Annex 6 Training slides on ASEANGAP – An overview

Session 5

ASEANGAP – An Overview

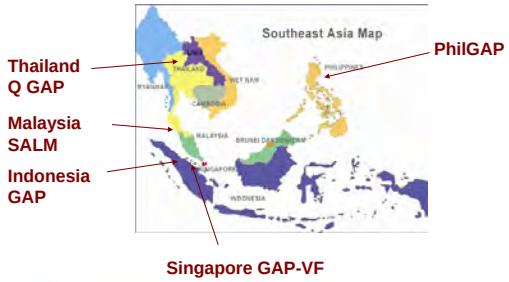
Purpose of module

- To introduce ASEANGAP
- Give the background and purpose of ASEANGAP
- To understand the scope of ASEANGAP
- To understand the overall structure of the ASEANGAP and its module

Contents of the module

- ASEANGAP – it purpose, basis and scope
- Structure of ASEANGAP
- Elements of each module in ASEANGAP
- Alignment of national GAP in the ASEAN region with ASEANGAP

GAP in ASEAN Countries



ASEANGAP

- ASEAN GAP is voluntary standard for ASEAN countries on production of fresh fruits & vegetables adopted in 2006
- ASEAN GAP regulates the procedures of planting, care, harvesting & post harvest include packaging but does not regulate for sprouts and fresh cut produce.
- ASEAN GAP only applies for production processes & not used to certify for organic or GMO products.

Purpose of ASEANGAP

- Facilitate harmonization of national GAP programmes in the ASEAN region
- Facilitate trade regionally & internationally
- Enhance safety & quality of fruits & vegetables for consumers
- Enhance suitability of the environment in the ASEAN region
- Protect health, safety & welfare of workers

ASEANGAP is based on….

Criteria and experiences of national GAP implementation in

- Malaysia
- Philippines
- Singapore
- Thailand

ASEANGAP

- ASEANGAP outcome of "Quality Assurance Systems for ASEAN Fruits and Vegetables (QASAFV) Project, 2004 implemented during phase III of the ASEAN – Australia Economic Cooperation Programme (AAECP)
- Also established the ASEANGAP task force to guide final stages of drafting

Scope of ASEANGAP

- Scope covers the production, harvesting and postharvest handling of fresh fruits and vegetables on farm and postharvest handling in locations where produce is packed for sale.
- Products that present a high risk to food safety, such as sprouts and fresh cut products are not covered in the scope of ASEANGAP

Structure

Four modules

- Food safety module
- Environmental management module
- Worker health, safety & welfare module
- Produce Quality module

Each module has sections

Elements – Food Safety Module

- Site history and management
- Planting material
- Fertilizer & soil additives
- Water
- Chemicals – agro & non agro
- Harvesting & handling produce
- Traceability
- Training
- Documents & records
- Review of practices

Elements – Environmental Management Module

- Site history and management
- Planting material
- Soil & substrates
- Fertilizer & soil additivies
- Water
- Chemicals – agro and non agro
- Harvest & handling produce
- Waste & energy efficiency
- Biodiversity
- Air
- Training
- Documents & records
- Review of Practices

Elements – Worker Health, safety & Welfare Module

- Chemicals (agrochemicals)
- Harvesting & produce handling
  - Personal hygiene
  - Working conditions
  - Worker welfare
  - Training
- Documents & records
- Review of practices

Elements – Produce Quality Module….1

- Quality plan
- Planting material
- Fertilizer & soil additives
- Water
- Chemicals (agrochemicals)
- Harvesting & handling produce
  Harvesting; handling; storage & transport;
- Traceability & recall
- Training
- Documents & records
- Review of practices

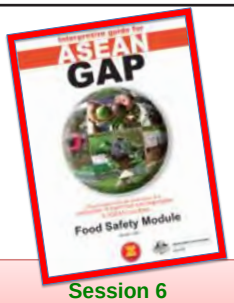
Current Alignment…..

