

MOTH PACKAGING



INTRODUCTION

Scientific name: *Vigna aconitifolia*

Family: Fabaceae

Common name: mat bean, moth bean, matki, Turkish gram or dew bean

Origin: India



INTRODUCTION

- Moth bean is native to India , grown for food production and as a forage and cover crop.
- It is predominately grown in India, although it has been cultivated in the United States, Australia, Thailand and other parts of Asia.
- This crop is used as a source of food, feed, fodder, green manuring, and green pasture. Green pods are delicious source of vegetables.
- Since moth is a pulse thus it also a good source of vegetable protein.

PACKAGING

- Packaging is an important part of food manufacturing process. It protect the food products from physical ,chemical, biological damages.
- Without packaging, materials handling would be a messy, inefficient and costly exercise and modern consumer marketing would be virtually impossible.
- Packaging Institute International defined packaging as the enclosure of products, items or packages in a wrapped pouch, bag, box, cup, tray, can, tube, bottle or other container form to perform one or more of the following functions: containment, protection, preservation, communication, utility and performance. If the device or container performed one or more of these functions, it was considered a package.

NEED OF PACKAGING

- **CONTAINMENT** : protecting the environment from the myriad of products that are moved from one place to another.
- **PROTECTION** : to protect its contents from outside environmental influences such as water, water vapor, gases, odors, microorganisms, dust, shocks, vibrations and compressive forces.
- **CONVENIENCE** : Products designed to increase convenience include foods that are prepared and can be cooked or reheated in a very short time, preferably without removing them from their primary package.

NEED OF PACKAGING

- COMMUNICATION** : Packaging contains a lot of information such name of its manufacturer, product name, terms and uses, date of manufacturing, best before. nutritional information thus helping the consumer to be more informed.



TYPES OF PACKAGING

- **PRIMARY PACKAGING** : Primary package are those package which directly came into contact with food products. It provides first or initial layer of protection to the food products. Examples of primary packaging includes Metal cans, tea bag, paperboard cartons, glass bottles and plastic pouches.
- **SECONDARY PACKAGE** : Secondary package are those package which surrounds or contains the primary package. Ex. Corrugated case, Boxes
- **TERTIARY PACKAGE** : It contains number of secondary package together. Mainly used for bulk handling of food products.

PACKAGING MATERIAL FOR MOTH

- Packaging of food products is mainly done to protect the it from outside environment especially after the completion of process so that food can retain flavor, aroma, freshness for a longer period of time..



PACKAGING MATERIAL FOR MOTH

1. LDPE :

- Low-density polyethylene is heat sealable, inert, odour free and shrinks when heated.
- It act as a barrier to moisture and has high gas permeability
- It is less expensive, therefore widely used.
- Has ability of fusion welded to itself to give good, tough, liquid-tight seals.



PACKAGING MATERIAL FOR MOTH

2. PET :

- PET can be made into film by blowing or casting.
- Melting point of PET is higher than PP which is around 260°C and due to the manufacturing conditions does not shrink below 180°C.
- PET is ideal for high-temperature applications.
- It also act as good barrier of oxygen and water vapor.



PACKAGING MATERIAL FOR MOTH

3. GLASS : Now a day glass container has been also used for packaging the food. It has following advantages:

- act as strong barrier to moisture, gases, odours and micro-organisms.
- do not react with food products.
- suitable for heat processing when hermetically sealed
- glass are re-useable and recyclable
- they are transparent to display the contents
- they are rigid, to allow stacking without container damage.



PACKAGING MATERIAL FOR MOTH

4. ALUMINIUM:

- Aluminium is used for packaging as it is highly malleable.
- It can be easily converted to thin sheets and folded, rolled or packed.
- Aluminium foil acts as a total barrier to light and oxygen odours and flavors, moistness, and used broadly in food packaging, including long-life packs.



PACKAGING MATERIAL FOR MOTH

6. PAPER BAG :

- The paper bag form an excellent packaging material for moth. They may be kraft paper, plastic coated, solid fiber board, linear board, box board etc.
- The advantages of using of paper is that it is weightless, capability for printing on the surface, low cost and easy disposability.
- The disadvantage include low wet and tear strength.



