

# Labour Department, Barbados

## Occupational Safety and Health Section

# Guidelines *for the* Agricultural Sector



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**Occupational Safety and Health Guidelines for the**  
**Agricultural Sector**

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## **PREFACE**

The current guidelines are the culmination of a period of consultation with the relevant stakeholders in agriculture. Through assistance from the Sectoral Activities Department of the International Labour Organisation (ILO), a workshop was held at the Sherbourne Conference Centre on the 23<sup>rd</sup> and 24<sup>th</sup> November 2004.

Subsequently, Mr. Arni Walters, then Human Resource Manager with Barbados Agricultural Management Corporation Limited (BAMC), was contracted by the ILO, to prepare a draft policy document taking into account the requirements of ILO Conventions 155 and 184 and Recommendation 192, the local Safety and Health at Work Act, 2005 (SHaW) and the report on the proceedings of the stakeholders meeting. At the third stage in the consultation process participants attended an intensive one-day workshop, which was held at the Manor Lodge on 7<sup>th</sup> March 2007.

This entire process informed the contents of the guidelines on safety and health in agriculture that follows. It is envisaged that these guidelines would form the basis of any enforcement strategy that is developed. Further it could also be used as a template by agricultural enterprises who wish to develop a safety and health policy in compliance with the SHaW Act. It is also hoped that these guidelines once disseminated to the various policy makers in the agricultural sector will provide the impetus for the improvement of safety and health practices in this sector.

## **POLICY STATEMENT**

The Ministry of Labour in collaboration with its social partners undertakes to develop a holistic approach to promote, implement, enforce, and continually improve occupational safety and health best practice in the agriculture sector.

These guidelines seek to encourage the following with respect to agricultural enterprises:

1. the application of safe working procedures and practices;
2. compliance with the relevant safety and health standards;
3. provision and maintenance of adequate facilities for the safety, health and welfare of employees and any other persons;
4. the safety of the means of entry and exit provided;
5. the provision and maintenance of safe plant, machinery, equipment, processes and work systems;
6. the implementation of arrangements concerning the safe use, handling, storage, transport and disposal of agro-chemicals, hazardous materials and other substances;
7. that information, instruction, training, and supervision as is necessary to protect the health and safety of the employees is provided;
8. that adequate arrangements are in place to prevent, record and investigate work place accidents;
9. that adequate arrangements are in place in the event of emergencies;
10. the promotion of consultation between the management and the employees/employee representatives; and
11. the development of safety management systems within all agricultural undertakings.

## **GENERAL DUTIES**

Notwithstanding the general duties of employers/occupiers and employees as stated at Sections 6, 7, and 9 of the Safety and Health at Work Act, the parties in the agricultural sector should be mindful of their responsibilities.

### ***Employer/Occupier Duties***

The employer/occupier should:

1. ensure the safety and health of the employees in every aspect of the working environment, including the provision and maintenance of a safe place of work, safe systems of work, and competent fellow employees;
2. conduct full 'risk assessments' of all agricultural operations, and on the basis of the results of the assessments, adopt the necessary preventative and protective measures as are reasonable to ensure that all activities, machinery, equipment, tools and workplaces under the employer's control are safe for use;
3. provide full information, instruction, training and supervision to all workers (whether temporary, seasonal or permanent) on the hazards and risks that they may encounter;
4. Consult with his employees about safety and health matters which may directly affect them in the workplace;
5. terminate any operation that poses an imminent, serious threat and or danger to employees;
6. ensure that adequate arrangements are in place in case of emergencies;
7. take the necessary action to ensure the safe handling, storage, transport and use of articles and substances;
8. ensure that the workplace, workspace and procedures meet prescribed ergonomic standards;
9. provide and maintain adequate welfare facilities for all workers;
10. not require or permit a pregnant employee or an employee who is nursing her child to perform work that is hazardous to her health or the health of the child.

## ***Employee Duties***

Every employee should:

1. take reasonable care of his/her health and safety and that of others;
2. make proper use of all safe guards, safety devices and other appliances furnished for his/her protection or the protection of others;
3. be careful not to interfere with, remove or move any safety device or other appliance furnished for his/her protection or the protection of others, or tamper with any method or process adopted with a view to avoiding accidents and injury to health, unless duly authorized;
4. participate in the selection of employee representatives of the safety and health committees;
5. report to a supervisor, conditions that the worker believes are hazardous to safety and health;
6. comply with the safety and health measures put in place by the employer and to fully cooperate with the employer to ensure compliance with the relevant statutory and common law duties.

