Federation of Malysia

EDICT OF GOVERNMENT

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SALM 1 (2005) (English): MALAYSIAN FARM CERTIFICATION SCHEME FOR GOOD AGRICULTURAL PRACTICE (SALM)

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MALAYSIAN
FARM CERTIFICATION SCHEME
FOR
GOOD AGRICULTURAL PRACTICE
(SALM)

STANDARD

Department of Agriculture
Malaysia
2005

Introduction

Good Agricultural Practice or GAP is an integrated system to manage the hazards associated with the elements of land, input, processes and output of agricultural production, within an agricultural spatial entity, in a good way to achieve productivity, sustainability, quality and safe produce in a socially acceptable, worker friendly and environmentally safe way. The management of all the hazards shall be done in a good way so as to control, minimize or eliminate the negative impact of agricultural production. Managing in a good way is measured using standards (national or international), national legislations and laws of importing countries.

Standards are essentially document that provides, for common and repeated uses, rules, guidelines and characteristics for activities or their results, aimed at the achievement of the optimum degree of order. The optimum degree of order which is to be achieved in good agriculture practice in Malaysia is a production system that is characterized by attributes such as sustainability, processes that done in an environmentally and worker friendly way and production of produce that are safe to consumers.

Purpose of SALM Standard

The SALM Standard on Good Agricultural Practice is a document that sets out performance levels (or rules) of agricultural production, which must be achieved and which are encouraged among the producers. However they do not specify how the management of agricultural practices should be done. Instead it is designed to encourage producers to go through the following process: (1) understand the current situation on the ground relative to the performance levels they are required to meet, (2) planning how to get from the current to the future situation (3) implementing the plans to conform to the requirements of the standard (4) monitoring whether the

plans are being implemented and whether they are working. The rules of the standard are not prescriptive approaches to manage agricultural production but rather an approach which combines defined performance targets with the freedom for users to decide themselves how to achieve the target.

Classification of Rules of SALM Standard

The identified rules of the different elements in the SALM Standard are, based on the analysis of the hazard types and risks, classified into two basic categories. These are:

a) **MUST** – rules that are critical and mandatory if the objective of the optimum degree of order in agricultural production is to be realized, i.e. sustainability, environmental protection, products which are safe to consumers and protection of workers health and safety. The rules of this type must be complied with by all users of the standard and, in no way, shall they be compromised during the crop production process. If the rules are not respected, the hazards associated with the rules are consequently not controlled, mitigated or eliminated, thus resulting in severe impacts to the characteristics mentioned above. In the documentation of the Good Agricultural Practice Standard, the MUST rules are normally expressed in “shall” or “must” format, e.g. the produce **shall** be traceable to the farm, or any application of nitrogen in excess of national or international limits **must** be avoided.

The MUST rules of good agricultural practice are also further sub-divided into two types – MAJOR MUST and MINOR MUST. As the names suggest, MAJOR MUST rules (boxed in red) are rules that must be complied with, which if not strictly followed by producers, will result in hazards and impacts that are very severe to the environment, food safety, workers safety and sustainability. MINOR MUST rules (boxed in yellow), on the other hand, are

also rules that must be complied with but the impacts in this case are not very severe.

b) **ENCOURAGED** – Encouraged rules (boxed in green) are rules that are not mandatory in the crop production process. They are essentially rules of good agricultural practices that are recommended for adoption by the producers. The hazards and impacts are, in this case, minor and not severe enough to affect the environment, food safety or workers health and safety. In the documentation, the rules are normally expressed in the "should" or "are encouraged or preferred" format, e.g. varieties used for planting in the farm **should** preferably possess resistance or tolerance to major pests and diseases.

SALM Standard on Good Agricultural Practice

The SALM Standard of Good Agricultural Practice is essentially based on the Malaysian Standard MS 1784 for Crop Commodities. In addition to this, the SALM Standard also encompasses rules or criteria which are derived from: 1) specific legal provisions of national laws to control the hazards that impact the environment, food safety and workers' health and safety, i.e. legal provisions that are not specified in MS-GAP Standard for Crop Commodities and 2) EurepGAP protocol for Fruits and Vegetables that are not defined in MS-GAP.

