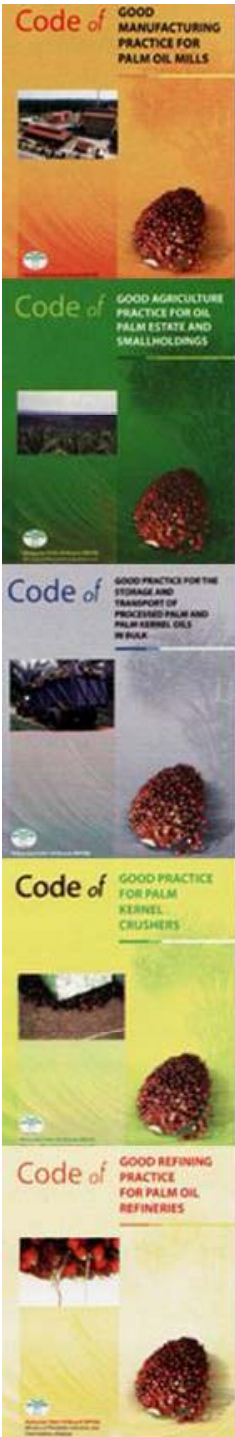


# BRIEFING ON CODES OF GOOD PRACTICE 2008

**APRIL 2008**

## *Code of Good Practice for the Handling, Transport and Storage of Products from the Oil Palm*

**Tang Thin Sue**  
**Senior Research Fellow, TAS Unit**  
**and**  
**Rozita Baharuddin**  
**Head of Quality Control Unit**



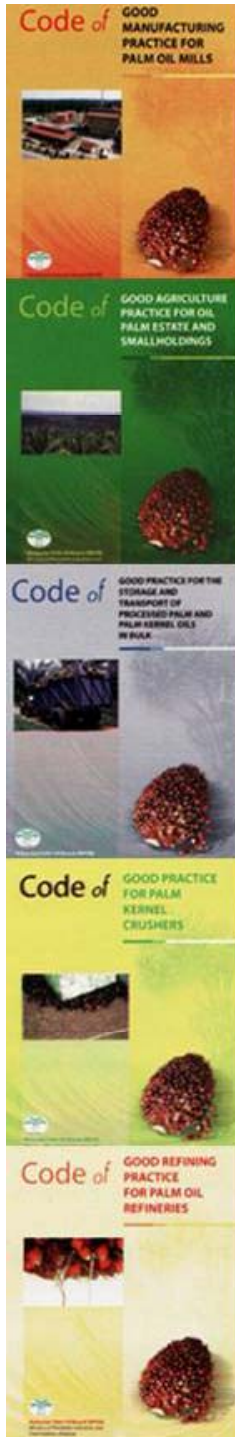
# INTRODUCTION

## OBJECTIVES

- assure good hygiene , quality and safe oil palm products

## SCOPE

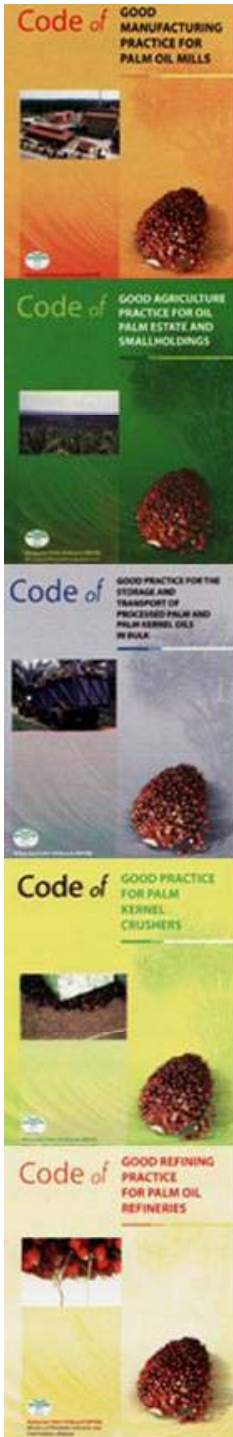
- handling , transport and storage
- covers –  
germinated seed , seedlings , FFBs , PK  
and PKC  
PO , PKO – crude and processed



