.	Objectives	:	1. To assess the endozoochorous plant diversity in goat feces 2. To quantify the browsable plant species for goats	
06.	Principal investigator and associates	:	PI: Co-PI:	Dr. N S Thakur Dr. R P Gunaga Dr. B S Desai
	SRFs	:	D C Bhuva	
07.	Location and Agro-climatic sub-region	:	Dept. of SAF, College of Forestry, NAU, Navsari	
08.	Year of commencement	:	2025	
09.	Tree species	:	NA	
10.	Experimental details	:		

	(a) Treatments	:	Treatments (Goat Pens) T ₁ =Captive (Navsari, LRS) T ₂ =Navsari T ₃ =Nanapondha T ₄ = Waghai T ₅ =Sagai T ₆ =Devmogra T ₇ =Narmada-1 T ₈ =Narmada-2
	(b) Experimental Design	:	Descriptive statistical tools shall be used for data analysis
	(c) Repetition	:	NA
	(d) Plot size (if applicable)	:	2 m ² (sand beds)
	(e) Spacing	:	NA
	(f) Seed rate (kg/ha)	:	10 kg goat faeces/plot
	(g) Manures and fertilizer	:	NA
	(h) Any other detail, if required	:	NA
11.	Observations to be recorded	:	<p>A. Plant diversity (numbers)</p> <ol style="list-style-type: none"> 1. Annuals 2. Perennials 3. Climbers <p>B. Diversity Indices</p> <ol style="list-style-type: none"> 1. Importance Value Index 2. Simpson's Index 3. Shannon-Weiner Index 4. Evenness Index
12.	Methodology	:	The goat feces shall be collected as per treatments/goat. Goat feces of each repetition shall be course grounded and applied @10 kg/2 m ² sand beds in green house beds. Sterilized sand (heating process or pre-emergence weedicide treatment) shall be used to ensure any prior presence of plant seeds

