Brief description of the technology

The developed low-cost Meat Drier for rural household problems catering to the overall need of the rural tribal house for the purpose of meat and spice drying. Target groups are rural farmers, general public and State Agriculture and Animal Husbandry Departments.

Novelty of the developed device

1. Quick drying (3 stage heating) and storage of meat.
2. No accumulation of carbon soot, fungal growth and degradation by maggot.
3. Portable structure and eco friendly.
4. Hygienic collection of lard for use in traditional cooking.
5. Maximum 5 kg meat drying provision.
6. Additional benefit of room heating during the winter season.
7. The dryer can be used in drying of vegetables (Chilli, beans, carrot corns etc.), fruits (apple, plum, peaches, Persimmon etc.) and spices (large cardamom, garlic etc.).

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2024

INNOVATIVE MEAT DRYER

Design Registration Number-330513-001

TECHNOLOGY CERTIFIED BY ICAR

भाकृअनुप ICAR

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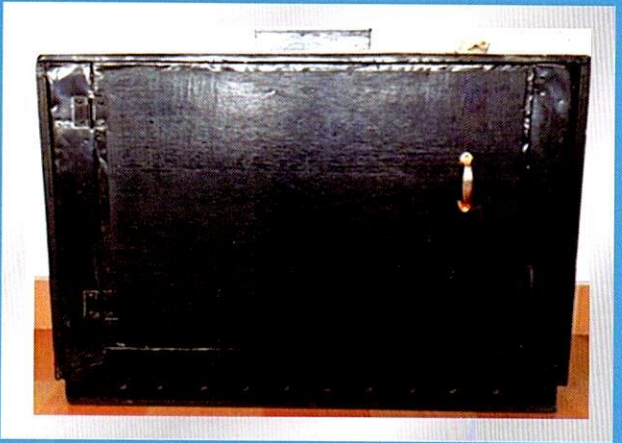
Background

The Meat Dryer technology emerged from a pressing necessity in rural and tribal communities to preserve perishable food items like meat and spices effectively. Affordability and accessibility for rural homes are given priority in this technology, which was developed with locally accessible materials including wood, plywood, and aluminum sheets. It's compact design, measuring 60 cm in length, 55 cm in height, and 35 cm in breadth, incorporates insulation and utilizes halogen tubes and an axial fan for efficient hot air drying.

This innovation addresses longstanding challenges in food preservation by providing a reliable solution that minimizes spoilage and ensures food security. Designed with stages of drying at varying temperatures, from 134°F to 170°F, the dryer accommodates different food types and local culinary practices. Beyond meat, it supports the drying of vegetables, fruits, and spices, thereby enhancing nutritional diversity and economic opportunities for rural farmers.

By integrating traditional knowledge with modern engineering principles, the meat dryer not only meets practical needs but also empowers communities to sustainably manage their food resources.

Prototype



About the technology

The technology works on the principle of hot air drying of meat by continuous suction of air and exit of heated air.

Dimensions

Length: 60 cm
Height: 55 cm
Breadth: 35 cm
Insulation wall gap: 4 cm
Base stand: 4 cm

Material used:

- Plywood (1 cm thick)
- Wood
- Aluminium sheets
- Halogen tubes 200 w – Three No's
- Axial fan
- Iron nets
- Switches, plug and heating panel
- Paint (Black)
- Iron handle
- Aluminium hooks

Three stages of heating

Stage 1: Four dryings of 30 min duration at 6 hours interval per day for 1 week (134-138°F). Stage 2: Three dryings of 30 min duration at 8 hours interval per days for 1 week (150-160° F). Stage 3: Four drying of 15 min duration at 6 hours interval per day for 1 week (165-170° F).