# GERMINATED SEEDS

## Pre-transportation , handling:

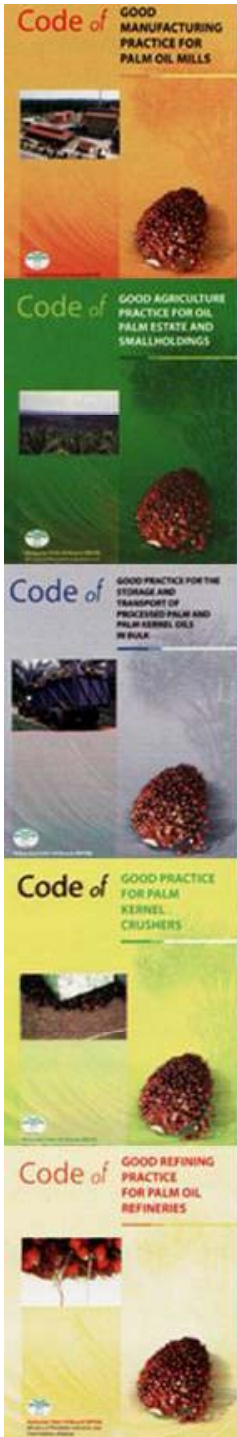
- proper packing of seedlings
- proper labelling of bags
- protection from turbulence
  - proper cushioning
- properly sealed boxes
  - reach destination within 7 days
  - plant immediately at destination



# SEEDLINGS

for transportation :

- Thoroughly water the seedlings before loading
- Handle with care and arrange polybags
- Avoid damage to polybags and the fronds



# FRESH FRUIT BUNCHES (FFB)

## Post- Harvest Handling

- ❖ **COLLECT LOOSE FRUITS WITHOUT CONTAMINATION**  
- no stones & debris
- ❖ **SEND WITH FFB TO COLLECTION POINTS**  
- avoid damage, delay and contaminations
- ❖ **SEND FFB AND LOOSE FRUITS TO MILL WITHOUT DELAY (<24 hrs after harvesting) – prevent deterioration**

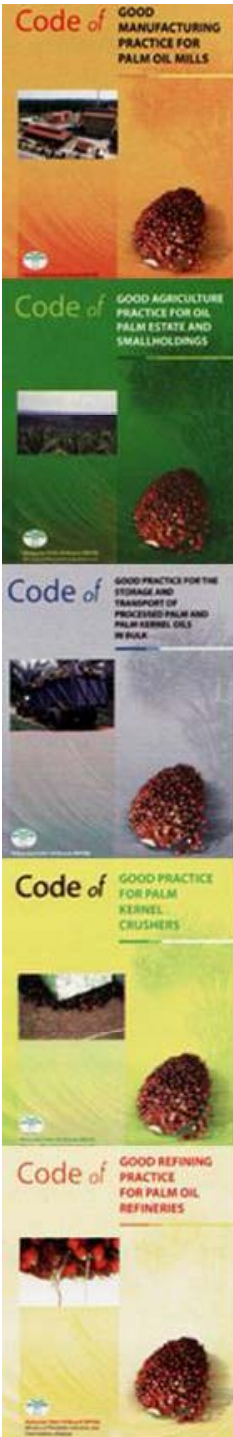
# FRESH FRUIT BUNCHES (FFB)

## Transport of FFB to Mill

Modes of transportation- lorry , tractor/ trailer or rail cages

- **Compartment of FFB –**
  - dedicated
  - free from previous residue , undesirable odour, mineral oil
  - must be dry
  - inspected for cleanliness before loading and recorded
  - covered to prevent rain water or any contaminants such as bird droppings
- **third parties delivery – have proper documents and meet min requirements of MPOB**





# FRESH FRUIT BUNCHES

## Handling of FFB At Mill

- weigh prior to unloading at ramp
- inspection for FFB quality - grading
- unloaded to transfer to hopper for easy loading into steriliser cages
- preferably sterilised within 24 hrs and not more than 48hrs

