



NATIONAL PLANT HEALTH POLICY

**Prepared by the Ministry of Agriculture & Fisheries
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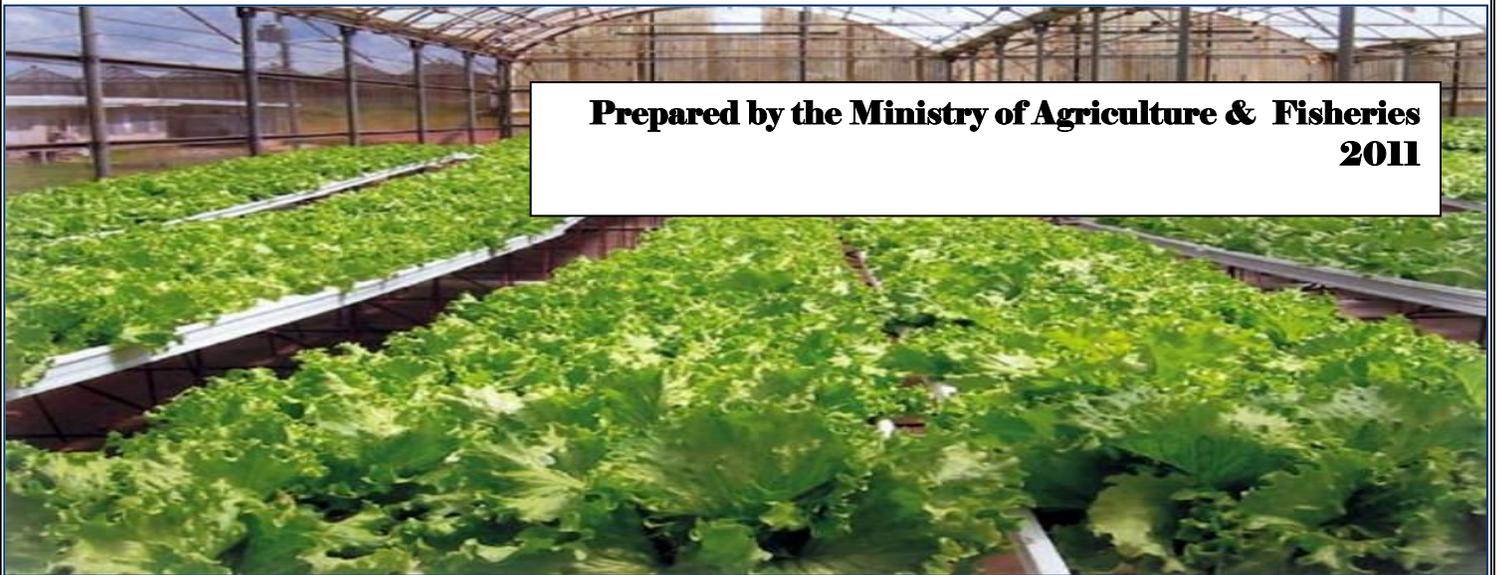


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LIST OF ACRONYMS

IPPC	International Plant Protection Convention
WTO	World Trade Organization
PCA	Pesticide Control Authority
NEPA	National Environment and Planning Agency
NPPO	National Plant Protection Organization
PPU	Plant Protection Unit
RADA	Rural Agricultural Development Authority
PQ/PI	Plant Quarantine/ Produce Inspection Unit
UWI	University of the West Indies
SIRI	Sugar Industry Research Institute
JCPA	Jamaica Citrus Protection Agency
CARDI	Caribbean Agricultural Research and Development Institute
WTO-SPS	World Trade Organization Agreement on Sanitary and Phytosanitary Measures
ISPMs	International Standards for Phytosanitary Measures
CBD	Convention on Biological Diversity
PRA	Pest Risk Analysis
NEPPC	National Emergency Plant Pest Committee
FAO	Food and Agricultural Organization
IICA	Inter-American Institute for Cooperation on Agriculture

EXECUTIVE SUMMARY

The task of protecting Jamaican agriculture is becoming increasingly challenging, as natural and national borders that once were effective barriers to the spread and introduction of unwanted organisms or materials are now under pressure from the volumes of international traffic. Continental countries with land borders have always experienced difficulties in monitoring and controlling the movement of pests across their borders. Island nations are no longer protected by their surrounding oceans, as the volumes and speed of modern air and shipping traffic breach their natural defences against pest introduction. These challenges are also compounded by limited financial and human resources to safeguard these borders against unwanted pest introductions.

In addition, the intensification of production systems based on exotic species and climatic and environmental changes have all increased the risks of introducing harmful alien species. This poses increasing difficulties for phytosanitary authorities. In their day-to-day operation, phytosanitary authorities now face many demands such as assessment of pest risk, evaluation of control measures and planning for emergency responses to pest outbreaks.

The impact of pests and unwanted species are widespread and have a negative effect the environment, economy and society in general. Some of these pests have the capacity to cause damage to the natural environment and agricultural crops. Economic costs of pest eradication and long term pest control options are normally borne by taxpayers, farmers and ultimately, consumers. The application of pesticides to control unwanted pests leads to damage of the ecosystem, higher costs of production and negative effects on human health and nutrition.

Political and social impacts associated with regulated pests include the hampering of sustainable development opportunities as pest infestations and outbreaks negatively affect food security and rural stability. Pest outbreaks can impact negatively on small farmer incomes and lead to the deepening of poverty in rural areas due to the destruction of livelihoods.

Jamaica's plant health system is governed by the National Plant Protection Organisation (NPPO). The NPPO's functions are shared among three (3) Divisions/ Agencies that fall within the purview of the Ministry of Agriculture & Fisheries. These are:

- Plant Quarantine/Produce Inspection Unit;
- Plant Protection Unit/ Post Entry Quarantine of the Research and Development Division; and
- Rural Agricultural Development Authority (RADA).

Jamaica currently has four pieces of legislation that directly address plant health, namely:

- Plant Quarantine Act 1993 and Regulations 1999 and 2005;
- Pesticide Act (1975) and Regulations (1996, 1999 and 2004);
- Natural Resource Conservation Act (1991); and

- The Forest Act (1995).

Despite the existence of able institutions and legislation, these are inadequate to meet the requirements of international agreements or conventions to which Jamaica is signatory or adheres. These include World Trade Organization (which includes the Agreement on Sanitary and Phytosanitary Measures) and the Convention on Biological Diversity and adheres to the International Plant Protection Convention (IPPC).

The policy therefore seeks to address the gaps and failures in the current plant health system in light of requirements of international treaties and agreements and food safety and phytosanitary standards of our major trading partners. The policy identifies issues faced by Government that hinder the development of an efficient plant health system. The policy will therefore make provision for the revision of existing legislation, building of institutional capacity, scientific systems, quarantine capacity, surveillance systems, emergency response for pest outbreaks and increased public awareness.

The vision of the policy is *“the establishment of a coordinated, sustainable and international compliant plant health system that enhances Jamaica’s plant health status, thus fostering consumer, plant and environmental health and food security”*.

General goals of the plant health policy are to:

- ❖ Improve the current plant health system in accordance with international standards and obligations;
- ❖ Harmonize national plant health legislative, regulatory and institutional frameworks;
- ❖ Facilitate the development of systems that mitigate the introduction and spread of harmful alien pest species;
- ❖ Promote the use of sustainable integrated pest management strategies in order to reduce the dependence on pesticides by farmers;
- ❖ Protect the natural environment from the harmful impact of invasive plant pests; and
- ❖ Increase public awareness and role of stakeholders in protecting plant health.

