01. Experiment number and title (As per CJA) : **21.5.3.43** Development of dehydrated okra pod snacks

02. Budget Head : 12940

03. Collaborative department, if any : Dept of Veg Sci., ACH, NAU, Navsari

04. Background information:

Okra is a flowering plant known for its edible seed pods. South Gujarat is hub for okra cultivation. Okra is rich in magnesium, folate, fiber, antioxidants, and vitamins C, K-1 and A. It may help support healthy pregnancy, heart health, blood sugar. it may even have anticancer properties. There are great fluctuation in the rate of okra, which generated force selling of okra. Processing of okra is neglected area and so its need to develop a product which may enhance the utility of okra pod. To overcome this issue an experiment was planned with following objectives.

05. Objectives:

1. Standardization of drying of okra pod.
2. Standardization of frying of okra pod.
3. Packaging and storage study of dried and fried okra pod.

06. Principal investigator and associates : PI- Er. P. S. Pandit,
Co PI- Dr. S.L Sangani, Dr. H. R. Rathod,

07. Location and Agro-climatic sub-region : PHTC, NAU, Navsari

08. Year and Season : Year of commencement: 2025
Year of completion: 2027

09. Crop and Variety : Okra Dried and Fried Okra. GNO-1

10. Experimental details :

(a) Treatments *for performance*:

Factor-1:Drying Method (2 Level)

M_1=Freeze Drying(50°C, at760mm Hg);
M_2=Oven Drying (50°C)

(a) ***Factor-2:***Packing Material (2 Level)

P_1: 125µ HDPE pouch,
P_2: Multilayer pouch,
P_3: Glass Container.

Storage Environment: Ambient upto 12 months

Treatment Combination : 2x3 = 06

Packaging ***Drying Method***	**P_1: HDPE pouch**	**P_2: Multilayer pouch**	**P_3: Glass Container**
M_1= Freeze Drying	T_1	T_2	T_3
M_2= Oven Drying	T_4	T_5	T_6

(b) Experimental Design : FCR

(c) Replications/Repetitions : 4

(d) Sample Size : 500g okra / treatment / replication

11. **Observations To Be Recorded:**

Moisture Content, Size, Shrinkage, Color, Magnesium, Organoleptic Parameters, Drying Parameters,

12. Methodology (if necessary):

Okra pod will be procured from NAU farm or nearby farm. The pod will be cleaned, sorted, washed, and surface soaked. It will be dried as per treatment. The dried okra will be fried and seasons with spice mix followed by flexible packing. The packed dried and fried okra will be stored and analyzed.

13. Experiment Flow Chart :

Okra Pod
↓
cleaning, sorting, washing, surface soaking
↓
drying as per treatments
↓
Frying
↓
Seasoning :
(coriander powder, chilly, salt)
↓
packing and storage
↓
analysis
cost economy, commercialization