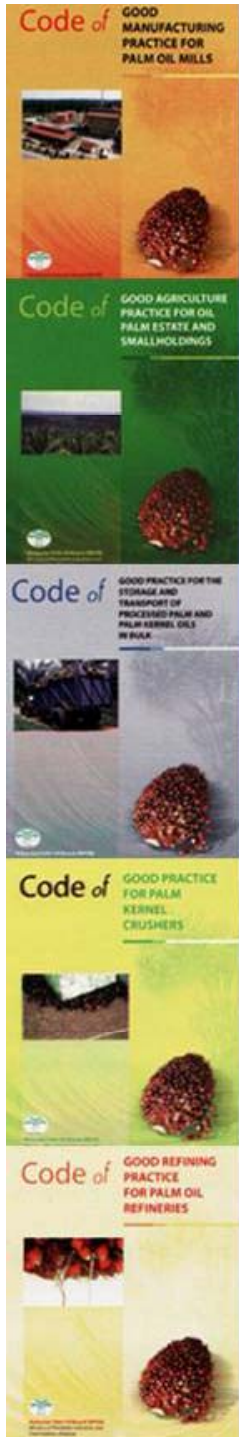
# PALM KERNELS

## Handling and storage

- Optimal moisture for storage: 6.5-7.5%
- For delivery in bags - use new PVC bags
- Storage for bagged PK : sheltered area or warehouse, open air will cause oil loss and quality deterioration
- Bulk storage: stored in designated area and have facilities to prevent over filling.
- Storage facilities : well ventilated , pest control, netting : segregated from chemicals or harmful substances or rubbish







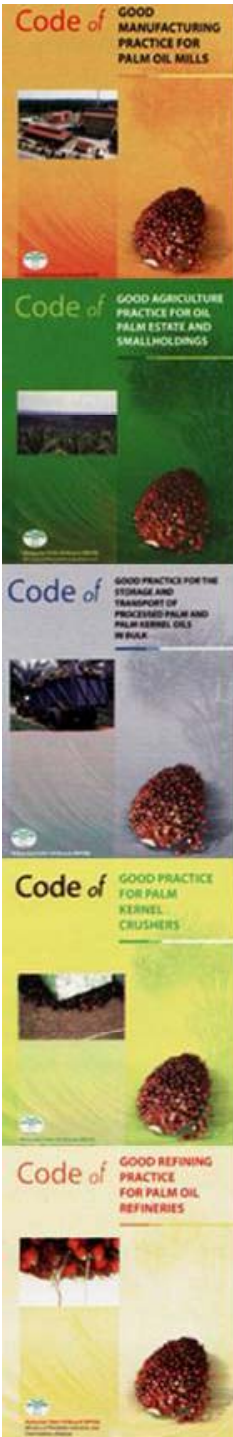
# PALM KERNEL

## Transportation :

- covered and sealed to protect against contamination, rain , dirt, theft , bird dropping

## LORRY :

- free from previous load residues, free from foul odour or mineral oil and dry.
- checked and inspection recorded
- loading compartment which was previously held contaminated consignment – need to be cleaned and dried ; recorded
- transport to purchaser accompanied by proper documents and meet min requirements of MPOB