The Ministry of Agriculture & Fisheries will be the main institution responsible for implementation of this policy, as the NPPO (Plant Quarantine/Produce Inspection Unit) and its complementary Agencies/Divisions, RADA and Plant Protection Unit falls within its purview. Other Agencies such as the Pesticides Control Authority and Jamaica Bureau of Standards will also play key roles in the implementation of this policy.

The Policy will be monitored by the Planning and Policy Division of the Ministry of Agriculture & Fisheries through benchmarks that will be established in a 3 year Implementation Plan for the policy.

1. Background

The discipline of plant health is wide in scope. It however consistently deals with a diversity of biotic agents potentially harmful to plants. Plant health management is the science and practice of comprehending and prevailing against those biotic and abiotic factors that limit plants from realizing their genetic potential. Plant health is becoming more progressively important because of the enhanced risk of the introduction and spread of harmful biotic agents due to increased international trade and travel. It is with these risks that plant health and quarantine are largely concerned. Hence much of the science and applications of plant health is focused on preventing or mitigating the spread and establishment of plant pests into new areas and to eradicate and control them if this happens. For the scope of this policy, plant health entails the application of scientific knowledge, logic and innovation to administrative and regulatory systems for achieving a good standard of health in plants, including cultivated and uncultivated, unmanaged plants, wild flora, habitats and ecosystems (Ebbels, 2003).

A plant pest as defined by the International Plant Protection Convention (IPPC) as any species, strain, or biotype of plant, animal or pathogenic agent, injurious to plants or plant products. Pests can destroy crops and reduce farm incomes, but generally pose no direct risk to humans or animals. However, there are exceptions such as the Giant African Snail (*Achatina fulica*) which provides an intermediate host for rat lungworm (*Angiostrongylus catonensis*) which can infect the human brain, causing paralysis, coma and could even lead to death.

Two categories of plant pests are directly subject to regulation, quarantine pests and regulated non-quarantine pests. Quarantine pests are pests of potential economic or environmental importance to an area, which are not present there, i.e. alien, or which if present are not widespread and are being officially controlled. Some pests, referred to as regulated non-quarantine pests, are widely established and therefore do not qualify as quarantine pests. These pests are nevertheless prohibited or only permitted within a certain level of tolerance on planting material.

The task of protecting Jamaican agriculture is becoming increasingly challenging, as natural and national borders that once were effective barriers to the spread and introduction of unwanted organisms or materials are now under pressure from the volumes of international traffic. Continental countries with land borders have always experienced difficulties in monitoring and controlling the movement of pests across their borders. Island nations are no longer protected by their surrounding oceans, as the volumes and speed of modern air and shipping traffic breach their natural defences against pest introduction. These challenges are also compounded by limited financial and human resources to safeguard these borders against unwanted pest introductions.

In addition, the intensification of production systems based on exotic species and climatic and environmental changes have all increased the risks of introducing harmful alien species. This poses increasing difficulties for phytosanitary authorities. In their day-to-

day operation, phytosanitary authorities now face many demands such as assessment of pest risk, evaluation of control measures and planning for emergency responses to pest outbreaks.

Alien species do not necessarily create undesirable risks as the majority of plant species used in agriculture or horticulture are alien species. In fact, evidence suggests that only a very small proportion of all alien species ever become a pest in a new territory. However, the proportions that do become pests have major economic, environmental and political implications for the country or countries concerned.

Plant pests are introduced or spread through pathways. Introductions can be intentional or unintentional, as well as authorized or unauthorized. There are a number of pathways that pests can be introduced to a country. These include commercial and casual imports of plants and plant products, packaging material, persons, baggage, mail, conveyances, aircrafts, ships, etc. Therefore, international travel, movement of people and goods always carry the risk of unwanted pest introductions in countries. These are not detectable in most instances and may become pests long after their introduction.

The table below summarizes some sources of plant pest introduction, its consequences and the agents that are likely to be affected¹.

Table 1: Causes and Consequences of Plant Pests and Invasive Alien Species

Sources of Introduction	Potential Effects On Ecosystem	Agents Affected
<ul style="list-style-type: none"> • Commercial Importers (e.g. of nursery stock, cut flowers) • Casual Importers (tourists, military personnel and travellers) • Adventitious Carriers (e.g. aircrafts and ships) 	<ul style="list-style-type: none"> • Agricultural losses • Destruction of biodiversity and ecosystems • Climate changes • Changes in the hydrological cycle • Landscape destruction • Community disruption • Recreation losses 	<ul style="list-style-type: none"> • Exporters • Importers • Growers • Farmers • Consumers • Society in general

Source: IPPC Secretariat 2005

Countries are always at risk of being affected by the introduction of unwanted organisms or pests. Government therefore has an important role to play in the protection of a country's plant health because of the potential negative impact on the agricultural sector and environment. The importance of an efficient plant health system is therefore vital to the expansion and sustainability of the agricultural sector.

¹ IPPC Secretariat 2005. *Identification of risks and management of invasive alien species using the IPPC framework*. Proceedings of the workshop on invasive alien species and the International Plant Protection Convention Braunschweig Germany 22-26 September 2003 Rome Italy, FAO.

2.0 Rationale for Plant Health Policy

The impact of pests and unwanted species are widespread and affect the environment, economy and society in general. Some of these pests have the capacity to directly damage the natural environment and agricultural crops. Economic costs of pest eradication and long term pest control options are normally borne by taxpayers, farmers and ultimately, consumers. Such costs could negatively impact on the availability and international competitiveness of Jamaican agricultural commodities. Rural communities are also adversely impacted due to loss of earnings from lower yields or destruction of crops due to pests.

In Jamaica, the Moko disease resulted in the destruction of large acreages of bananas and a decrease in export earnings for this sub-sector in the 1990's. Similarly the lethal yellowing disease was quite devastating to the coconut industry as many trees had to be destroyed, which negatively impacted on the income of farmers. Recent introductions such as the pink hibiscus mealybug (*Maconellicoccus hirsutus*) and the red palm mite (*Raoiella indica*) have warranted considerable resource allocation from Government for their official control. Pink Mealybug infestations have also destroyed agricultural crops and also resulted in loss of incomes for farmers.

The application of pesticides to control unwanted pests leads to damage of the ecosystem, higher costs of production and negative effects on human health and nutrition. The overall socio-economic conditions of rural communities can be negatively impacted, thus warranting the development or adoption of more sustainable management strategies.

Biodiversity of the country is also negatively affected, as pests that become invasive can lead to species extinction, disruption of habitats, and loss of genetic information used to boost agricultural productivity, impart resistance to pests and help adapt plants to harsh environments. Pests and unwanted species also have a negative impact on soils with respect to changes in waste assimilation, nutrient cycling, conservation and regeneration.

Political and social impacts associated with regulated pests include the hampering of sustainable development opportunities as pest infestations and outbreaks negatively affect food security and rural stability. Pest outbreaks can impact negatively on small farmer incomes and lead to the deepening of poverty in rural areas due to the destruction of livelihoods.

Jamaica's major trading partners are now demanding that the country meet food safety and phytosanitary standards in their markets. These standards are being used to limit access to these markets for fresh and processed agricultural exports. Increased emphasis on phytosanitary requirements in major export markets means that international trade and economic growth can also be affected if these countries prevent domestic exporters from selling some types of plant products.

The rationale for Government intervention in plant health therefore relates to issues of market failure and equity. Market failure in plant and produce health markets may occur because of the presence of environmental externalities and/or imperfect information. The pathways through which pests can be introduced are diverse and sometimes undetectable and eventually, negatively impacts on the physical environment. Losses are incurred by farmers, exporters, consumers and society in general when there is a pest outbreak.