## **SAFETY ORGANISATION**

Safety Management Systems (SMS) encourage a structured approach to the management of safety and health risks. It uses procedures, practices and policies to manage safety. Two essential elements of a safety management system are risk assessments and consultation between employers and employees.

### ***Risk Assessments***

1. Employers shall carry out risk assessments on an ongoing basis so as to identify any hazards to employees' safety.
2. Such risk assessments should give attention to the following:
  - a. identification of all who may be affected by the hazards;
  - b. evaluation of the risks associated with the identified hazards and the effectiveness of any control measures;
  - c. the recording of the significant findings of the risk assessment;
  - d. a system for reviewing and revising work practices/procedures.
3. Risk assessments shall be done whenever new substances and machinery are introduced.
4. Preventive and protective measures based on the risk assessments shall be put in place giving attention to the following in order of priority:
  - a. elimination of the hazard or risk;
  - b. controlling the hazard/risk at source, through the use of engineering controls or organizational measures;
  - c. the minimization of the hazard/risk by the design of a safe systems of work, including administrative controls; and
  - d. where the residual hazards or risks exist after implementation of a combination of the above then personal protective equipment shall be provided.

## ***Safety Consultation***

Involving workers in health and safety matters has a positive effect on health and safety performance.

1. The workers should be consulted in the development of any arrangements for their safety.
2. In agricultural establishments where the workforce is twenty five (25) persons or greater the employer shall establish a safety and health committee.
3. A safety and health committee shall be composed of 50% employees' representatives. Safety and health committees which are too large tend to be ineffective, hence the size of the committees should not be larger than 12.
4. Safety Committees can have the following functions:
  - a. assist in the development of safety rules, systems of work and procedures;
  - b. conduct risk assessments;
  - c. actively promote safety and health throughout the workplace;
  - d. monitor and review the safety and health performance of the enterprise;
  - e. review accident and occupational health trends;
  - f. consider the reports of the enforcing authority;
  - g. deal with any safety and health grievances which may arise
5. In small agricultural establishments (less than twenty five employees) consultation shall be effected through the appointment of one or two safety delegates appointed through the employees.
6. The safety and health representatives shall be provided with all the information required to do their work. This includes access to material safety data sheets (MSDS) and procedural manuals for all equipment.
7. All reports relating to the workplace safety and health conditions and the environment shall be forwarded to at least one member of the health and safety committee or the safety delegate.



### ***Training, Instruction and Supervision***

Workers should receive training and instructions with regards to all hazards that are intrinsic to their work and the precautions necessary to remove or mitigate the risks involved.

1. Such orientation training should include the safety and health policy of the organization and the safety and health responsibilities of all parties.
2. The orientation training should be commensurate with the size of the enterprise and the nature of the hazards involved.
3. New employees should undergo orientation to ensure that they are aware of the hazards that are involved in their work and the control measures necessary to mitigate the risks.
4. Training should be done on the introduction of new machinery and chemicals giving attention to any hazards associated with the machinery or chemicals and the precautions to be observed.
5. In view of their safety and health responsibilities, safety and health committee members should have access to training that allows them to undertake a suitable and sufficient assessment of the risks likely to arise as a result of work activities.

### ***Accident/Incident Response***

Systems should be put in place to investigate all accidents with a view of determining the root cause(s) so as to identify measures to be implemented to prevent reoccurrences.

1. Employees should promptly report all accidents and incidents to the immediate supervisor.
2. First Aid treatment should be administered to the injured person if required.
3. All reported accidents and incidents shall be recorded and documented.
4. Any workplace accident and case of occupational disease that causes incapacity from work for more than three (3) days shall be reported to the Chief Labour Officer on the prescribed form.

### ***Provisions for Fire Safety***

1. The emergency services should be consulted with reference to provisions for fire safety and escape which should include:
  - a. The means of escape;
  - b. The methods by which the means of escape will be secured;
  - c. The type of fire-fighting equipment to be used; and
  - d. The fire warning systems used.
2. The provisions for fire safety and escape should be documented and communicated to the workers in a form that is easily understood.

### ***First Aid Provisions***

1. Suitable first aid equipment shall be provided.
2. At least one person shall be trained in first aid and that person shall have responsibility for the first aid supplies
3. The first aid box or cupboard shall:
  - a. Be clearly identified with the appropriate sign;
  - b. Be kept in a readily accessible location;
  - c. Contain a sufficient quantity of suitable first aid materials.
4. The contents of that first aid box or cupboard shall meet the requirements outlined by the Chief Labour Officer under the advice of the Chief Medical Officer.
5. Someone who is certified in first aid shall always be available whilst people are at work.