Country	Food safety	Environmental Management	Worker's health and safety	Produce quality
Thailand	C	P	P	C
Malaysia	C	P	P	S
Indonesia	C	C	P	P
Singapore	C	N	N	S
Philippines	C	N	P	S
Brunei Darussalam	C	N	N	N

T = Total alignment C = close alignment P = partial alignment
N = no alignment S = covered by another national standard

Questions and Doubts

Annex 7 Training slides on ASEANGAP – Food safety module



Session 6

ASEANGAP – Food Safety Module

Purpose of module

- To understand in the requirements of the food safety module of the ASEANGAP and detail of each element
- To understand the hazards and risk assessment related to various elements of the food safety module
- To be able to conduct hazard assessment
- To understand various good agricultural practices (GAP) that help minimize hazards

Contents of the module

- Documents needed
- Various types of hazards
- Elements of food safety module
- Activity on hazard assessment related to various elements of food safety module
- Detailed GAP practices covered under each element of the food safety module

Documents Needed

- Interpretative Guide for ASEANGAP – Food Safety Module
- Recommended International Code of Practice: Codex General Principles of Food Hygiene (CAC/RCP 1 – 1969)
- Code of Hygienic Practice for Fresh fruits and vegetables (CAC/RCP 53 – 2003)

Food Safety hazards

- A ***food safety hazard*** is any chemical, biological, or physical agent or condition/property in the fruits and vegetables that can become an unacceptable health risk to consumers when consuming the fruit and vegetable as intended.
- Food Safety hazards are of 3 types
  - Chemical
  - Biological
  - Physical

Chemical Hazards

- Agrochemical residues in produce exceeding maximum residue limits (MRL),
- Non-agrochemical contaminants – for example, fuels, lubricants and sanitisers,
- Heavy metals exceeding maximum levels (ML),
- Naturally occurring plant toxins, and
- Allergenic agents

Biological Hazards

- Bacteria
  - ✓*Salmonella species*
  - ✓*Escherichia coli (E. coli)*
  - ✓*Shigella species*
  - ✓*Listeria monocytogenes*
- Viruses
  - ✓*Hepatitis A virus*
  - ✓*Norwalk virus* and *Norwalk-like virus*
- Parasites
  - ✓*Cryptosporidium*
  - ✓*Cyclospora*
  - ✓*Giardia*
- Fungi
  - ✓*Penicillium*
  - ✓*Fusarium*
  - ✓*rhizopus*

Physical Hazards

- Physical hazards are foreign objects that can cause illness or injury to consumers
- Contamination can occur during production, harvesting and postharvest handling
- Can be foreign objects from
  - ✓environment – soil, stone, sticks, weed seeds
  - ✓equipment, container, structure – glass, wood, metal, plastic, paint flakes
  - ✓human handling – jewelry, hair clips, personal items
  - ✓Packaging material – foil, cardboard, paper

Food Safety hazards in fruits & Vegetables

- Contamination of fresh fruits & vegetables can occur direct or indirect with contact of produce with hazards from soil, water, people, chemical, equipment, fertilizer, soil additives etc.
- Controlling food safety hazards (***chemical, biological and physical hazards)*** across all practices during production, harvesting and postharvest is important to minimize and control unacceptable health risk to consumers and to gain market access

Elements – Food Safety Module 1/2

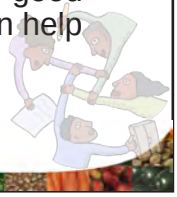
- Site history and management
- Planting material
- Fertilizer & soil additives
- Water
- Chemicals – agro & non agro

Elements – Food Safety Module 2/2

- Harvesting & handling produce
- Traceability
- Training
- Documents & records
- Review of practices

Activity - Food Safety Module

- Make groups of three or four
- Distribute sections (elements) among groups
- List food safety hazards possible in each section and identify the good agricultural practices that can help control and minimize it
- Present to the other groups and open for discussion



Sample Activity - Example of Hazards and GAP to minimize hazards

Biological – *Clostridium perfringens* (bacteria)

- Ensure the site is free from this bacterial contamination, if not treat the soil, treatment to be recommended by technical expert, records of action kept; check effect of remedial action; location recorded
- Not to use untreated organic material as fertilizer
- Select source, testing and treatment of water - free from hazards – potable
- Ensure personal hygiene esp. at harvesting & post harvesting
- Proper cleaning and sanitation of harvesting equipment, crates, tables and any other incontact surfaces
- Proper waste collection and disposal to ensure no contamination to produce