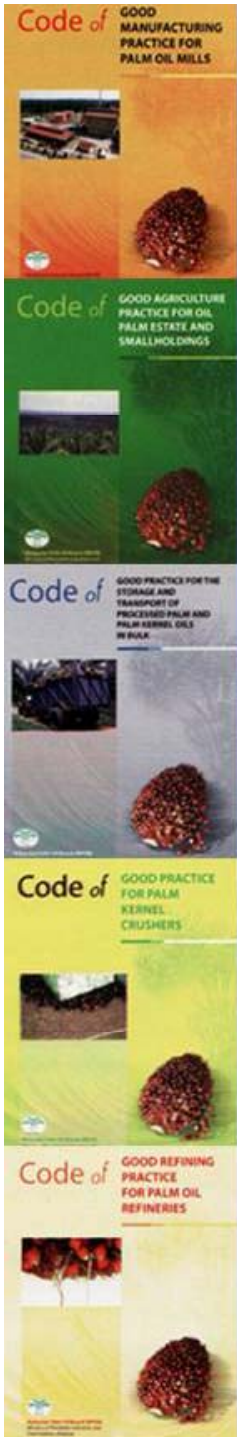
# PALM KERNEL CAKE

## Storage at warehouse or silo

- covered , well ventilated and kept clean
- monitor moisture – prevent micro- growth & self-ignition
- solvent extracted meal – monitor regularly for material balance - analyze for oil, protein, aflatoxin, shell; residual solvent (for hexane extraction)
- Check temperature daily ( $<55^{\circ}\text{C}$  ) to prevent self-ignition
- Store separately from Palm kernels , chemicals or rubbish (scrap metals etc) away from PKC
- Practise first-in-first-out system

## Transportation

- similar to PK



# BULK OILS – PO, PKO By-products

## Storage and Handling : Land Tanks

- Cylindrical, conical bottom for easy emptying
- Stirring facilities for homogeneity
- Heating coils – SS, low pressure steam
- Manholes – ullage, temp, with seal/lock option
- SS or Coated
- Drop line to prevent splashing
- No copper fittings



# BULK OILS

**SEA- CARRIAGE** Cargoes must be listed in IMO - IBC Code

**VESSEL TYPE**

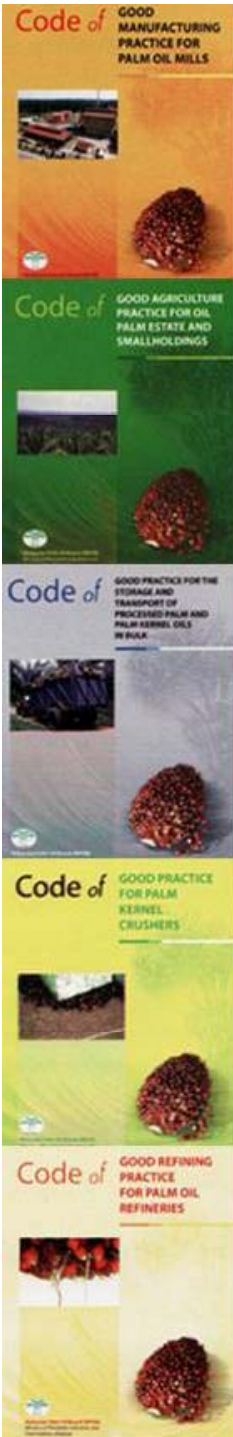
**Bulk tankers – T2 or T3 double hull as per IMO Annex II requirements**

**Usually 15K-40 K tonnes**

**Barges/Coasters – smaller vessels for short haul, eg. East to West Malaysia**

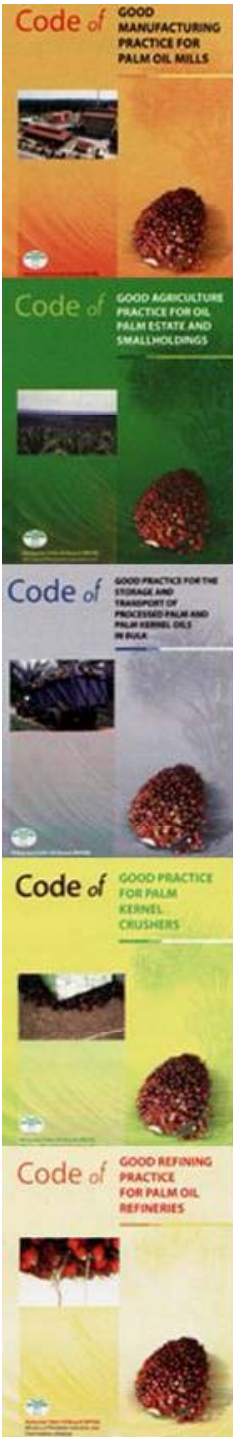
**Container vessels – for packed finished goods**