PACKAGING MACHINES



PACKAGING MACHINES



Vacuum packaging Machine



Hand press sealer



Leg press sealer

SOME RECENT TRENDS IN PACKAGING :

MODIFIED ATMOSPHERE PACKAGING:

- MAP can be defined as packaging of food items where atmosphere inside the packet has been modified to increase the shelf life of food products. It involves active modification or passive modification.
- In active modification air is displaced with a controlled, desired mixture of gases, and the process is called as gas flushing.
- Passive modification occurs due to respiration and the metabolism of microorganisms associated with the food.

SOME RECENT TRENDS IN PACKAGING :

ACTIVE AND INTELLIGENT PACKAGING :

- Active packaging is defined as packaging in which subsidiary constituents have been deliberately included in or on either the packaging material or the package headspace to enhance the performance of the package system.
- Intelligent packaging is defined as packaging that contains an external or internal indicator to provide information about the history of the package and/or the quality of the food.
- Various functions performed by intelligent packaging includes: Oxygen absorber, Carbon dioxide absorber or emitter, Ethylene absorber, Ethanol emitter, Moisture absorber.

SOME RECENT TRENDS IN PACKAGING :

ASEPTIC PACKAGING :

- Aseptic packaging is the filling of sterile containers with a commercially sterile product under aseptic conditions, and then sealing the containers so that reinfection is prevented; that is, so that they are hermetically sealed.
- **Active packaging are used for :**
 - ✓ To take advantage of high temperature.
 - ✓ Increase shelf life of food products at normal temperature.
 - ✓ In package sterilization.

LABELING

- Labeling is a means of performing the communication function of packaging, informing the consumer about nutritional content, net weight, product use and so on. Labeling acts as a silent salesman through distinctive branding, as well as facilitating identification at check-outs through the Universal Product Code (UPC).



PACKAGING & LABELING LAWS - FSSAI

General requirement for packaging:

- A utensil or container made of the following materials or metals, when used in the preparation, packaging and storing of food shall be deemed to render it unfit for human consumption:—
 - (a) containers which are rusty;
 - (b) enameled containers which have become chipped and rusty;
 - (c) copper or brass containers which are not properly tinned
 - (d) containers made of aluminium not conforming in chemical composition to IS:20 specification for Cast Aluminium & Aluminium Alloy for utensils or IS:21 specification for Wrought Aluminium and Aluminium Alloy for utensils.

PACKAGING & LABELING LAWS - FSSAI

- Labeling should contain following information:
 - ✓ Name of the food product.
 - ✓ List of ingredients.
 - ✓ Nutritional information.
 - ✓ Declaration of VEG and NON VEG.
 - ✓ Declaration of added food additives.
 - ✓ Name and address of manufacturer.



PACKAGING & LABELING LAWS - FSSAI

- ✓ Net quantity
- ✓ Code number
- ✓ Lot number/ Batch number.
- ✓ Date of manufacturing.
- ✓ Best before date
- ✓ Country of origin.
- ✓ Instruction for uses.



STORAGE OF MOTH

- The proper storage of Moth with utmost care is very important because improperly stored food products will go stale or rancid much faster which may further alter the aroma and flavor and can also harm the health of consumer.
- Thus the proper of processed food storage requires following :
 - **Dark Place** : Food products should be always stored in a dark room to avoid it from sunlight or UV light, so that quality such as aroma and flavor should be maintained till final consumption.
 - **Airtight** : To avoid food products from absorbing moisture and unpleasant odour from air.

STORAGE OF MOTH

- **Hypothermia:** Heat exposure will quickly ruin the quality of food products thus avoid keeping processed foods in sunlight or near heat .
- **Away from strong odour** . Some food products have tendency to absorb any odour quickly thus processed food must be stored separately from the product which have strong odour such as spice.
- **Away from moisture.**

CONTACT DETAILS



**Plot No.97, Sector-56, HSIIDC, Industrial Estate, Kundli,
Sonipat, Haryana-131028**

Website: <http://www.niftem.ac.in>

Email: pmfmecell@niftem.ac.in

Call: 0130-2281089