Food Safety Module…..1

- **Site history and management** – Risk evaluated, take remedial actions & monitor & Records
- **Planting material** – maybe produced on farm or purchased – records, variety selection
- **Fertilizers and soil additives** – Risk evaluated, minimize it, selection, use of untreated organic material restricted if pose risk, details of purchase, equipment maintenance, design & construction of chemical storage, application details
- **Water** – Risk evaluated, testing, treatment records

Food Safety Module……2

- **Agrochemicals** – trained personnel, technical competency of advisor, Integrated Pest Management, purchase of chemicals & records, use approved chemicals, know MRLs, mixing of chemicals, application, with holding period, equipment maintenance & washing, selection, storage, container, expiry, application & record, testing for residue
- **Other non agricultural chemicals** – handled, stored and disposed to minimize risk of contaminating

Food Safety Module…..3

- **Harvesting and handling produce**

✓ Equipment, containers and materials – material not to contaminate, identified for use, maintenance, storage, fit for use, no direct contact with soil

✓ Building and structure – constructed and maintained to minimize risk, designated space for farm machinery, sewage, waste disposal and drainage constructed to minimize contamination, covered lights and breakage control, barrier to minimize physical hazards

Food Safety Module….4

- **Harvesting and handling produce**

✓ Cleaning and Sanitation – packaging, handling & storage area & equipment identified & instructions for cleaning & sanitizing required

✓ Animal & pest control – domestic & farm animals excluded from production site, pest control, baits & traps used and location recorded

✓ Personal hygiene – training, written instructions, toilet and hand washing facility available

✓ Produce treatment – chemical care, water quality

✓ Storage & transport – off soil, pallet hygiene, transport hygiene, not transported with non food

Food Safety Module…..5

- **Traceability and recall** – site identified and coded, packed containers marked and identified to trace, record of destination, potentially contaminated produce isolated or recalled, investigated and corrective actions taken
- **Training** – knowledge of their responsibilities and impact of GAP
- **Documentation & records** – current & 2 years
- **Review of Practices** – once a year, complaints

Food Safety Module

- QUESTIONS AND DOUBTS

Session 7

ASEANGAP – Environmental Management Module

Purpose of module

- To understand the requirements of the environmental management module of the ASEANGAP
- To understand the hazards and risk assessment related to various elements of the environmental management module
- To understand various good agricultural practices (GAP) that help control these hazards

Contents of the module

- Environmental hazards – category and types
- Steps for controlling environmental hazards
- Elements of environmental management module
- Activity on hazard assessment related to various elements of environmental management module – and identifying GAPs to control the hazards
- Detailed GAP practices covered under each element of environmental management module

Environment Hazards

- Environment hazards are adverse impacts that occur to the environment on and off site as a result from production, harvesting and post-harvesting handling of fruits & vegetables.
- Good agricultural practices can prevent or minimize the negative impact of farm activities on environment.

Category of Environmental Hazards

- Land & soil – soil erosion, poor soil structure, salinity, soil acidity & alkalinity, sodicity
- Water – depletion of water, poor water quality
- Chemicals – contamination of environment, spray drift
- Nutrients – degradation of soil and water

Category of Environmental Hazards

- Biodiversity – loss of biodiversity
- Waste – degradation of soil, water & air, depletion of natural resources
- Air – dust, smoke, green house gases, noise
- Energy – depletion of natural resources

Controlling Environmental Hazards - Steps

- Identify hazard
- Assess risk
- Control the hazard
- Monitor and review hazards

Elements – Environmental Management Module (13)

- Site history and management
- Planting material
- Soil & substrates
- Fertilizer & soil additives
- Water
- Chemicals – agriculture and non agriculture

Elements – Environmental Management Module

- Harvesting & handling produce
- Waste & energy efficiency
- Biodiversity
- Air
- Training
- Documents & records
- Review of Practices

Elements – Environmental Management Module…1

- Keep the same group
- Distribute sections among groups
- List environmental hazards possible for each element, its impact of these on the environment and identify the GAPs that can help control and minimize these
- Present to the other groups & open for discussion

Activity – Environmental Management Module….2

Distribution of category for environmental hazard assessment

- Group A – Land and soil
- Group B – Water
- Group C – Chemicals
- Group D – Air