**ISO Tanks, Flexitanks / bags, Individual Box containers (IBC)**



# BULK SHIPMENTS

- **NO COPPER MATERIALS – TANKS, FITTINGS, SAMPLING TOOLS HEATING COILS**
- **STAINLESS STEEL PREFERRED;**
- **SUITABLE COATING FOR TANK SURFACES**
- **GLASS EQUIPMENT AND GLASS BOTTLE BE AVOIDED WHERE BREAKAGE MIGHT LEAD TO CONTAMINATION**
- **NO MERCURY THERMOMETER**
- **HEATING – HOT WATER PREFERRED OR LOW PRESSURE STEAM (1.5 BAR)**
- **PIGGING SYSTEM TO ENSURE CLEAR LINE**



# BULK OILS

## TRANSFER OPERATIONS

### HEATING UP PRIOR TO TRANSFER

**TEMP OF OIL FOR LOADING, STORAGE, VOYAGE & DISCHARGE SHOULD FOLLOW RECOMMENDED RANGE**

**MAX 5° C OVER 24 HRS, AVOID LOCALISED HEATING**

## TRANSFER SEQUENCE

- FULLY REFINED BEFORE PARTIAL REFINED**
- PARTIAL REFINED BEFORE CRUDE**
- EDIBLE BEFORE TECHNICAL**
- FATTY ACIDS OR ACID OIL DISTILLATE LAST**



## BULK OILS

### TANKS & FACILITIES AND MAINTENANCE

#### Cleaning

- Tank previously carrying non-edible products must be clean thoroughly and inspected to be residue-free;
- Storage tanks – clean at least once a year;

#### Maintenance

Regular checks including functioning of steam pressure regulation valves, coils, thermometers, thermostats, weighing equipment, pumps, tank coating, flexible hoses, conditions of tanks and ancillary equipments etc.

# OTHERS

**Clear marking or identification systems for pipelines and storage tanks**

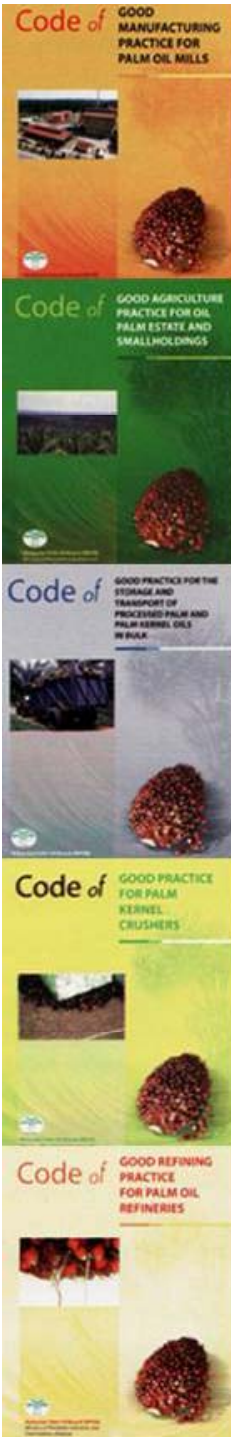
**Inspection of tank conditions and hoses by competent/trained personnel – accessible points, irregular connections, man-holes**

**Cleanliness prior to loading; no mineral oil as previous cargo;**

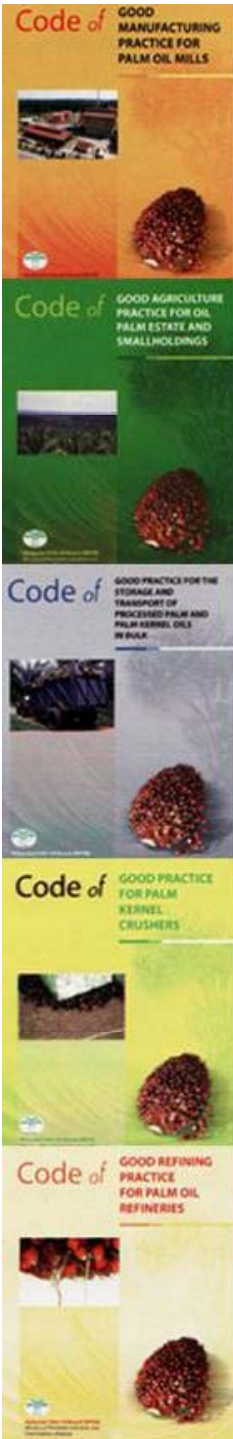
**After loading, all accessible points – covered & sealed, record serial no. of seal in documents;**