The SALM Standard, which takes into account the different hazards associated with agricultural production processes, rules and criteria from MS-GAP, legal provisions of national laws currently enforced in Malaysia and other requirements is presented below:

STANDARD

MALAYSIAN
FARM CERTIFICATION SCHEME FOR
GOOD AGRICULTURAL PRACTICE
(SALM)

NO	ELEMENTS	LEVEL
1	**Traceability**	
1.1	The produce shall be traceable to the farm where it has been originally produced	Major Must
2	**Record Keeping and Internal Audit**	
2.1	**Record Keeping**	
2.1.1	Farms shall keep up-to-date records	Minor Must
2.1.2	All records shall be maintained and retained for at least six months unless stipulated by any specific legislation	Minor Must
2.1.3	Record keeping system shall be established in which all the essential elements are captured	Minor Must
2.1.4	The records shall be accessible and audited	Minor Must
2.1.5	All farm records shall be treated as confidential	Minor Must
2.2	**Internal Audit**	
2.2.1	Internal audit shall be carried out at least once a year based on the requirements of this standard	Major Must
2.2.2	It shall be completed and documented	Major Must
2.2.3	Corrective actions shall be implemented and documented.	Major Must
3	**Planting Materials and Root Stocks**	
3.1`	Choice of planting materials or rootstocks should meet requirements as agreed between crop producers and customers, e.g. taste, visual appearance, shelf-life, agronomic performance, environmental impact, minimal dependence on agrochemicals	Encouraged
3.2	The use of genetically modified planting materials shall be avoided unless expressed permission has been given by the relevant authorities and shall comply with existing regulations in the country of the final consumers	Major Must
3.3	The planting of genetically modified organism (GMO) shall be agreed between crop producers and customers before planting	Minor Must

3.4	Suppliers must inform all customers of any developments relating to the use or production of products derived from genetic modification before engagement	Minor Must
3.5	Seed quality should be known before use and a record of the variety name, variety purity, batch number and seed vendor should be kept	Encouraged
3.6	Where available, seed certification records should be retained	Encouraged
3.7	Where grafted planting materials are used, records should also be kept of the variety of the rootstock	Encouraged
3.8	Where protected varieties are used, the farm shall respect intellectual property right legislation on plant variety protection	Major Must
3.9	Varieties used for planting in the farm should preferably possess resistance or tolerance to major pests and diseases, so as to minimize utilization of pesticides	Encouraged
3.10	If seed treatments are carried out, the use of these treatments shall be justified and shall be recorded	Minor Must
4	**Site History and Site Management**	
4.1	**Site History**	
4.1.1	A recording system shall be established for the site history and the layout of fields of their crop history	Major Must
4.1.2	For all new agricultural sites, a risk assessment shall be carried out, taking into account a) the prior use of the land b) potential impacts of the production on adjacent crops and areas and c) potential impact of activities carried out at adjacent areas	Major Must
4.1.3	The information of the risk assessment shall be recorded	Minor Must
4.1.4	A corrective action plan must be developed setting out strategies to minimize all identified risks in new agricultural sites	Minor Must
4.1.5	Farms shall not be located more than 1000 meters above sea level unless the land was developed prior to 1 January 2002	Major Must
4.1.6	Farms should not be located on steep slopes which may be detrimental to the environment	Encouraged
4.2	**Site Management**	
4.2.1	The farm management shall demonstrate that it has legal rights to the cultivation of the land and all necessary regulatory approvals	Minor Must