The market for plant health also does not take into account the external environmental benefits that a higher level of plant health would ensure. Crop loss and pesticide use would be reduced and consumers would benefit from increased quantities and lower priced agricultural commodities and society in general would benefit from a healthier ecosystem. Plant health is therefore a public good and can be regarded as a positive externality. Government intervention is therefore necessary in this area to mitigate against negative impacts of pests.

Jamaica is also signatory to the World Trade Organization (which includes the Agreement on Sanitary and Phytosanitary Measures) and the Convention on Biological Diversity and adheres to the International Plant Protection Convention (IPPC). These speak to the responsibilities for which the Government is obligated and the national capacities that should be in place for the country to meet the obligations and fully realize the benefits under the agreements.

Despite Government's role in ensuring an efficient plant health system, it should be recognized that protection of plant health is a shared responsibility that is to be also undertaken by growers, traders and the general public. All these groups play a critical role in maintaining the plant health system of a country, as their activities impact upon and depend on it.

3.0 Delivery of Plant Health Services

3.1 Legislative Framework

Jamaica currently has four pieces of legislation that directly address plant health. These are:

- Plant Quarantine Act (1993) and Regulations (1999 and 2005);
- Pesticide Act (1975) and Regulations (1996, 1999 and 2004);
- Natural Resource Conservation Act (1991); and
- The Forest Act (1995).

Plant Quarantine Act (1993) and Regulations 1999 and 2005

The Act makes provision for the effective control of the importation of plants, plant products and articles which pose a threat of introduction to Jamaica, any injurious plant pest, as well as the course of action to be taken when these are discovered within the island. The Act contains two regulations, namely, The Plants (Importation) Control (Amendment) Regulations, 2005 and Citrus Plant (Certification) Regulation (1999).

The Plants (Importation) Control (Amendment) Regulations, 2005 gives information on the processes involved in acquiring an import permit, fines for breaches and the conditions attached to the importation of specific items.

The Citrus Plant (Certification) Regulation establishes the Jamaica Citrus Protection Agency as the body responsible for the implementation of the country's mandatory citrus certification programme. The Regulation also sets out the guidelines for: registration of nurseries that produce citrus plants; certification of seed source trees; certification of scion trees whose material is used to propagate citrus plants; trees used for quick multiplication blocks; certification of citrus trees produced by nurseries; and criteria for identification and use of varietal block trees.

The Act also contains four Orders declaring notifiable pests. These are:

- Pawpaw Ringspot Order, 1994;
- Pink Hibiscus Mealybug Order, 1996 and 2007; and
- Plant Quarantine (Control of *Ralstonia Solanacearum* Bacterium) Plant Pest, 2004.

Pesticide Act (1975) and Regulations (1996, 1999 and 2004)

The Act and its Regulations regulates the registration, importation, storage, retailing and manufacturing of pesticide formulations. The Act also establishes the Pesticides Control Authority which has responsibility for registering pesticides; licensing persons to import or manufacture registered pesticides; authorizing persons to sell restricted pesticides; registering premises in which a restricted pesticide may be sold; licensing pest control

operators. The Act also addresses all aspects of the importation, manufacture, packaging, preparation for sale, sale, disposal and use of pesticides.

Natural Resource Conservation Act (1991)

The Natural Resources Conservation Authority Act 1991 provides for the management, conservation and protection of the natural resources of Jamaica through the National Environment and Planning Agency (NEPA) whose responsibilities include the effective management of the physical environment of Jamaica and the management of marine parks and protected areas. The Act also addresses sewage and trade effluent discharges as well as air emissions.

The Forest Act (1995)

The 1995 Forest Act addresses the sustainable management of forests on lands in the possession of the Crown and vests management responsibility in the Conservator of Forests. The Act provides for the: establishment of forests reserves; establishment of protected areas; promotion of forestry research areas; reforestation initiatives and the preparation of a forestry management plan.

3.2 Institutional Framework

The functions of Jamaica's National Plant Protection Organisation (NPPO) are shared among three (3) agencies that fall within the purview of the Ministry of Agriculture & Fisheries. These are:

- Plant Quarantine/Produce Inspection Unit- Ministry of Agriculture & Fisheries;
- Plant Protection Unit/ Post Entry Quarantine - Research and Development Division- Ministry of Agriculture & Fisheries; and
- Rural Agricultural Development Authority (RADA).

Other organisations (see table 2 below) carry out plant health related activities, but do not form part of the NPPO. The following table gives a summary of the functions of institutions that undertake plant health related programmes in Jamaica.

Table 2: Functions of Agencies Involved In the Delivery of Plant Health

Institutions	Functions /Programmes
<i>Governmental Organizations</i>	
Plant Protection Unit, Research and Development Division of the Ministry of Agriculture & Fisheries	<ul style="list-style-type: none"> • Contributes to improved efficiency, productivity and enhanced competitiveness of plant commodities through development of cost effective and environmentally friendly technologies for the management of pest and disease outbreaks, inclusive of honeybee pests. This technology is then transferred to farmers through extension. • Provides improved and relevant pest and disease diagnostic capabilities to stakeholders. • Supports the activities of Plant Quarantine by maintaining an updated pest register and determines status for plant quarantine purposes.
Plant Quarantine/Produce Inspection Unit- Ministry of Agriculture & Fisheries	<ul style="list-style-type: none"> • Ensures that the highest quality, pest free produce is imported or exported into/from Jamaica. The unit is also mandated to ensure that no harmful exotic pest is introduced into the country and becomes established.
Post Entry Quarantine Unit- Research and Development Division of the Ministry of Agriculture & Fisheries	<ul style="list-style-type: none"> • Currently provides serological testing and bio-indexing of citrus bud wood material as a part of the Citrus certification programme. • The unit is also mandated to provide rigorous monitoring of imported plant material and validation of phytosanitary clearances issued by exporting countries for plant and plant parts.
Rural Agricultural Development Authority (RADA)- Ministry of Agriculture & Fisheries	<ul style="list-style-type: none"> • Provides sustainable and environmentally safe crop management advice to farmers inclusive of pest management. • Transfers Integrated Pest Management (IPM) packages generated by research to the farmers within the framework of a larger integrated crop management programme. • Instructs farmers on the safe and efficient use of pesticides. • Reports new plant protection problems so that new control strategies can be developed. • Reports new pests to the Plant Quarantine and Plant Protection Unit for further investigation.
Pesticides Control Authority (PCA)- Ministry of Health	<ul style="list-style-type: none"> • Ensures safe use and management of pesticides. • Provides registration and import licences to manufactures and sellers of pesticides. • Educates the public on public health and food safety issues concerning pesticide use.
<i>Commodity Boards/Groups</i>	
Sugar Industry Research Institute (SIRI)	<ul style="list-style-type: none"> • Monitors diseases, insects and weeds affecting sugarcane production and devises mechanism for their control.
Coffee Board	<ul style="list-style-type: none"> • Maintains a level of pest and disease at a manageable level (0.5% threshold) through monitoring, grower training and contracting research to develop appropriate pest management strategies.
Banana Board	<ul style="list-style-type: none"> • Research primarily deals with management of banana pests and diseases that negatively impact local banana

Institutions	Functions /Programmes
	production.
Coconut Board	<ul style="list-style-type: none"> • Provides coconut material with resistance and high stable yield. • Addresses the management of existing pest and disease problems through research and development of IPM systems. • Uses proactive approach to prevent and minimize the spread of exotic pests and disease agents into coconut growing areas.
Academic Institutions	
UWI- Pure and Applied Sciences	<ul style="list-style-type: none"> • Provides academic training and conducts research in the areas of arthropod biology and ecology, botanical pesticides and pesticide management.
UWI Biotechnology Centre	<ul style="list-style-type: none"> • Uses modern research tools (e.g. molecular tools in research) to generate information on some agricultural pests and also to develop plants with novel traits with greater degrees of resistance to plant pests. •
Regional Agricultural Research and Development	
Caribbean Agricultural Research and Development Institute	<ul style="list-style-type: none"> • More relevant production and marketing systems- research and development and extension coordination via networking mechanisms. • Modernisation of regional market information and other support services- Regional provision of market support services, including a market information and intelligence service. • Integrated pest management of agricultural arthropod pests of commodities.
Other Organizations	
Jamaica Citrus Protection Agency	<ul style="list-style-type: none"> • Committed to implementing a mandatory citrus certification programme. • Ensures that farmers and the general public get clean citrus material.