Refer to Interpretive guide to identify good agricultural practices for each identified hazard

Sample of activity

Environmental Hazard: Chemical Spray Drift

- Check the weather forecast. Spray only when the wind is light (between 2 to 11 km/h). Avoid spraying on hot days (greater than 30°C) and very dry days (less than 40% relative humidity).
- Select the right combination of spray unit, nozzle type and size and pressure.
- When spraying near an environmentally sensitive area (flora or fauna) allow a buffer distance between the area sprayed and the sensitive area.
- When using a boom sprayer, keep the boom height as low as possible.
- Erect or plant barriers to catch possible spray drift and establish buffer zones

Elements – Environmental Management Module

- Site history and management – Risk evaluated, take remedial actions & detailed property map
- Planting material – selection to minimize chemical use and nutrient runoff, disease resistant, compatible
- Soil & substrates – suitable production practices, crop rotation, justified use of soil fumigants etc.
- Fertilizers & soil additives – competent authority recommendation, area/facility for storage, mixing and loading to minimize risk, equipment maintenance, application records

Elements – Environmental Management Module

- Water – basis crop water requirement, efficient system, checked, irrigation records, water collection, storage & use as per regulatory requirements, quality & treatment, waste and drainage water managed or treated to minimize risk
- Chemicals (Agro) – trained handlers, competent advisor, control pest, integrated pest management, licensed supplier, approved, rotated use, appropriate use and handling, disposal, equipment used & maintained, storage, expiry, application recorded

Elements – Environmental Management Module

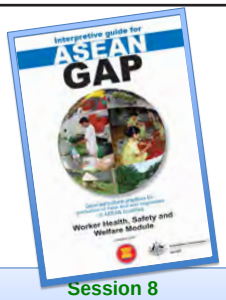
- Harvesting & handling produce – application, storage & disposal of chemicals used in postharvest – same care
- Waste and energy efficiency – waste management plan documented, consumption reviewed, machine & equipment maintained for operational efficiency
- Biodiversity – comply with regulations, conserve native plants & animal species, control feral animals & environmental pests

Elements – Environmental Management Module

- Air – offensive odour, smoke, dust & noise from production kept to minimum
- Training – knowledge in areas of their responsibility related to impact on environment and GAP to control them, records kept
- Documents & records – records for min 2 years, obsolete documents removed,
- Review of practices – review at least once a year, take corrective actions to correct deficiency, record kept of review and corrective action taken, actions on complaints

Elements – Environmental Management Module

- QUESTIONS AND DOUBTS



Session 8

ASEANGAP – Worker Health, Safety & Welfare Module

Purpose of module

- To understand the requirements of the worker health, safety and welfare module of the ASEANGAP
- To understand the issues related to worker health, safety and welfare
- To understand various good agricultural practices (GAP) that help minimize these issues

Contents of the module

- Hazards - various types and causes
- Steps for controlling the risks of hazards to workers health, safety and welfare
- Elements of the workers health, safety and welfare module
- Activity on hazard assessment related to various elements of the workers health, safety and welfare module
- Detailed GAP practices covered under each element of the workers health, safety and welfare module

Hazards Related to Worker Health, Safety & Welfare

- Every year, number of persons die or are injured in farm accidents
- Injury and illness are large cost to the health and well being of farmers and workers.
- Accidents are preventable and as a first step it is important for farmer to be aware of hazards to health, safety and welfare
- Every one on the farm has responsibilities for reducing the risk of illness and injury associated with farm works such as land preparation, tiller, chemicals /fertilizers application, harvesting and post-harvesting processes

Types of Hazards & Causes

- Mechanical – moving parts of machine, equipment, vehicles, working at heights, heavy manual lifting
- Chemical – inappropriate storage, handling, and application
- Biological – contamination from water, equipment, containers, material, produce, facility and from pests & animals
- Electrical – Overhead power lines, faulty equipment, improper joints, sockets

Types of Hazards & Cause

- Solar radiations – excessive exposure to heat and sun
- Noise – loud machinery, equipment and vehicle
- Stress and fatigue – long and continuous working hours
- Welfare – exploitation of age, gender and race

Steps to manage risks of hazards to workers health, safety & welfare

- Identify the hazards – What can happen to worker's health, safety and welfare if something goes wrong?
- Assess the risk – What is the likelihood and consequence of the hazard occurring?
- Control the hazard – What GAPs are required to prevent or minimise the risk of injury/ illness?
- Monitor and review hazards – Are the GAPs working and have there been any changes that introduce new hazards?