4.2.2	Where farms are located on sloping land (within the permissible level), appropriate soil conservation measures shall be undertaken to prevent soil erosion and silt deposition into drains, waterways etc	Major Must
4.2.3	A visual identification or reference system for each field shall be established	Minor Must
5	**Soil and Substrate Management**	
5.1	**Soil Type Mapping**	
5.1.1	Soil map should be prepared for the farm, which can then be used to plan rotations, planting and growing programs	Encouraged
5.2	**Cultivation**	
5.2.1	Cultivation practices proven to improve or maintain soil structure and soil compaction should be followed	Encouraged
5.3	**Soil Erosion**	
5.3.1	Field cultivation techniques that minimize soil erosion shall be adopted	Minor Must
5.4	**Soil Fumigation**	
5.4.1	Where chemical fumigation of soils is carried out, it shall be justified and recorded	Minor Must
5.4.2	Alternative methods such as crop rotation, planting of break crops, use of disease resistant cultivars, thermal or solar sterilization, conversion to soil free cultivation and similar techniques should be explored before resorting to use of chemical fumigants	Encouraged
5.5	**Substrates**	
5.5.1	Preference should be given to the use of organic substrate.	Encouraged
5.5.2	For inert substrates (e.g. perlite, rock wool, etc), crop producers are encouraged to participate in substrate recycling programs	Encouraged
5.5.3	Where chemicals are used to sterilize substrates for re-use, records shall be kept and shall contain location of sterilized substrates	Major Must
5.5.4	Steaming should be the preferred option of sterilization	Encouraged
5.5.5	Where chemicals are used to sterilize substrates for re-use, records of date, type of chemical used, method of sterilization and name of operator shall be kept	Minor Must
6	**Fertilizer Management (Organic and Inorganic)**	
6.1	**Nutrient Requirement**	
6.1.1	Soil care plan should be developed to ensure that	Encouraged

	nutrient loss is minimized	
6.1.2	Fertilizer application, using either mineral or organic fertilizers, must meet the needs of the crops as well as maintaining soil fertility	Minor Must
6.1.3	The application of fertilizers should be based on nutrient levels of the soil or substrates and requirements of the crop	Encouraged
6.2	**Fertilizer Utilization**	
6.2.1	Usage of fertilizers should be in accordance with science based recommendations or best developed practice	Encouraged
6.2.2	The type, quantity, method, timing and frequency of fertilizer application should be carefully observed so as to maximize benefits and minimize losses	Encouraged
6.2.3	Growers or their advisors must be able to demonstrate competence and knowledge	Minor Must
6.3	**Records of Application**	
6.3.1	All application of soil and foliar fertilizers shall be recorded	Minor Must
6.3.2	Records shall include location, date of application, type and quantity of fertilizer applied, the method of application and name of operator	Minor Must
6.3.3	Any application of nitrogen in excess of national or international limits must be avoided	Minor Must
6.4	**Application Machinery**	
6.4.1	Fertilizer application machinery shall be kept in good working condition	Minor Must
6.5	**Fertilizer Source and Storage**	
6.5.1	Fertilizer stock records shall be kept up to date and made available	Minor Must
6.5.2	Fertilizers should not be stored in the same room with pesticides	Encouraged
6.5.3	If this is not possible, the fertilizers and the pesticides shall be physically separated and labeled accordingly	Minor Must
6.5.4	Fertilizers shall be stored in a covered, clean, dry location where there is no risk of contamination of water sources	Minor Must
6.5.5	Fertilizers shall not be stored with nursery stock	Minor Must
6.5.6	Fertilizers shall not be stored with fresh produce	Major Must
6.5.7	All hazard and risk areas to human health shall be clearly indicated	Minor Must
6.5.8	Record of source and chemical content of fertilizer used shall be made available	Minor Must
6.6	**Organic Fertilizer**	
6.6.1	Organic fertilizer should be stored in an appropriate manner to reduce the risk of contamination of the	Encouraged

	environment	
6.6.2	The use of untreated and treated human sewage sludge and pig waste is prohibited	Major Must
6.6.3	To avoid pollution by heavy metals or by nitrate leaching, analysis of levels of nutrients, heavy metals and other potential pollutants in the organic fertilizer should be completed before application	Encouraged
6.6.4	Proper account should also be taken of the nutrient contribution of organic fertilizers	Encouraged
6.6.5	Organic fertilizing in open field cultivation should be based on nutrient management plans	Encouraged
6.6.6	Source of organic fertilizer used shall be recorded	Minor Must
7	**Irrigation and Fertigation**	
7.1	**Planning**	
7.1.1	Crop producers are recommended to base their irrigation or fertigation requirements on sound historical and scientific data	Encouraged
7.2	**Method**	
7.2.1	The most efficient and commercially practical water delivery system should be used to ensure the best utilization of nutrient and water resources	Encouraged
7.2.2	Consideration should be given to a water management plan to optimize water and nutrient usage and reduce wastage (e.g. systems for re-use, application at night, maintenance of equipment to reduce leakage, rain water harvesting etc)	Encouraged
7.2.3	All crop producers are encouraged to maintain records of irrigation and fertigation water usage	Encouraged
7.3	**Quality of Water**	
7.3.1	Untreated sewage water is prohibited for use	Major Must
7.3.2	Based on risk assessments, water sources should be analyzed at least once a year for microbial, chemical and mineral pollutants	Encouraged
7.3.3	The analysis results shall adhere to the Environmental Quality Act and Environmental Quality Regulations and adverse results acted upon	Minor Must
7.4	**Supply of Water**	
7.4.1	Water should be derived from sustainable sources	Encouraged
7.4.2	Crop producers are encouraged to seek advice from relevant authorities on water sourcing	Encouraged
8	**Crop Protection**	
8.1	**Basic Elements of Crop Protection**	
8.1.1	The use of pesticides to protect the crop shall be minimized	Minor Must
8.1.2	Wherever possible, crop producers shall apply recognized Integrated Pest Management (IPM) techniques	Minor Must