Plant health services provided by these institutions include quarantine, pest/disease diagnosis, pesticide regulation, pest management, surveillance and research. The following table shows the organisations and the plant health service provided.

Table 3: Organizations Providing Plant Health Services in Jamaica

Organisation	Pest/ Disease Diagnosis	Quarantine	Pesticide Regulation	Pest Management	Surveillance	Research
Government Organisations						
RADA	☑			☑	☑	
MOA- PPU	☑	☑*		☑	☑	☑
MOA- PQ/PI	☑	☑			☑	
PCA			☑			
NEPA**			☑			
Commodity Boards/Groups						
SIRI	☑			☑	☑	☑
Coffee Board	☑			☑	☑	☑

Organisation	Pest/ Disease Diagnosis	Quarantine	Pesticide Regulation	Pest Management	Surveillance	Research
Banana Board	☑			☑	☑	☑
Coconut Board	☑			☑	☑	☑
JCPA	☑			☑	☑	
Academic/Research Institutions						
UWI	☑			☑		☑
Regional Agricultural Research Institutions						
CARDI				☑		☑

* Services provided through post entry quarantine.

** NEPA's role in pesticide regulation relates to the importation of biological control agents as biopesticides.

4.0 International Agreements and Treaties Governing Plant Health

4.1 World Trade Organisation Agreement on Sanitary and Phytosanitary Measures (WTO-SPS)

The Agreement on Sanitary and Phytosanitary measures entered into force with the establishment of the World Trade Organisation on January 1, 1995. The Agreement provides a multilateral framework of rules and disciplines to guide the development, adoption and enforcement of sanitary and phytosanitary measures in order to minimize their effects on trade. It applies to all sanitary and phytosanitary measures that may, directly and indirectly affect international trade.

The Agreement sets out the basic rules for food safety and animal and plant health standards and allows countries to set their own standards. However, regulations must be based on scientific principles and applied only to the extent necessary to protect human, animal and plant life or health. These measures should not arbitrarily or unjustifiably discriminate between countries where identical or similar conditions prevail or misused for protectionist purposes. Therefore these measures should not be used to create barriers to free trade, but only imposed to protect human, animal or plant health on the basis of scientific information.

Jamaica is a signatory of the WTO.

4.2 International Plant Protection Convention

The International Plant Protection Convention (IPPC) is an international treaty relating to plant health. The purpose of the Convention is to secure common and effective action to prevent the spread and introduction of pest of plants and plant products and promote appropriate measures for their control. Its application is much wider than the protection of cultivated plants. The Convention extends to the protection of natural flora and plant products. It includes both direct and indirect damage by pests (including weeds). The provisions extend to cover conveyances, containers, storage places, soil and other objects or material capable of harbouring plant pests.

Application of phytosanitary measures should be based on the following principles:

- Necessity- Restrictive measures must be applied only when necessary.
- Technical Justification- Measures must be technically justified.
- Transparency- Measures must be published and rationale made available to contracting parties.
- Minimal impact –Measures must not be an impediment to international movement of people, commodities and conveyances.
- Non-discrimination- Measures must be applied without discrimination between countries of similar phytosanitary status.

The IPPC provides a framework and forum for international cooperation, harmonization and technical exchange between contracting parties dedicated to these goals. Its implementation involves the collaboration of national plant protection organisations which are the official services established by Governments to discharge the functions specified by IPPC and regional plant protection agencies. These organizations may function as coordinating bodies on a regional level for participation in the activities to achieve the objectives of IPPC.

One of the most important activities of the IPPC is the establishment of International Standards for Phytosanitary Measures (ISPMs). ISPMs provide countries with a basis for their national phytosanitary measures. Harmonization of measures at the regional and international levels will substantially reduce the burden of countries to justify their own measures and to meet the measures of their trade partners. Jamaica is not bound by IPPC Standards, but adheres to them.

4.3 Convention on Biological Diversity (CBD)

The CBD is the foremost international convention obliging its contracting parties to take action on invasive alien species and was adopted in 1992. The convention speaks to the conservation and sustainable use of biological diversity and the fair and equitable sharing of benefits arising out of the utilization of genetic resources. Article (8h) of the CBD requires contracting parties to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or systems.

In order to assist Governments in meeting their obligations, two protocols have been established under the CBD, namely, the *Cartagena Protocol on Biosafety* and the *Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species*. Both protocols have far reaching implications with consequences for plant health services. An alien species that is a plant pest (such as a pathogen or an invasive weed) and threatens ecosystems, habitats or species would be considered a quarantine pest under the IPPC, as also would a living modified organism which is a plant pest threatening biodiversity. Neither the IPPC nor the CBD takes precedence over the other, and there is an obligation on contracting parties to respect both conventions.

This warrants close linkages between plant health services and environmental agencies to ensure that duplication is avoided and scarce resources are efficiently utilized.

Jamaica is a signatory of the CBD.

5.0 Scope of Policy

The policy seeks to address the gaps and failures in the current plant health system in light of requirements of international treaties and agreements of which Jamaica is signatory and food safety and phytosanitary standards of our major trading partners. The policy identifies issues faced by Government that hinder the development of an efficient plant health system. The policy will therefore make provision for:

- revision of existing legislation;
- building of institutional capacity;
- enhancement of scientific systems;
- improvement of quarantine capacity;
- enhancement of surveillance systems
- improvement of emergency response system for pest outbreaks; and
- increased public awareness.

6.0 Vision and Policy Goals

6.1 Vision

The establishment of a coordinated, sustainable and international compliant plant health system that enhances Jamaica's plant health status, thus fostering consumer, plant and environmental health and food security.

6.2 Policy Goals

General goals of the plant health policy are to:

- ❖ Improve the current plant health system in accordance with international standards and obligations;
- ❖ Harmonize national plant health legislative, regulatory and institutional frameworks;
- ❖ Facilitate the development of systems that mitigate the introduction and spread of harmful alien pest species;
- ❖ Promote the use of sustainable integrated pest management strategies in order to reduce the dependence on pesticides by farmers;
- ❖ Protect the natural environment from the harmful impact of invasive plant pests; and
- ❖ Increase public awareness and role of stakeholders in protecting plant health.

7.0 Policy Issues and Recommendations

7.1 Institutional Issues

7.1.1 Structure and Administrative Arrangements

Currently, none of the entities that constitute a NPPO has been assigned the role of directing and coordinating overall state efforts for plant health matters. In the present situation where there is an inter-agency approach, there is a pressing need for clearly defined roles, responsibilities and linkages in order to minimize duplication of efforts and waste of scarce resources among agencies in the plant health system. This has implications for a country's timely response to exotic pest incursions that threaten not only its trading ability, but the livelihood of its people.