## **GENERAL SAFETY**

### ***Working with Animals***

Workers who are involved in animal handling face hazards resulting from manual handling activities (injury from lifting or restraining animals, musculoskeletal-disorders); noxious gases arising out of the agricultural undertaking (ammonia in poultry farms); injury arising out of handling of the animals themselves (biting, kicking, butting, scratching etc.); diseases (not common in Barbados) and environmental hazards (poor ventilation, dust, dander). In addition, those who work in a primary processing facility (slaughtering) face hazards associated with slippery floors, inadequate drainage, scalds and other skin disorders resulting from the accidental contact with hot liquid and other chemicals. The following basic control measures can be put in place to help mitigate the consequences from these hazards.

1. Reduce manual handling to a minimum by the use of mechanical aides.
2. Ensure that in primary processing facilities there is adequate floor drainage.
3. Primary processing facilities shall be constructed with non-slip floors.
4. Animal handlers should be trained in handling animals and animal behavior.
5. Effective animal restraining equipment should be in place to prevent animals from posing a threat to workers.
6. Animals dying of prescribed (notifiable) diseases shall be handled in accordance with the relevant Act (Animal Diseases and Importation Act, Cap 253).
7. The administration of biological agents (vaccines) should be done under the supervision of a veterinary surgeon.
8. Any other control measure as suggested by the risk assessment.

### ***Machinery Safety and Ergonomics***

Some of the most serious accidents in the agricultural sector involve machinery.

1. Agricultural machinery should comply with the relevant safety and health standards and be properly installed, maintained and safeguarded.

2. Working spaces for workers, passageways alongside machinery, and passageways between machinery and fixed objects, such as walls, post and columns, should be:
  - a. of sufficient width and height to permit safe working or passage; and
  - b. kept clear of obstructions.
3. Preventative maintenance systems should be adopted, taking into consideration the manufacturers' recommendations.
4. Maintenance of machinery should be undertaken only by qualified persons and in accordance with the manufacturers' recommendations.
5. Machinery should only be used for the purpose for which they were designed and operated by trained and competent persons.
6. Every machine should be equipped with easily accessible means of stopping in the event of an emergency.
7. When machinery is stopped for servicing or repairs, appropriate measures should be taken to ensure that it cannot be restarted, except by the person engaged in the servicing or repairs.
8. Operators should undergo adequate training that includes information about any hazards associated with the use of the machine and the precautions to be observed.
9. Articles such as scarves, ties, and jewelry should not be worn around and about machines and machinery.
10. Safety and health information supplied by the manufacturers, importers and suppliers of machinery shall be readily accessible to all.

### ***Chains, Hoists and Lifting Tackle***

Cranes, lifts, hoists, chains and lifting tackle shall be examined by a Competent Person at least once in every 12 months and in the case of chains or slings of 12.5 millimetres bar or smaller, once every 6 months.

1. No chain, rope, lifting tackle, hoist, or lift shall be used unless it is of good construction, sound material, adequate strength, free from patent defect and shall be properly maintained.

2. All chains, ropes and lifting tackle in use shall be thoroughly examined by an Authorized Person at least once in every period of 3 months.

### ***Pressure Vessels***

Boilers, air receivers and steam receivers shall be examined by a Competent Person at least once in every 12 months.

### ***Tractors and Other Vehicles***

1. Tractors and other vehicles should be well maintained and inspected on a regular basis.
2. The cab, pedals, footrests and steering gear of tractors should be kept clean.
3. Only adequately trained persons should drive tractors.
4. Tractors or other vehicles should not be refueled:
  - a. while they are running; or
  - b. in the presence of any source of ignition (open flames, lighted cigarettes).
5. Persons should not disembark tractors unless:
  - a. the tractor is stationary;
  - b. there is an adequate and safe landing place.
6. Tractors should not carry:
  - a. any person for whom there is not a safe seat;
  - b. children; or
  - c. loose objects unless a safe place is provided for them.
7. The tractor power take-off (PTO) and the power take off drive shaft of a machine, the universal joint, or any moving part should be completely enclosed in a guard that prevents any person from coming into contact with it.
8. The power take-off shield and cover should be capable of supporting a weight of 120 kg when attached to the tractor.