8.1.3	Non-chemical control measures are preferred over chemical treatments	Minor Must
8.1.4	Crop producers are encouraged to seek advice on IPM from competent authorities	Encouraged
8.2	**Choice of Chemicals**	
8.2.1	The crop protection product utilized shall be appropriate for the control required	Major Must
8.2.2	Crop producers shall only use chemicals that are officially registered under the Pesticide Act, for use on the crop that is to be protected	Major Must
8.2.3	A current list of all products that are used and approved for use on crops being grown must be kept	Minor Must
8.2.4	Selective products that are specific to the target pest and which have minimal effect on populations of beneficial organisms, aquatic life, workers and consumers and are not detrimental to the ozone layer should be used wherever possible	Encouraged
8.2.5	Instructions on the label should be followed to ensure effective application and to avoid risks to operators, consumers and the environment	Encouraged
8.2.6	An anti-resistance strategy should be adopted to avoid reliance on any one chemical	Encouraged
8.2.7	For crops to be exported, crop producers shall not use chemicals that are banned or disallowed in importing countries	Major Must
8.2.8	Crop producers should consult their customers to determine if any additional commercial restrictions exist	Encouraged
8.3	**Advice on Pesticide Usage**	
8.3.1	Crop producers must seek advice on pesticide usage from competent authorities	Major Must
8.4	**Records of Application**	
8.4.1	All application of pesticides shall include crop name, location and date of application, reasons for application, trade name of pesticide used, dosage, method of application and name of operator	Major Must
8.5	**Safety, Training and Instructions**	
8.5.1	Operators shall be trained on safe and proper use of pesticides	Minor Must
8.5.2	Each area of application should be field marked with appropriate warning sign	Encouraged
8.6	**Personal Clothing and Equipment**	
8.6.1	Operators shall be equipped with suitable personal clothing and equipment appropriate to the danger posed to health and safety	Major Must

8.6.2	Personal clothing and equipment shall be cleaned after use and stored separately from pesticides	Minor Must
8.7	**Pre-Harvest Interval**	
8.7.1	Pre-harvest intervals as prescribed on pesticide labels shall be strictly adhered	Major Must
8.8	**Spray Equipment**	
8.8.1	Spray equipment shall be suitable for use on crop and farm in question and shall be kept in good working condition	Minor Must
8.8.2	Calibration shall be carried out as and when necessary to ensure accurate delivery of the required quantity of spray	Minor Must
8.8.3	When mixing chemicals, the correct quantity of spray mix for the crop to be treated and the proposed treatment type shall be calculated, accurately prepared and recorded	Minor Must
8.9	**Disposal of Surplus Spray Mix**	
8.9.1	Surplus spray mix and tank washings should be sprayed over an untreated part of the crop as long as the recommended dosage has not been exceeded or on designated fallow land	Encouraged
8.9.2	Records should be kept of such spraying	Encouraged
8.10	**Pesticide Storage**	
8.10.1	Pesticides shall be stored in accordance with local regulations	Minor Must
8.10.2	Pesticides shall be stored in a sound, secured, water resistant, well ventilated and well-lit location away from other materials	Minor Must
8.10.3	All shelving should be of non-absorbent material	Encouraged
8.10.4	The pesticide store shall be able to retain spillage, e.g. to prevent contamination of water courses	Minor Must
8.10.5	There shall be adequate facilities for measuring and mixing pesticides	Minor Must
8.10.6	There shall be emergency facilities e.g. plenty of clean water, bucket of sand, to deal with contamination and accidental spillage	Minor Must
8.10.7	Keys and access to the store shall be limited to workers with adequate training in the handling of pesticides	Minor Must
8.10.8	An accident procedure, a list of contact telephone numbers and the location of the nearest telephone shall be available within the immediate vicinity of the store and next to the nearest telephone	Minor Must
8.10.9	Inventory shall be kept and readily available	Minor Must
8.10.10	All pesticides shall be stored in their original package	Minor Must