Existing reporting arrangements among agencies involved in plant health are informal and unclear. There is no established system of sharing information among the various organisations that form part of the plant health system. However, this is critical as one Agency's output is typically another's input. Therefore outputs generated by one Agency will assist another to effectively carry out their function. This systemic failure is compounded by the fact that Agencies are not mandated to share information or provide periodic reports within the NPPO. This results in delays in reporting pest incursions or outbreaks and hinders timely response to mobilise the needed resources for proper management of the situation. These issues impact negatively on local stakeholders and the country's trade.

In 2004, a multi-agency National Plant Health Coordinating Committee (PHCC) was formed to harmonize all plant health activities across relevant agencies to minimize inter-agency overlap. This committee is a subcommittee of the National Agricultural Health and Food Safety Committee and its operations is funded by the Agriculture Support Services Project (ASSP).

The PHCC is very important in the governance of the plant health system. In this regard, it oversees and participated in the development of Jamaica's plant health surveillance and pest response system which is supported by a web-based database; currently manages the implementation of Jamaica's emergency pest response programme for the current pink hibiscus mealybug and red palm mite introductions and oversees the development of this Plant Health Policy. However, the PHCC is considered an ad hoc committee whose future is uncertain once the ASSP ceases to function.

Policy Recommendations

- Government will designate the Plant Quarantine/Produce Inspection Unit as the National Plant Protection Organization for Jamaica, given that the majority of its functions are pertinent to the administering of the basic measures mandated of a NPPO under the IPPC Article IV. Government will also mandate RADA, Plant Protection Unit and Customs Department to provide complementary plant health services to the NPPO.
- Government will streamline the national efforts on plant health matters by providing RADA, PPU and PQ/PI with clearly defined mandates to avoid overlap and duplication of functions.
- Government will establish a National Plant Health Board to provide advice to the Minister responsible for Agriculture and a new formally instituted NPPO on all matters related to plant health in the country. The Board shall be responsible for:
 - Fostering effective and harmonized plant health programmes;
 - Acting as an information clearinghouse on plant health and regulatory matters;
 - Providing for a discussion of principles, policies and methods used in the plant health system;
 - Making recommendations to the NPPO and related agencies for the promotion of efficiency, harmony and uniformity among themselves on plant health and regulatory issues.
 - Collaborating and communicating effectively with public and private agencies and organizations on plant health and regulatory issues.
 - Suggesting and preparing regulations, orders, schedules and notices to be issued or amended under the Plant Quarantine Act 1993;
 - Assisting in the determination of criteria for the declaration of a phytosanitary emergency.
- The Board will consist of public and private sector organizations which should include the Ministry of Agriculture & Fisheries, RADA, NEPA, a tertiary institution, Commodity Boards, Ministry of Foreign Affairs and Foreign Trade, Jamaica Citrus Protection Agency, Pesticide Control Authority, the Jamaica Constabulary Force, Port Authority, Jamaica Customs Department, an importer, an exporter, a farmer and a nursery owner.

- Government shall designate the existing National Plant Health Coordinating Committee to serve as the technical committee to the National Health Plant Board to provide advice and technical input on plant health matters.

7.1.2 Funding

Over the last 15 years the funds allocated to Government agencies responsible for the provision and delivery of plant health services have been insufficient to adequately carry out their mandates. Salaries generally account for approximately 80% of the budget, leaving only 20% for the essential items, such as the procurement of equipment, maintenance of facilities, staff training and improvement of infrastructure.

These agencies are also faced with an increasing work load, in addition to participating in emergency response for pest and disease response outbreaks. These agencies are also required to fulfil responsibilities to international agencies that are critical to Jamaica's expansion of trade in agricultural products.

Poor remuneration also serves as a disincentive for attracting trained and qualified individuals, and qualified staff become demoralised and move on to higher paying jobs.

Other areas that are inadequately funded are attendance at conferences and high level meetings which are dependent on the availability of funding, especially from donor agencies. IICA has now terminated its financial support for CARICOM participants at the WTO/SPS Committee Meetings in Geneva. Representation at these meetings are important since the Committee directly influences the resolution of agricultural health standards, measures, guidelines and addresses new and emerging issues. **If there is no representation, the result would be to accept the decisions of the Committee which at times may be onerous in its undertaking and not in Jamaica's best interest.**

Policy Recommendation

- Government is currently conducting a review of RADA, Plant Quarantine/Produce Inspection Unit and Research and Development Division, with a view of examining the structure, human resource capacity, remuneration of staff and financial resources required to carry out their operations effectively and efficiently. In this regard, **Government will ensure that the restructuring of these Divisions/Agencies will result in an optimal delivery of plant health services.**
- Government will increase initiatives to improve the technical capacity of persons involved in the delivery of plant health services through training and the attendance of overseas conferences.

- Government will provide or source funding to ensure Jamaica's representation at high level meetings, to enable the country's interest to be adequately represented.

7.2 Legal Issues

- Although current legislation mandates the existence and functioning of a Plant Quarantine Unit, it does not address the existence and function of a National Plant Protection Organization (NPPO). At minimum authority is provided for the administration of phytosanitary systems and control over import-export processes related to the application of phytosanitary measures. However IPPC Article IV requires that countries should make provision for an official National Plant Protection Organization with the following responsibilities:
 - a) the issuance of certificates relating to the phytosanitary regulations of the importing contracting party for consignments of plants, plant products and other regulated articles;
 - b) the surveillance of growing plants, including both areas under cultivation (*inter alia* fields, plantations, nurseries, gardens, greenhouses and laboratories) and wild flora, and of plants and plant products in storage or in transportation, particularly with the object of reporting the occurrence, outbreak and spread of pests, and of controlling those pests;
 - c) the inspection of consignments of plants and plant products moving in international traffic and, where appropriate, the inspection of other regulated articles, particularly with the object of preventing the introduction and/or spread of pests;
 - d) the disinfestation or disinfection of consignments of plants, plant products and other regulated articles moving in international traffic, to meet phytosanitary requirements;
 - e) the protection of endangered areas and the designation, maintenance and surveillance of pest free areas and areas of low pest prevalence;
 - f) the conduct of pest risk analyses;
 - g) to ensure through appropriate procedures that the phytosanitary security of consignments after certification regarding composition, substitution and reinfestation is maintained prior to export; and
 - h) training and development of staff.

Government should designate the Plant Quarantine/Produce Inspection Unit as the National Plant Protection Organization for Jamaica, given that the majority of the aforementioned functions are administered by this Unit.

In order to provide support to the NPPO, the Plant Quarantine Act (1993) will have to be updated to give authority to the Plant Protection Unit, Rural Development Authority and Customs Department to provide complementary support in carrying out of its functions.

- There are several deficiencies in the Plant Quarantine Act (1993) and Regulations, since the Act was drafted before the WTO-SPS agreement, it does not cover elements such as the enquiry point, notification procedures, guidelines for control/eradication of pests or inspection/approval procedures, establishment of pest free areas or emergency pest response authorities.
- The Pesticides Act (1975) has three regulations (1996, 1999 and 2004). These deal with registration of all pesticides; importation and manufacture of pesticides; sale of restricted pesticides; and pest control operations which include pest control applicators or servicemen. The regulations also speak to certification of operators and applicators. However, there are no regulations that deal with the issue of pesticide residue level in crops.