### ***Handling and Transport of Materials***

1. Risk assessment should be carried out in respect of all manual handling activities.  
Any such risk assessment must take into consideration the following:
  - a. the task;
  - b. the load;
  - c. the working environment; and
  - d. the individual's capability.
2. Whenever practical, mechanical appliances should be provided and used for lifting and carrying loads.
3. Workers who are assigned to handling loads should be instructed on how to lift and carry loads safely.
4. Workers should not be required to lift, carry or move any load so heavy so as to cause injury.
5. The floor or platform for loading or unloading should be as level as is reasonably practicable with the vehicle platform.
6. Loads should be packed so that the stability of the vehicle is not impaired and the load or part of it do not:
  - a. cause danger to persons by shifting or falling; or
  - b. project from the sides of vehicles.

### ***Management of Chemicals***

1. Substances which have been prohibited for use by the national authority shall not be used in the agricultural enterprise.
2. Workers involved in the handling, transport, dispensing, disposal or application of agrochemicals shall be informed of the hazards associated with their use and the precautions to be taken to prevent any incidents of ill-health.
3. Workers shall be made aware of the following basic principles of personal hygiene when using agrochemicals:
  - a. exposed parts of the body should be washed thoroughly after work and before eating, drinking or smoking and before using the lavatory;

- b. ensure that any cuts or sores are protected by a protective dressing;
  - c. do not carry any contaminated items such as dirty rags, tools or spare nozzles in the pockets of personal clothing; and
  - d. remove and wash separately any contaminated item of personal protective equipment.
4. Material safety data sheets (MSDS) for all chemicals should be available and easily accessible to the worker.
5. Information on the MSDS should be explained to the worker using terms and language that is readily understood.
6. All containers containing chemicals should be properly labeled.
7. A chemical should be kept in its original container but if repackaging is necessary, the new container should be suitable for storing that chemical.
8. Should it be necessary to transfer agrochemicals from one container to another the following precautions should be observed:
  - a. the container should be accepted by an Authorised Person as fit for that purpose;
  - b. the container shall be properly labeled and completely cleaned and dry;
  - c. the container is not overfilled;
  - d. the worker doing the transferal should be wearing appropriate personal protective equipment.
9. Agrochemicals should not be transported alongside the driver in either the vehicle or tractor cab.
10. Any building used to store agrochemicals should meet the following requirements:
  - a. floors should be so designed as to contain spillage or leakage;
  - b. doorways should be of adequate size to allow the safe movement of materials;
  - c. windows should be located so that sunlight does not fall directly onto agrochemicals.
  - d. the means of ventilating the storeroom should comply with the Health Services Act and Regulations and be approved by the Environmental Protection Department. The ventilation can be through natural or mechanical means:

- i. adequate natural ventilation may be achieved by the use of decorated or air blocks;
    - ii. where adequate natural ventilation cannot be provided then an extractor fan should be installed to remove contaminated air to the outside;
  - e. the storage area should be kept dry;
  - f. the storage area should have appropriate signage indicating that agrochemicals are being stored in the area.
11. Where chemical stores are located within a general purpose building then the access doors should open to the outside of that building. Should it be impractical to construct a separate access door for chemical stores located within a general purpose building then the access shall not be shared with areas used for domestic purposes, storage of foodstuff or the keeping of animals.
12. Areas used for the storage of agrochemicals should be so organized that agrochemicals are shelved and stocked in a secure and orderly way with clearly visible labels.
13. Non-compatible chemicals should not be stored together. Information on chemical compatibility is usually found in the storage and handling section of the MSDS.
14. Oxidizing products and fumigants shall be stored in dry conditions.
15. Agrochemicals should be stored so that shelves are not overloaded.
16. Care must be taken to ensure that containers at the bottom of a stack are not compressed.
17. Agrochemicals should be dispensed in accordance with the manufacturer's instructions.
18. Spillage of agrochemicals is both wasteful and hazardous. Measures should be put in place to reduce spillage to the absolute minimum. In the event of spillage, however, the following steps should be taken:
- a. people, animals and vehicles should be kept away from the area;
  - b. personnel involved in the cleanup should wear appropriate protective clothing;
  - c. absorbent material should be used to absorb liquid spills;



- d. wet sand should be used to reduce the tendency of dry powder or granules from becoming airborne;
  - e. the spill should be removed carefully, taking care to avoid the agrochemical from becoming airborne;
  - f. personnel involved in the cleanup should thoroughly wash themselves immediately afterwards.
19. Each agricultural enterprise shall devise a suitable system for the safe collection, recycling or disposal of chemical waste, obsolete chemicals and empty containers. In devising such a system, consideration should be given to the following basic principles:
- a. agrochemical waste should not be disposed indiscriminately;
  - b. the accumulation of waste should be avoided;
  - c. the label and any documentation provided by the manufacturer should be consulted for specific advice on disposal;
  - d. the local authority (Environmental Protection Department) and the suppliers should be consulted for advice on disposal;
20. Whenever practicable the use of alternatives to agrochemicals, such as biological controls could be considered, however the competent authority must be consulted before the introduction of any such measures to ensure no significant hazards are introduced.