Elements – Worker Health, safety & Welfare Module

- Chemicals (agrochemicals)
- Working conditions
- Worker welfare
- Training
- Documents & records
- Review of practices

Activity - Worker Health, safety & Welfare Module…..1

- Keep the same group
- Distribute types of hazards to groups
- List worker health, safety & welfare issues/ hazards possible in each element/section, identify its impact on the worker and identify the good agricultural practices that can help control and minimize it
- Present it to the other groups and open for discussion

Activity - Worker Health, safety & Welfare Module….2

Distribution of type of hazard

- Group A – Mechanical & Chemical
- Group B – Biological and Electrical
- Group C – Solar radiation and Noise
- Group D – Stress & Fatigue and Welfare

Refer to Interpretive guide to identify good agricultural practices for each identified hazard

Sample of activity

Hazard: Biological from animal and pest

- Use baits and traps to control rodents.
- Use barriers and other deterrents to prevent birds from roosting above work areas and where packing containers & materials are stored.
- Regularly dispose of waste from areas where produce is packed, handled and stored.
- Store containers and materials off the ground or floor and keep them dry, ventilated and covered.

Worker Health, safety & Welfare Module

- Chemicals (agro) – authorized knowledgeable handler, storage, containers, Material Safety Data Sheet (MSDS), first aid, emergency handling instructions, workers handling chemicals have protective gear, access to chemical application sites restricted, use warning signs
- Harvesting & produce handling
  - Personal hygiene – trained, instruction, toilets & washing facility available, medical & health cover, minimize animal & vermin with infectious disease
  - Working conditions – suitable, equipment guarded, safe handling practices

Worker Health, safety & Welfare Module

- Harvesting & produce handling
  - Worker welfare – suitable living if provided, minimum working age as per regulations (15)
  - Training – informed on risks on farm, competent to perform responsibility
- Documents & records – obsolete documents removed, records for minimum 2 years
- Review of practices – review at least once a year, take corrective actions to correct deficiency, record of review & corrective action taken, actions on complaints related to worker health, safety & welfare

Health, safety & Welfare Module

- QUESTIONS AND DOUBTS

Annex 10 Training slides on ASEANGAP – Produce quality module

Session 9

ASEANGAP – Produce Quality Module

Purpose of module

- To understand the requirements of produce quality module of the ASEANGAP
- To understand the issues related to produce quality
- To understand various good agricultural practices (GAP) that help minimize these issues

Contents of the module

- Various kinds of produce quality issues
- Quality hazards and quality losses
- Elements of produce quality module
- Activity on issues related to various elements of produce quality module
- Detailed GAP practices covered under each element of produce quality module

Quality issues

What does the customer/consumer want when purchasing fresh produce:

- free from injury, spoilage, blemish, pests
- neither over ripe nor under ripe
- free from excessive dirt, chemical residues, foreign matter
- Typical odour and taste
- Free from quarantine pests

Produce Quality Hazards

Quality hazards – any characteristic that prevents produce from meeting requirements of customer and/or regulations.

There are three types of quality characteristics

- ➢external appearance,
- ➢internal quality, and
- ➢hidden quality.

Produce Quality Losses

Produce quality can be lost at any step during:

- production
- harvesting and
- post-harvesting

Quality loss during production

Losses to :

- **External characteristics** – colour, shape, size: affected by practices that impact on plant growth and crop load such as water/nutrition management, pruning/thinning; disease infection, pest damage and mechanical injuries such as wind rub.
- **Internal characteristics** – fragrance, taste, shelf life, nutritional value: reduced by water stress, inadequate plant nutrition and excessive crop loads.

Quality loss at harvest

Losses due to :

- Maturity of produce - when to harvest, shelf life also affected
- Type of produce – stem, leaves, flower, fruits (partially & fully developed) roots & tuber

Quality loss during postharvest handling

- Losses due to :
  - Accelerating ageing (senescence)
  - Water loss
  - Mechanical injury during handling, storage & transport
  - Physiological disorder
  - Disease/ infection
  - growth and development
- What practices will help maintain quality??