Policy Recommendations

- Government will amend the Plant Quarantine Act (1993) to designate the Plant Quarantine/Produce Inspection Unit as the National Plant Protection Organization with the following responsibilities:
 - a) the issuance of certificates relating to the phytosanitary regulations of the importing contracting party for consignments of plants, plant products and other regulated articles;
 - b) the surveillance of growing plants, including both areas under cultivation (*inter alia* fields, plantations, nurseries, gardens, greenhouses and laboratories) and wild flora, and of plants and plant products in storage or in transportation, particularly with the object of reporting the occurrence, outbreak and spread of pests, and of controlling those pests;
 - c) the inspection of consignments of plants and plant products moving in international traffic and, where appropriate, the inspection of other regulated articles, particularly with the object of preventing the introduction and/or spread of pests;

- d) the disinfection or disinfection of consignments of plants, plant products and other regulated articles moving in international traffic, to meet phytosanitary requirements;
 - e) the protection of endangered areas and the designation, maintenance and surveillance of pest free areas and areas of low pest prevalence;
 - f) the conduct of pest risk analyses;
 - g) to ensure through appropriate procedures that the phytosanitary security of consignments after certification regarding composition, substitution and reinfestation is maintained prior to export; and
 - h) training and development of staff.
- Government will enact the appropriate legislation to give legal authority to the Plant Protection Unit, Rural Agricultural Development Authority and Customs Department to provide complementary plant health services to the NPPO as follows:
 - Plant Protection Unit- Provision of diagnostic services and implementation of survey and control, including emergency actions against plant pests;
 - Rural Agricultural Development Authority- Surveillance of growing plants under cultivation (*inter alia* fields, plantations, nurseries, gardens and greenhouses); and
 - Customs Department- Inspection of regulated articles at ports of entry, particularly with the object of preventing the introduction and/or spread of pests.
 - Government will enact the appropriate legislation to establish the National Plant Health Board that will be responsible for providing advice to the Minister responsible for Agriculture on all matters related to plant health in the country.
 - Government will continue to undertake a comprehensive review of the existing Plant Quarantine Act (1993) and its Regulations with a view of amending it to ensure compliance with WTO-SPS standards and IPPC guidelines. Therefore updated legislation will include the enquiry point, notification procedures, and guidelines for control/eradication of pests or inspection/approval procedures, establishment of pest free areas or emergency pest response authorities.
 - Government will continue to draft the new regulation to the Pesticides Act (1975) to prescribe maximum residue levels of pesticides on crops.

7.3 Operational Issues

7.3.1 Quarantine Capacity

Quarantine plays the pivotal role in protecting our borders from the possible entry and spread of exotic pests and invasive species. This must be supported by robust, effective and efficient inspection services to ensure compliance of imports and exports with the relevant phytosanitary specifications.

It is critical that decisions made by Quarantine be supported by scientific advice and research in pest biology, pest surveillance and pest eradication, control and remediation measures for pest risk analysis. Under the WTO-SPS Agreement, Quarantine must provide scientific justification through pest risk analysis regarding phytosanitary measures that are imposed, while exercising more rigorous monitoring and control of our borders.

Jamaica's ability to meet this requirement is challenged by inconsistent training and inadequate number of staff in appropriate disciplines. Although officers have been trained and an *ad hoc* Pest Risk Analysis (PRA) committee exists, officers are not completely dedicated to this activity.

It is recommended under the WTO-SPS agreement that a Pest Risk Analysis Unit be established and staffed with the relevant professional expertise. This will enable the country to provide scientific and technical justification for the sanitary and phytosanitary measures that are applied to imports.

Policy Recommendation

- Government will strengthen Jamaica's Plant Quarantine capacity and ensure that this area is adequately equipped and staffed with the relevant skills to adequately perform its functions.
- In this regard, Government will establish a Pest Risk Analysis Unit with a full cadre of professional staff to conduct pest risk analysis on the based on sound scientific principles and the relevant ISPMs.
- Government will develop an institutionalized training programme that will ensure highly trained staff in the various areas of plant science as a means of ensuring that the staff are adequately trained on an on-going basis. Areas for training will include Pest Risk Assessment, Private Standards (such as Global GAP – procedures and assessments), Import Regulations of Jamaica's Major Trading Partners, Pest Identification, Plant Identification, Survey and Surveillance Techniques.

- Government will ensure that actions taken against plant pests is proportionate to the risk they are considered to impose. Decisions on whether a plant pest should be quarantined, or regulated non-quarantined will be based on appropriate evidence taken in a transparent way.

7.3.2 Diagnostic Systems

A strong scientific base is critical to a good plant health system. The availability of scientifically sound and timely diagnostic services is critical and provides the basis for the design of appropriate pest management/eradication programmes. There is a need to strengthen institutional capacity to diagnose pest problems and provide timely responses to user requests. At present, there are a limited number of professionals with taxonomic expertise in critical areas such as weed science, plant virology, plant pathology, bacteriology, mycology and nematology. The discipline with the greatest number of professionals is entomology.

In addition, the upgrade and modernization of plant diagnostic laboratories with adequate equipment and facilities is critical for rapid and timely pest identification. At present, Jamaica's Plant Protection Research laboratories are equipped to perform traditional taxonomic identification which remain a critical component of diagnostics. **However, these laboratories are not equipped to perform molecular diagnostic tests, which are necessary for the changing global trade environment.** This is compounded by the fact that laboratories providing plant diagnostic services are not formally accredited. Accreditation provides a means of determining, recognizing and promoting the competence of facilities to perform specific types of testing. This allows laboratories to determine whether they are performing their work correctly and to appropriate standards, and provides them with a benchmark for maintaining that competence.

Currently laboratories operate in isolation and rarely, if ever, receive any independent technical evaluation as a measure of their performance. This process involves regular audit checks of all aspects of a facility's operations related to consistently producing accurate and dependable data. Areas for improvement are identified and discussed, and a detailed report provided at the end of each visit. Follow-up action is monitored by the accreditation body where necessary, so the facility is confident that it has taken the appropriate corrective action.

The improvement of Jamaica's diagnostic capacity is critical for accessing international markets, especially of developed countries where major exports are concentrated. If Jamaica does not have laboratories that are able to perform required tests, the country will risk loss of these markets, as it will not be able to justify to importing countries, with tests and laboratory analyses, the export phytosanitary certificates issued.

Policy Recommendation

- Government will increase the cadre of professionals in weed science, plant virology, plant pathology, bacteriology, mycology and nematology and employ professionals in the areas of plant pest and disease epidemiology.
- Government will also upgrade and modernize of the diagnostic laboratories in the Plant Protection Unit (Ministry of Agriculture & Fisheries) with adequate equipment and facilities critical for rapid and timely pest identification
- Government will ensure that the relevant laboratories are formally accredited and that all laboratories are subject to an independent audit that accredits laboratory management systems and processes or testing protocols.

7.3.3 Surveillance Systems

The International Plant Protection Convention requires countries to report on the occurrence, outbreak, and spread of pests with the purpose of communicating immediate or potential danger. NPPOs have the responsibility to collect pest information by surveillance and to verify pest records collected. Pest reports should contain information on the identity of the pest, location, pest status, and nature of the immediate or potential danger. The provision of reliable and prompt pest reports confirms the operation of effective surveillance and reporting systems within countries. An effective surveillance and monitoring service is necessary to provide scientific and technical justification for claims of pest freedom and to support emergency pest response systems.

Currently, there is no formal comprehensive system of surveillance in operation. No single organization is dedicated to plant pest survey activities for the detection, delimitation or monitoring of established pests, or the detection of new pests that may be introduced.

At present, extension officers make a monthly report on the problems affecting major crops. This report includes pest outbreak noticed, farmer practice, inclusive of pesticide use and cultural control practice. Therefore the survey methodology is qualitative in nature and may not produce useful data to researchers. Required sampling and surveillance techniques are not consistently used to conduct pest surveys and extension officers are not adequately trained to collect field data.