8.10.11	Only chemicals registered for use on crops on the farm shall be stored	Minor Must
8.10.12	Powders shall be stored on shelves above liquids or separately	Minor Must
8.10.13	Warning signs of potential dangers shall be placed on access doors	Minor Must
8.11	**Empty Pesticide Containers**	
8.11.1	Empty pesticide containers shall not be re-used and the disposal of empty pesticide containers shall be in a manner that avoids exposure to humans and contamination of the environment	Minor Must
8.11.2	Official collection and disposal systems should be used if available	Encouraged
8.11.3	Empty containers shall be rinsed at least three times with water, and the washings returned to the spray tank	Minor Must
8.11.4	Unless participating in established recycling programs or with expressed permission from the authorities, rinsed containers shall be pierced to prevent re-use	Minor Must
8.11.5	Empty containers shall be kept secure until disposal is possible	Minor Must
8.11.6	Disposal or destruction of containers shall be in accordance to the Pesticide Act and/or any other relevant local regulations	Minor Must
8.12	**Obsolete Pesticides**	
8.12.1	Obsolete pesticides shall only be disposed through an approved chemical waste contractor	Minor Must
9	**Harvesting**	
9.1	**Hygiene**	
9.1.1	Hygienic protocol for workers appropriate to a particular farm produce should be put in place in order to prevent physical, microbiological and chemical contamination	Encouraged
9.1.2	Workers shall undergo training in basic hygiene and food safety before handling fresh produce	Minor Must
9.1.3	They shall be made aware of the requirement to notify management should they contract any transferable diseases, which may render them unfit to work in the vicinity of produce destined for human consumption	Minor Must
9.1.4	Workers shall have access to clean toilet and washing facilities in the vicinity of their work	Minor Must
9.2	**Packaging on Farm**	
9.2.1	Packaging shall be stored to avoid contamination by physical and chemical hazards, as well as pests	Minor Must

9.2.2	It shall be protected from rodents, birds and other animals	Minor Must
9.2.3	Where produce is field packed, packaging shall not be left in the field overnight where risk of contamination exists	Minor Must
9.2.4	Re-usable crates shall be cleaned to ensure that they are free from foreign materials which may be detrimental to the produce and/or consumers' health	Minor Must
10	**Post Harvest Handling**	
10.1	**Post Harvest Treatment**	
10.1.1	Use of chemical post harvest treatments should be minimized	Encouraged
10.1.2	When used, it shall be in accordance with product label or established recommendations	Major Must
10.1.3	When chemicals are used, they shall be in accordance with the Malaysia Food Act and Food Regulations	Minor Must
10.1.4	In addition, where pesticides are involved, they shall be officially registered under the Pesticide Act	Major Must
10.1.5	For crops to be exported, crop producers shall not use chemicals that are banned or disallowed in importing countries	Major Must
10.1.6	A current list of all products that are used and approved for use on the crops being grown must be kept	Minor Must
10.1.7	Crop producers must consult their customers to determine if any additional commercial restrictions exist	Minor Must
10.1.8	Crop producers must be able to demonstrate their competence and knowledge with regard to the post harvest treatment	Minor Must
10.1.9	Records for all post harvest treatments shall be kept to include crop name, location, date of treatment, reason for treatment, type of post harvest treatment, dosage, methods of treatment and name of operator	Major Must
10.2	**Post Harvest Washing**	
10.2.1	Potable water shall be used for washing of produce	Major Must
10.2.2	Based on risk assessments, source of water for post harvest washing should be analyzed at least once a year for microbial, chemical and mineral pollutants to ensure that it is potable	Encouraged