Elements – Produce Quality Module (10 elements)

- Quality plan
- Planting material
- Fertilizer & soil additives
- Water
- Chemicals (agrochemicals)

Elements – Produce Quality Module

- Harvesting & handling produce - harvesting; handling produce; storage & transport;
- Traceability & recall
- Training
- Documents & records
- Review of practices

Activity - Produce Quality Module …1

- Keep the same group
- Distribute produce quality issues among groups
- List Produce Quality issues possible in each element/section and identify the good agricultural practices that can help control and minimize these
- Present to the other groups and open for discussion

Activity - Produce Quality Module..2

Distribution of Produce Quality issues

- Group A – During production
- Group B – During harvest
- Group C – Post harvest 1 (Aging and water Loss)
- Group D – Post harvest 2 (mechanical injury and Growth & Development)

Refer to Interpretive guide to identify good agricultural practices for each identified issue

Sample of activity

- Interpretive Guide for produce Quality Module – Page 33

Elements – Produce Quality Module

- **Quality plan** – practices to control produce quality during production, harvesting & postharvest handling identified in QP
- **Planting material** – selection, if purchased plant health certificate
- **Fertilizer & soil additives** – as recommendations from competent authority, equipment maintenance, facility for composting fit to prevent contamination risk, application details recorded

Elements – Produce Quality Module

- **Water** – based on crop water requirement, availability, soil moisture levels
- **Chemicals (agrochemicals)** – competent for responsibility, appropriate use, IPM, approved chemicals, rotation, appropriate use, storage & handling, equipment used maintained, application recorded

Elements – Produce Quality Module

- **Harvesting & handling produce**

  Harvesting – maturity index, technique, suitable & clean equipment, tools & containers, liners, covered, time of harvest, remove from field, places in shade, avoid mechanical damage in stacking & transport

  handling produce – equipment construction, cleaning, prevent pest, appropriate treatment, used water quality, keep in covered area, off soil/floor, grade as per customer requirement, protect, cooling

  storage & transport – at lowest suitable temperature, transport covered and appropriate temperature, clean

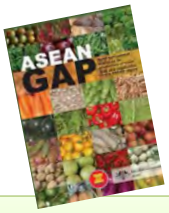
Elements – Produce Quality Module

- **Traceability & recall** – identify each site with code/name, code available on all records, packed containers marked with code, record of supply & destination of each consignment
- **Training** – competent for responsibility
- **Documents & records** – records for 2 years, obsolete documents replace & removed
- **Review of practices** – once a year & take action to correct deficiencies, record review & corrective action taken, actions to resolve complaints taken and recorded.

Produce Quality Module

- QUESTIONS AND DOUBTS

Annex 11 Training slides on Recap of ASEANGAP, concept of control points in GlobalGAP and review questionnaire



Session 10

Recap ASEANGAP, concepts of Control Points in GlobalGAP & Review Questionnaire

Purpose of module

- To recap the scope, structure and requirements of ASEANGAP
- To understand the concepts of control points in GlobalGAP
- To understand involvement of various elements in the modules of ASEANGAP

Contents of the module

- Recap of scope, structure and contents of ASEANGAP
- Recap of modules of ASEANGAP
- Control point concept of GlobalGAP

Scope of ASEANGAP

- Scope covers the production, harvesting and postharvest handling of fresh fruits and vegetables on farm and postharvest handling in locations where produce is packed for sale.
- Products that present a high risk to food safety, such as sprouts and fresh cut products are not covered in the scope of ASEANGAP

Structure

Four modules

- Food safety module
- Environmental management module
- Worker health, safety & welfare module
- Produce Quality module

Each module has various elements

Food Safety Module

- Site history and management
- Planting material
- Fertilizer & soil additives
- Water
- Chemicals – agro & non agro
- Harvesting & handling produce
- Traceability
- Training
- Documents & records
- Review of practices

Environmental Management Module

- Site history and management
- Planting material
- Soil & substrates
- Fertilizer & soil additives
- Water
- Chemicals – agro and non agro
- Harvest & handling produce
- Waste & energy efficiency
- Biodiversity
- Air
- Training
- Documents & records
- Review of Practices