Pest surveys done by the Research and Development Division are limited and linked to research activities which include pests that pose threats to specific crops, new pest introductions and the updating of the pest list. In recent times, the most detailed surveys carried out have been linked to specific pest interceptions or outbreaks of pest infestations.

A Plant Health Surveillance and Pest Response System has been developed by the Ministry of Agriculture & Fisheries to coordinate the activities among the relevant agencies involved in plant health surveillance. It includes a web-based database that enables users to rapidly notify potential threats to plant health, facilitates rapid, tentative pest identification and electronic capture of surveillance and pest diagnostic information. However this system should fall under the purview of the NPPO, as the organization in the plant health system with responsibility for surveillance systems.

Policy Recommendation

- Government recognizes that surveillance and monitoring are key to sustainable plant health systems, as they provide a scientific basis and support for decisions taken. In this regard, Government will ensure that an efficient and coordinated system of surveillance is established for the consistent and frequent collection and monitoring of information on pests. Government will continue to undertake ongoing field surveillance for pests of quarantine importance that pose an immediate threat to Jamaica.
- Government will improve the capacity of extension officers to undertake general surveillance activities through training and development of improved methodologies.
- Government will broaden Research and Development Division's pest surveillance activities to incorporate information gathering on the geographic distribution of economic pest organisms, development of surveillance protocols to underpin surveillance activities and satisfy the declaration of pest free areas and areas of low pest prevalence for quarantine and regulated non-quarantine pests.
- Government will increase surveillance activities at the ports through inspection of containers, parcels, baggage, ships and aircrafts, of entry to prevent illegal importation of plant and plant products.
- Government will designate the NPPO to be responsible for the administration of the Plant Health Surveillance and Pest Response System.

7.3.4 Treatment and Pest Management Systems

Excessive use of agricultural pesticides on crops have negatively impacted on the environment in the form of contamination of ground water sources, soil and air and has resulted in the reduction of the natural enemies of pests. High pesticide residues on agricultural commodities also negatively affect human health and trade. IPPC recommends that a systems approach should be implemented by using integrated

measures for pest risk management. This provides an alternative to single measures such as pesticide use in order to meet the appropriate level of phytosanitary protection.

Policy Recommendation

- Government will continue to promote the use of integrated pest management techniques to farmers and provide continuous training in this regard.
- Government will also promote the use of biologically based techniques to reduce the levels of pesticide use in agricultural production.
- Government will continue to train farmers in proper pesticide usage and management.

7.4 Analytical Issues

7.4.1 Scientific support

The synergies between the NPPO, appropriate research institutions and commodity boards need to be strengthened in order to provide adequate, timely, scientific support for phytosanitary concerns. The Plant Health Coordinating Committee was established to facilitate closer collaboration and coordination among actors in the plant health system. However, limited participation is being experienced from the Commodity Boards who do not see their importance in serving on such a committee.

Policy Recommendation

Government will also promote and support the strengthening of collaborative arrangements with the NPPO, appropriate research institutions and commodity boards to provide adequate and timely scientific support for phytosanitary concerns, capacity building, cooperative research and funding efforts.

7.5 Emergency Response for Pests and Disease Outbreaks

Contingency planning for the elimination of serious pests is not routinely practiced before its arrival precipitates an emergency situation. This is important especially if there is a need for international or regional cooperative action. Phytosanitary treatments identified must be the least restrictive to trade and must be supported by robust monitoring. Where pest outbreaks may occur, the selection of treatments or control strategies must be the least disruptive to the environment.

Policy Recommendation

- Government will establish a National Emergency Plant Pest Committee (NEPPC) to coordinate the response to pest incursions and outbreaks. The NEPPC will be chaired by the Minister of Agriculture & Fisheries or the Permanent Secretary with membership from national agencies - governmental or non-governmental as may be required. These institutions include the Ministry of Agriculture & Fisheries, Ministry of Health, Customs Department, Ministry of National Security, Ministry of Transport, Ministry of Justice, Ministry of Finance, Department of Local Government, Ministry of Industry, Investment and Commerce, Office of the Prime Minister, National Environmental Protection Agency, Farmers' Associations, regional institutions (UWI, CARDI, IICA, FAO) and other private sector entities.
- Government will finalize the Emergency Action Plan for exotic plant pests and diseases that details actions to be taken in the event of a pest or disease outbreak.
- In the event of pest and disease outbreaks, Government will implement treatment and/or control strategies that are least disruptive to the environment.
- Government will undertake public education and awareness campaigns to alert the public about the pest outbreak being experienced by the country in that time period.

7.6 Public Education and Awareness

The Jamaican public is typically unaware of the impact of actions such as improper use of pesticides and the illegal importation of fresh fruit and plants on the plant health system and national economy. Improper use of pesticides has negatively affected ground water sources, biodiversity and human health. Illegal importation of plants has led to pest infestations and the devastation of some sub-sectors.

Policy Recommendation

- Government will continue to educate the public about proper use and storage of pesticides.
- Government will raise public awareness about the impacts of illegal importation of plants and fresh fruit and the proper avenues for importation of these items.
- Government will undertake continuous campaigns to create and maintain the public awareness of pests and diseases of quarantine importance.

8.0 Implementation

8.1 The Ministry of Agriculture & Fisheries

The Ministry of Agriculture & Fisheries will be the main institution responsible for implementation of this policy, as the NPPO (Plant Quarantine/Produce Inspection Unit) and its complementary Agencies/Divisions falls within its purview.

The Ministry will therefore be responsible for implementing the following aspects of the policy:

- Establishment of the National Plant Health Board.
- Reviewing and amending the Plant Quarantine Act (1993) and its Regulations to:
 - Designate the Plant Quarantine/Produce Inspection Unit as the National Plant Protection Organization;
 - Ensure compliance with WTO-SPS standards and IPPC guidelines;
 - Give legal authority to RADA and the Plant Protection Unit to provide complementary plant health services to the National Plant Protection Organization (Plant Quarantine/Produce Inspection Unit); and
 - Establish a National Plant Health Board.
- Quarantine, inspection, surveillance and diagnostic services
- Establishment of the Pest Risk Analysis Unit
- Ensuring that adequate resources are available to execute the mandate of the National Plant Protection Organization and the Divisions and Agencies that provide complementary services.
- Upgrading and modernization of Research and Development Division's diagnostic laboratories.
- Coordinating and providing scientific support for phytosanitary concerns.
- Upgrading and maintaining the Plant Health Surveillance and Pest Response System database
- Collaborating with the Customs Department to increase surveillance at ports of entry.
- Creation of posts that will strengthen the institutional capacity in critical areas of diagnostics and quarantine.
- Providing training and development for staff on an ongoing basis
- Overseeing the establishment of the National Emergency Plant Pest Committee (NEPPC).
- Facilitating collaboration among institutions that deliver plant health services.
- Implementing the public education campaign on plant health matters.
- Implementing the public education and awareness programme

8.2 Rural Agricultural Development Authority

RADA is responsible for providing complementary services to the NPPO and will be responsible for implementing the following aspects of the policy:

- Training extension officers in improved methodologies to undertake general surveillance activities.
- Undertaking general surveillance activities.
- Training farmers in integrated pest management techniques.
- In collaboration with the Pesticides Control Authority, training farmers in proper pesticide usage and management.

8.3 Pesticides Control Authority

The Pesticides Authority will be responsible for implementing the following aspects of the policy:

- Drafting new regulation to the Pesticides Act (1975) that prescribes the maximum residue levels of pesticides on crops.
- Public education to promote the proper pesticides use and storage.
- In collaboration with RADA, continue to train farmers in proper pesticide usage and management.