### ***Agricultural Installations***

All buildings, whether permanent or temporary, should be structurally safe.

1. Access to elevated workplaces should, as far as practicable, be by means of stairs and not ladders.
2. In consultation with the competent authority adequate means of egress should be provided in the event of emergency.

3. Buildings should be maintained in a safe condition and, if any dangerous condition is found, it should immediately be remedied or access to the place concerned should be prevented until the repairs are made.
4. Floors should be sufficiently firm, continuous and even to permit safe walking and, if necessary, safe transport of materials. Particular attention should be given to ensuring that:
  - a. floors are free from holes, splinters, protruding nails or other projections or obstructions that might constitute stumbling hazards;
  - b. boards, planks and other floor coverings should be so placed and secured as to prevent tilting, tipping or other inadvertent displacement; and
  - c. gaps between boards, planks or other parts of floor coverings should not exceed 5 cm.
5. Floors should not be slippery and if necessary should be roughened or provided with non-slip surfaces.
6. Floors should be adequately drained and properly maintained.
7. Floors should not slope down towards dangerous places.
8. Stairways having four or more risers should have at least one handrail.
9. In the case of a staircase that has one open side, the handrail shall be on the open side.
10. Stairways which have two open sides shall have handrails on each side.
11. Elevated workplaces of more than 2 metres shall be protected on all open sides by guardrails.
12. Appropriate signage should be in place to advise workers of the hazards and the controls in place to deal with them.
13. Signage should be in a form that is easily understood by the workers (for example pictograms).

### ***Welfare Facilities***

1. Adequate washing up facilities should be placed on each agricultural site and should be adequately maintained.
2. Adequate supplies of clean drinking water should be provided.

3. Bathroom and shower facilities should be provided and adequately maintained for workers.
4. Work related transportation should be appropriate, safe and in accordance with acceptable practices. Such transport shall have seating and be sheltered.
5. Facilities for the eating of meals shall be provided and adequately maintained.
6. Facilities for the storage and washing of personal protective equipment should be provided.

### ***Women Workers***

1. A female worker should notify her employer that she is pregnant by producing a medical certificate.
2. Risk assessments shall be done to determine the effect of any agrochemicals or work processes on the pregnant woman or unborn child.
3. Where a risk assessment has shown that the current working activities of a pregnant employee/new mother puts the life of her unborn/newborn child at risk then the working conditions shall be so adapted or alternative work provided so as to ensure that the unborn/newborn child is not placed at risk.

## GLOSSARY

“Agricultural enterprises” for the purpose of these guidelines, are those which are used for agricultural purposes and include

- (a) purposes connected with
  - i. dairy farming, cattle farming, sheep farming, the rearing of poultry or other livestock, insect raising, and animal handling or
  - ii. the production and storage of consumable produce grown for sale, consumption or other use or for the purpose of a trade or a business or other undertaking whether carried on for profit or not; and
- (b) the use of land for market gardening, horticulture, forestry activities, animal husbandry or similar purposes;
- (c) the use and maintenance of machinery, equipment, appliances, tools, and agricultural installations, including any process, storage, operation or transportation in an agricultural undertaking, which are directly related to agricultural production.

“Authorized Person” means a person so designated by the occupier.

“Competent Person” means a person approved as such by the Minister for a specified purpose.

“Employee” means any person who has entered into or works under a contract of service or apprenticeship with an employer to do work for hire or reward, whether the contract is expressed, implied, is oral or in writing, oral and partly in writing, and includes a public officer.

“Employer” means a person who employs persons for carrying out any trade, business, profession, office, vocation and apprenticeship.

“Hazard” is any source, situation, or act with a potential for harm in terms of human injury or ill-health or combination of these

“Hazard identification” is the process of recognizing that a hazard exists and defining its characteristics

“Lifting tackle” refers to chain slings, rope slings, hooks, shackles and swivels.

“Occupier” means the person who has control over a workplace and the work that is done there.

“Risk” is the combination of the likelihood of an occurrence of a hazardous act or exposure(s) and the severity of injury or ill-health that can be caused by the event or exposure.

“Risk assessment” is the process of evaluating the risk arising from the hazards, taking into account the adequacy of any existing controls and deciding whether or not the risk is acceptable.

“Woman” means a female person who has attained the age of 18 years.