FUNDAMENTALS OF PACKAGING

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SPECIFIC LEARNING OBJECTIVE

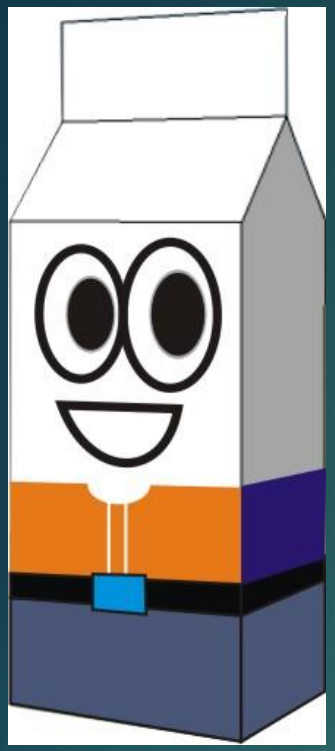
After learning, the participants are able to understand:

(1). The meaning of packaging .

(2). The packaging function

(3). The classificasion of packaging.

(4). The packaging for fruit and vegetable.



What is Packaging ?

Labeling

Marketing

Microwaveable Veg

http://www.health.com/health/article/0,,20410419,00.html

http://valuethemeal.blogspot.com/2010_06_01_archive.html

http://ellfoundation.org/

Food Packaging

http://www2.dupont.com/Packaging_Resins/en_US/whats_new/article05282009c.html

http://www.brown-machine.com/food-packaging-thermoforming.html

http://www.thedailygreen.com/healthy-eating/latest/wasteful-packaging-for-food

Food Packaging - Definition

- **Food packaging**

"Is the science, art, and technology of enclosing or protecting food products for distribution, storage, sale, and use" (Soroka, 2002)

Packaged Foods

http://www.brown-machine.com/food-packaging-thermoforming.html]

Packaged Foods

http://www.dfwimprint.com/Packaging.html

Plastic bottles - Juices

http://www.freshplaza.com/news_detail.asp?id=9674

What are the Functions of Food Packaging ?

- Physical protection
- Barrier protection
- Protect nutritional and sensory characteristics
- Containment or agglomeration

Physical protection

http://www.squidoo.com/packaging-

Ground beef

http://www.google.com/imgres?q
food+packaging

Fruits & Vegetables

Nitrogen flushed - Chips

http://www.barrelofunsnacks.com/index.php/
food_service/product/p/kettle_cooked_chips/

Polythene bag

http://www.labelmaster.com/shop/shippi
ng/
poly-bags/2-mil-poly-bags

What are the Functions of Food Packaging ? contd..

- Information transmission
- Marketing
- Security
- Convenience
- Portion control
- Contain the product and keep it intact

Labeling

http://elifoundation.org/

Marketing

http://valuethemeal.blogspot.com/2010_06_01_archive.html

http://www.apartmenttherapy.com/ny/slinks/green-tour-harbinger-

Microwaveable Vegetables

http://www.health.com/health/article/0,

http://www.delish.com/food/grocery-products/white

PACKAGING CLASSIFICATION

Packaging can be classified based on several ways, namely:

1.Classification of packaging based on frequency of use:

a. **Disposable packaging,**

Contoh Kemasan Gelas

Contoh Kemasan Metal

PACKAGING CLASSIFICATION Conti.....

b.Packaging that can be used repeatedly (multitrip)

PACKAGING CLASSIFICATION Conti.....

c.Packages or containers that are not disposed of or returned by consumers (semi-disposable).

2. Classification of packaging based on the structure of the packaging system (product contact with packaging):

a.Primary packaging

b.Secondary packaging

c.Tertiary packaging,

3.Classification of packaging based on the rigidity of packaging materials:

A. Flexible packaging

B. Rigid packaging

3.Classification of packaging based on the rigidity of packaging materials:

C. Semi-rigid/semi-flexible packaging

Product Packaging Requirements

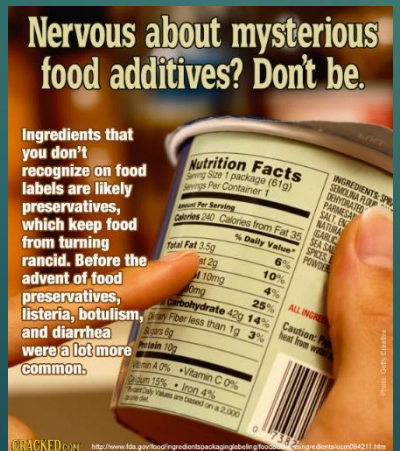
1. Not Toxic

2. Match Packaged Products

3. Able to Prevent Counterfeiting

4. Ease of Opening and Closing

5. Ease and Security of Removing Contents



7. Ease of Disposal

8. Size, Shape, and Weight

9. Appearance and Printing

10. Low Cost

11. Special Terms

FRUIT AND VEGETABLE PACKAGING

- WHY IS THE FRUIT MUST BE PACKED ?