**Dispatch documents – info on weight, seals, cargo identity and quality;**

**Lorry driver – maintain a time-log of vehicle during the journey.**







## **LAND TRANSPORTATION**

### **OPERATION REQUIREMENTS – Inspection at loading point**

#### **CHECK DISPATCH DOCUMENTS**

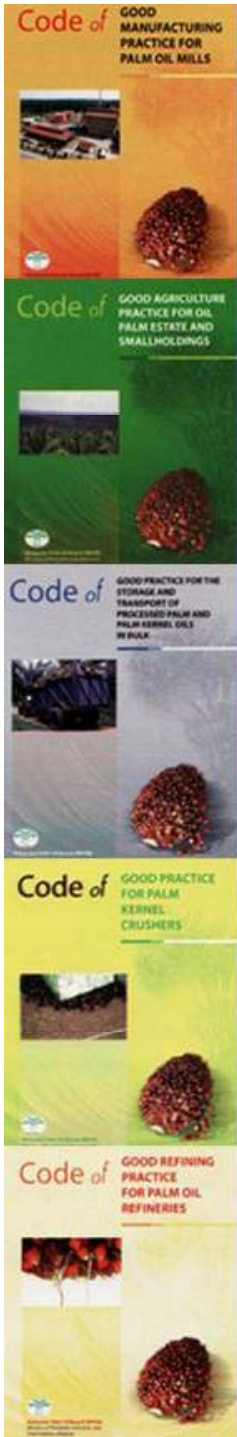
**Confirm cargo identity and verify quantity by weighing;**

**Security seals intact – correct serial no, and un-tampered;**

**No suspicious signs – connections, manholes, water containers etc;**

#### **ANY ABNORMAL OBSERVATIONS/SIGN OF PILFERAGE**

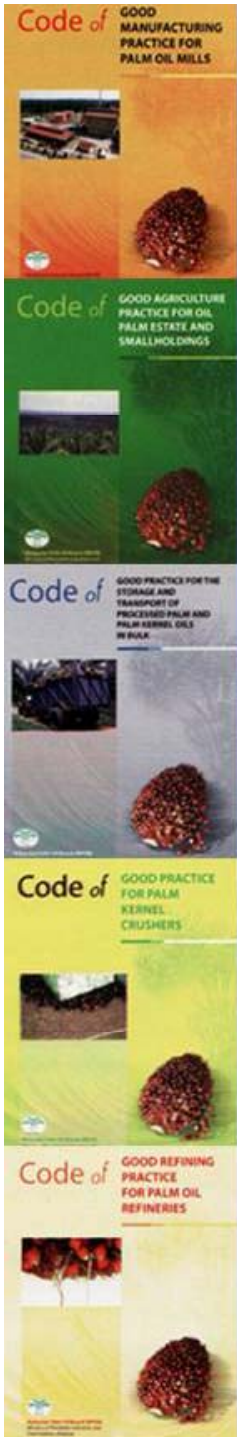
**Report to management , police and Enforcement Unit, MPOB**



# LEGAL REQUIREMENT

All activities involving handling, storage and transportation – must comply with other current local laws

E.g. – Food Regulations,  
MPOB PO Regulations



# CONCLUSION

## STORAGE, HANDLING AND TRANSPORTATION

An important role to ensure quality , product food safety and integrity of oil palm products;

With good understanding of the proper procedures and taking due care in handling, storage and transportation, can contribute positively to the production and delivery of sustainable palm oil products for the world.

A stylized palm tree logo in a lighter shade of blue, centered in the background. The palm fronds are represented by several curved, overlapping shapes, and the trunk is a simple vertical line.

THANK YOU

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