11	**Pesticide Residue Analysis of Produce**	
11.1	The frequency of pesticide residue analysis should be based on risk assessment taking into consideration its intended use	Encouraged
11.2	Crop producers and/or suppliers shall provide evidence of residue testing	Major Must
11.3	The test results should be traceable to the crop producer and to the production site	Encouraged
11.4	The laboratories used for residue testing shall be accredited by a competent accreditation authority to good laboratory standards (e.g. ISO/IEC 17025)	Minor Must
11.5	Preventive and corrective action plans should be in place in the event a maximum residue level (MRL) is exceeded	Encouraged
12	**Waste and Pollution Management, Recycling and Re-Use**	
12.1	All possible waste products and sources of pollution should be identified in all areas of the farm business	Encouraged
12.2	Having identified wastes and pollutants, a plan should be developed and implemented to avoid or reduce wastage and pollution	Encouraged
12.3	Whenever possible, avoid land filling or burning by recycling the waste	Encouraged
12.4	Crop debris may be composted and re-used for soil conditioning	Encouraged
13	**Workers' Health, Safety and Welfare**	
13.1	**Action Plan**	
13.1.1	There should be an action plan to promote safe and good working conditions	Encouraged
13.2	**Training**	
13.2.1	Training shall be given to workers operating dangerous or sophisticated equipments	Minor Must
13.2.2	Record of training for each employee shall be kept	Minor Must
13.2.3	Accident and emergency procedures shall be available with clear instructions to all workers	Minor Must
13.2.4	These procedures should be displayed and shall be in the appropriate language of the workforce	Encouraged
13.3	**Facilities and Equipment**	
13.3.1	First aid boxes shall be available at permanent sites on the farm	Minor Must
13.3.2	Hazards should be clearly identified by warning signs where appropriate	Encouraged

13.4	**Pesticide Handling**	
13.4.1	Workers undertaking pesticide applications on the farm should receive health checks in line with guidelines by local regulatory requirements	Encouraged
13.5	**Hygiene**	
13.5.1	All permanent product packaging and storage sites shall have adequate pest control measures, particularly in areas of food handling, storage of packaging, storage of pesticides and storage of fertilizers	Major Must
13.5.2	Workers should receive basic training in hygiene requirements for the handling of fresh produce	Encouraged
13.5.3	The training program should outline the need for hand cleaning, the covering of skin-cuts and the confinement of smoking, eating and drinking to permitted areas	Encouraged
13.5.4	The premises should be kept clean at all times to avoid establishing a breeding ground for pests	Encouraged
13.6	**Welfare**	
13.6.1	All employment conditions shall comply with local and national regulations	Minor Must
13.6.2	If on-site living quarters are provided, they shall be habitable and have basic amenities and facilities	Minor Must
14	**Environmental Issues**	
14.1	**Impact of Farming on the Environment**	
14.1.1	Crop producers shall conform to existing environmental legislation that covers the concern for air, water, soil, biodiversity and other environmental issues	Minor Must
14.2	**Wildlife and Biodiversity Conservation**	
14.2.1	Crop producers should always be conscious of the need to conserve wildlife and biodiversity	Encouraged
14.2.2	Where Environmental Impact Assessment (EIA) is required, consideration for the conservation of wildlife and biodiversity shall include the following areas: a) conduct baseline audit to understand existing and animal diversity on the farm. Conservation organizations may be requested to conduct surveys to measure biodiversity and identify areas of concern, b) take action to avoid damage and deterioration of habitats and c) create an action plan to enhance habitats and increase biodiversity on the farm	Minor Must

14.3	**Unproductive Sites**	
14.3.1	Crop producers are encouraged to convert unproductive sites (e.g. swamps, steep slopes, deep peat etc) into conservation areas for natural flora and fauna	Encouraged
15	**Record of Complaints**	
15.1	Records of complaints on all produce not in compliance with the requirements in this Standard and their remedial actions shall be made available on site	Major Must
16	**Legal Requirements**	
16.1	All farm activities and produce shall in all other aspects comply with the requirements of the legislations currently in force in Malaysia	Minor Must