8.4 Other Institutions

Other institutions which are critical to the implementation of the policy are:

- Sugar Industry Research Institute
- Coffee Board
- Banana Board
- Coconut Board
- Jamaica Citrus Protection Agency
- Jamaica Customs Department
- Jamaica National Agency for Accreditation
- National Environmental Planning Agency
- Ministry of Finance
- Ministry of Justice (Attorney General Department, Chief Parliamentary Counsel)
- Farmers/Producers Organizations
- Academia

8.5 Regional and International Organizations

Regional and international organizations which are critical to the implementation of the policy are:

- Food and Agriculture Organisation
- International Plant Protection Convention Secretariat
- Inter-American Institute for Cooperation on Agriculture
- Caribbean Agricultural Research and Development Institute
- Caribbean Plant Protection Commission
- CARICOM Secretariat

9.0 Monitoring and Evaluation

The Planning and Policy Division in collaboration with the National Plant Health Board shall be responsible for monitoring and evaluating the progress of implementation of the policy. A 3-year Implementation Plan will be developed by the Planning and Policy Division of the Ministry of Agriculture & Fisheries in consultation with all implementing entities. This will involve the identification of priority activities, projected targets and measurement indicators for each policy objective. Evaluation will be conducted annually by the National Plant Health Board and the Planning and Policy Division.

10.0 Policy Review

The policy will be reviewed every three years by the National Plant Health Board in collaboration with the Planning and Policy Division of the Ministry of Agriculture to determine its relevance and the necessary adjustments that need to be made to the document.

11.0 Linkages to Other Policies

11.1 National Agriculture Sector Plan

The National Agriculture Sector Plan aims to reposition the agricultural sector within the context of the Vision 2030-National Development Plan. The plan aims to achieve the following goals and outcomes:

- **Goal 1: Efficient Competitive Diversified Value-Added Agricultural Production**
 - Increased Productivity and Cost Efficiency of Agricultural Enterprises
 - Diversified Range of Agricultural Production including Higher Value-Added Production
 - Strengthened Application of Technology, Innovation, Research and Development to Agricultural Production
 - Development of Key Sub-Sectors

- **Goal 2: Strong Marketing Systems for Domestic and Export Markets**
 - Strong and Effective Marketing Information System
 - Supportive Marketing and Distribution Infrastructure and Network
 - Development of Expanded and New Markets for Jamaican Agricultural Products

- **Goal 3: Competent and Adequate Human Resources**
 - Provision of Work Force with Skills, Training and Education to Meet the Dynamic Needs of Sector
 - Adequate Long-Term Supply of Labour Force for Sector Development

- **Goal 4: Enabling and Facilitating Framework, Infrastructure and Support Services**
 - Appropriate Policy, Legislation and Regulations for Long-Term Development of Sector
 - Improved Access to Financing
 - Strengthened Facilitating Institutions
 - Strengthened Extension Services
 - Modernized and Upgraded Infrastructure and Facilitating Institutions
 - Satisfactory Working Conditions, Health and Safety of Sector Employees

➤ **Goal 5: Contributor to Long-Term Rural Development**

- Provision of Sustainable Livelihoods for Agricultural Community Residents
- Comprehensive Land Use Planning and Utilization for Agricultural Development
- Establishment of a Culture of Holistic Community Development

➤ **Goal 6: An Environmentally Sustainable Sector**

- High Application of Environmental Standards and Good Agricultural Practices
- Organic Farming as Major Mode of Production
- Strengthened Risk and Hazard Mitigation for Sector

➤ **Goal 7: National Food Security**

- Increased Access to Adequate and Safe Food Supplies for Population
- Increased Domestic Food Production
- Improved Nutritional Status of the Population through Consumption of Healthy Foods

11.2 Food Safety Policy

The vision of the policy is to advance the national food safety and security systems based on national and international standards aimed at safeguarding human, animal, plant and environmental health and the facilitation of trade through the application of science based principles, enabled by an integrated institutional framework, effective interagency collaboration and appropriate legislation, as well as a strengthened public/private sector partnership.

The goals of the policy are to:

- Ensure that food consumed is safe, sound and wholesome;
- Implement a system of traceability for food from production to consumption;
- Institute a formal risk analysis system to enhance food safety;
- Integrate institutional arrangements and capabilities for the efficient and effective management of the food safety system;
- Promulgate appropriate legislation to support food safety; and
- Effect behavioural change through heightened public awareness about food safety issues.

The policy will cover all aspects of national, regional, and international practices, principles, guidelines, standards and agreements governing food safety systems. The policy shall include all public and private entities involved in the scientific, technical, operational and management aspects of food safety and control systems in the country.

11.3 Draft Biosafety Policy

This policy seeks to provide, through the establishment and monitoring of standards, a safe and enabling environment for the development, transboundary movement, handling and use of genetically modified organisms, while managing risks to human health and biodiversity.

The main objectives of the National Biosafety Policy are to:

- ensure the effective regulation and management of the importation, exportation and transboundary movement of Genetically Modified Organisms (GMOs), in keeping with international standards;
- ensure that the possible negative effects of GMOs on human health and biodiversity are effectively managed;
- regulate the labeling of GMOs;
- facilitate public awareness and participation in biosafety policy implementation and transparency in decision-making; and
- increase the capacity of national institutions to implement and monitor a national framework for biosafety.

The policy is expected to allow Jamaica to exploit biotechnology and to provide for the protection of the country's human resources and biodiversity against the possible adverse effects of the application of this technology.

CONCLUSION

The Plant Health Policy will result in a coordinated and internationally compliant plant health system that enhances Jamaica's plant health status and improve the integrity of primary crops and processed foods exported to major international markets. This will be accomplished by improving the institutional and legislative frameworks; scientific, quarantine, surveillance capabilities; emergency response systems for pest outbreaks; and pest management strategies used by farmers.

The implementation of the policy will result in:

- A reduction in the pest risk associated with plants, plant products and other regulated articles through the protection of industry players from unjustified phytosanitary measures and prevention of the entry and spread of pests that pose a risk to the Jamaican agricultural sector.
- Support for exporter compliance with plant health requirements of importing country.
- Enhancement of food security through the prevention of entry and spread of harmful pests and improvement in pest management systems.

The designation of the Plant Quarantine/Produce Inspection Unit as the NPPO and the establishment of a National Plant Health Board will improve coordination of the institutions involved in providing plant health services. The revision and enactment of legislation will result in Jamaica legally complying with key international agreements and conventions, thus ensuring greater acceptance of the country's food exports.

GLOSSARY

biotype	A subspecies of organism morphologically similar to but physiologically different from other members of the species.
consignment	A quantity of plants, plant products and/or other articles being moved from one country to another and covered, when required, by a single phytosanitary certificate (a consignment may be composed of one or more commodities or lots) [FAO, 1990; revised ICPM, 2001]
Biologically Based Techniques	Techniques employing the use of natural enemies, bio-rational compounds as a part of an integrated pest management programme.
eradication	Application of phytosanitary measures to eliminate a pest from an area [FAO, 1990; revised FAO, 1995; formerly eradicate].
harmonization	The establishment, recognition and application by different countries of phytosanitary measures based on common standards [FAO, 1995; revised CEPM, 1999; based on the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures].
pathogenic	ability of a micro organism to cause disease
pest free area	An area in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained [FAO, 1995].
phytosanitary authority	Any official responsible for implementing phytosanitary measures including the performance of inspections, tests, surveillance or treatments in connection with regulated pests .

serological testing

Refers to the detection of protein of target micro-organism using antisera /antibody interactions.

surveillance

An **official** process which collects and records data on **pest occurrence** or absence by **survey, monitoring** or other procedures [CEPM, 1996]

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