Worker health, safety & welfare module

- Chemicals (agrochemicals)
- Harvesting & produce handling
  - Personal hygiene
  - Working conditions
  - Worker welfare
  - Training
- Documents & records
- Review of practices

Produce Quality Module

- Quality plan
- Planting material
- Fertilizer & soil additives
- Water
- Chemicals (agrochemicals)
- Harvesting & handling produce
  - Harvesting;
  - handling produce;
  - storage & transport;
- Traceability & recall
- Training
- Documents & records
- Review of practices

Modules at a glance ….1

Contents	Modules			
	Food safety	Environmental management	Worker health, safety, welfare	Produce quality
Site history and management	√	√		
Planting material	√	√		√
Soil and substrates		√		
Fertilisers and soil additives	√	√		√
Water	√	√		√
Chemicals	√	√		√
Harvesting and handling produce	√	√		√

Modules at a glance ….2

Contents	Modules			
	Food safety	Environmental management	Worker health, safety, welfare	Produce quality
Waste and energy efficiency		√		
Biodiversity		√		
Air		√		
Working conditions			√	
Produce quality plan				√

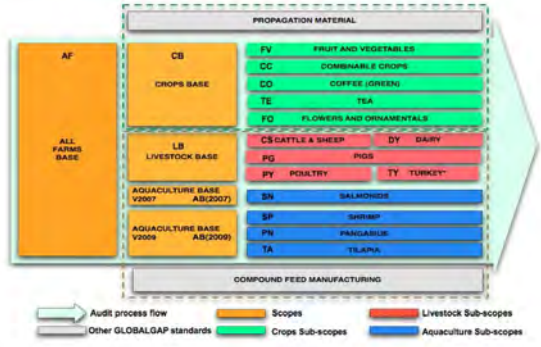
Modules at a glance ….3

Contents	Modules			
	Food safety	Environmental management	Worker health, safety, welfare	Produce quality
Worker welfare			√	
Traceability and recall	√			√
Training	√	√	√	√
Documents and records	√	√	√	√
Reviewing practices	√	√	√	√

Questionnaire

- Individual activity
- Kindly complete the questionnaire handed over
- Feedback and discussions on the feedback

GlobalGAP V3, 2009 structure



All Farm Based

- Record Keeping & Internal Self assessment/Internal Inspection
- Site history & Site management
- Worker health, Safety & Welfare
- Waste & pollution Management, Recycling & re-use
- Environment & Conservation
- Complaints
- Traceability
- Visitor Safety

Crop Based Requirements

- Traceability
- Propagation material
- Site history and site management
- Soil management
- Fertilizer use
- Irrigation/fertigation
- Integrated pest management
- Plant protection products

Fruits and Vegetables

- Propagation material
- Soil and substrate management
- Irrigation/fertigation
- Harvesting
- Produce handling

Elements of GlobalGAP Standard

- System rules referred as General Regulations (GR)
- GlobalGAP requirements referred to as Control Points and Compliance Criteria (CPCC)
- Inspection documents referred to as Checklists (CL)
- National GAP requirements referred to as Approved National Interpretation Guidelines
- Harmonization tools referred to as Benchmarking Cross Reference Checklist (BMCL) & other guidelines

Types of Control Points/criteria

- *Major Musts* – 100% compliance is compulsory
- *Minor Musts* – 95% compliance (excluding those elements which are not applicable)
- *Recommendations* – No minimum percentage of compliance is required, but all elements are evaluated during the certification inspection.

Control Point Compliance Criteria Summary

MODULE	MAJOR	MINOR	RECOMMENDED	TOTAL
ALL FARM BASE	12	22	11	45
CROP BASE	28	75	17	120
FRUIT & VEGETABLE	34	28	09	71
COMBINABLE CROPS	24	21	04	49
TOTAL	98	146	41	285

Types of certification

- GlobalGAP Standard
  - Option 1 – Individual Producer
  - Option 2 – Group Certification
- Benchmarked Standard
  - Option 3 – Individual Producer Certification
  - Option 4 – Group Certification

Recap ASEANGAP, Concepts of Control Point in GlobalGAP & Questionnaire

- QUESTIONS AND DOUBTS