Fruits and vegetables should be packed because :

INTRODUCTION (1)

Classification of fruit :

- **according to occurrence : simple fruit, aggregate fruit, multiple fruit**
- **according to physiological character : climacteric fruit & non climacteric fruit**

Characteristics of Fruit

Design of Packaging

INTRODUCTION (2)

Example of fruit according to occurrence :

No	Kind of Fruit	Examples
1	Simple fruit	cucumber, melon, banana, eggplant, pumpkin, avocado, guava …….. ect
2	Aggregate fruit	grape, rambutan, duku, menteng, salak ….etc
3	Multiple fruit	Pineapple, breadfruit, jackfruit, soursop





INTRODUCTION (3)

Example of fruit according to physiological characters :

No	Kind of Fruit	Examples
1	Climacteric fruit	Mango, papaya, sapodilla, durian, banana bread fruit .....etc
2	Non climacteric fruit	grapes, star fruit, orange, rose apple, water melon, snake fruit





POSTHARVEST HANDLING IN PACKING-HOUSE (1)

PACKAGING (1)

REGULATIONS :

- RI Law No. 7, 1996 : Foods
- Gov. Reg. No. 28, 2004 : Safety, Quality and Food Nutrition - Part V, Section 16-20
- Regulation of Head of National Agency of Drug And Food Control (BPOM-RI) NO. : HK 00.05.55.6497, 2007 about Material of Food Packaging

Packaging : materials which are used to put or wrap food, either in direct contact with food or not

PACKAGING (2)

- ✓ **Purpose of the packaging :**
- ✓ **The success of the packaging :**

PACKAGING (3)

Types of packaging can be categorized based on

- **market destination (domestic or export),**
- **frequency of use (disposable, semi-disposable, multi trip)**
- **kind of product (pharmaceutical, chemical, food, etc),**
- **function (primary, secondary, tertiary,..... etc),**
- **material of packaging = properties of material stiffness**
- **treatment (MAP, VP)**
- **etc**

PACKAGING (4)

Types of packaging based on material of packaging for fruit :

- **Bamboo Basket**
- **Wooden crate or box**
- **Carton boxes or corrugated cardboard**
- **Plastic basket**




PACKAGING (5)

MANGO :

- **Export to Hongkong**
- **Cultivar Gedong, DR = 85%**
- **Corrugated Carton Boxes = 4 kg**
- **Waxing (6%) + 500 ppm benomyl**
- **Temperature adaptation (15°C, 24 h)**
- **Storage at 8°C, RH = 70 – 80%**
- **Self life 4 weeks**

PACKAGING (6)

MANGOSTEEN :

- **Export (static)**
- **Degree of maturity : 110 days after blooming**
- **Plastic Boxes = 9 - 11 kg (net-foam + non net-foam)**
- **Waxing (6%) + 500 ppm pesticide + 100 ppm "hormon"**
- **Temperature adaptation (15^{o}C, 24 h)**
- **Storage at 9^{o}C, RH = 70 – 80%**
- **Self life 3 - 4 weeks**

PACKAGING (7)

SALAK (SNAKE FRUIT) :

- **Export to Malaysia**
- **Degree of ripening (70 - 80%)**
- **Immersing in natural pesticide**
- **Plastic Bags (LDPE) = 1 kg (MAP)**
- **Corrugated carton boxes = 10 kg**
- **Storage at 15^{o}C, RH = 70 – 80%**
- **Self life 3 weeks**

PACKAGING (8)

RAMBUTAN:

- **Export to Netherland**
- **Cultivar Binjai, Rapiah, Lebak Bulus**
- **Degree of ripening (70 - 80%)**
- **Anti Fog**
- **Plastic Bags (LDPE) = 1 kg (MAP)**
- **Corrugated carton boxes = 10 kg**
- **Temperature adaptation (15^{o}C, 24 h)**
- **Storage at 10^{o}C, RH = 70 – 80%**
- **Self life 3 weeks**

PACKAGING (9)

BANANA :

- **Export**
- **Cultivar Mas Kirana**
- **Degree of maturity = 80 – 90 days**
- **50 µL LCP (3 : 1)**
- **Plastic Bags (LDPE) = 1 kg**
- **Corrugated carton boxes = ± 5 kg**
- **Storage at ± 18^{o}C, RH = 70 – 80%**
- **Self life 7 weeks**

CONCLUSION

Fruit/vegetables/food process packaging is an activity related to the distribution of fruits to the consumer with quality and safety are maintained.

Thank You