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CIRCULAR

For publishing Regulation on Pest Risk Analysis Procedure for regulated articles of plant quarantine subject to pest risk analysis before importing into Vietnam

Pursuant to Plant Protection and Quarantine Law No. 41/2013/QH13 on November 25, 2013;

Pursuant to Decree 199/2013/ND-CP on November 26, 2013 of Government stipulating mission, power and structure for Ministry of Agriculture and Rural Development;

At the proposal of the Director General of the Plant Protection Department; Hereafter is the Circular by the Minister of Agriculture and Rural Development for publishing Circular on Pest Risk Analysis Procedure for regulated articles of plant quarantine subject to pest risk analysis before importing into Vietnam

CHAPTER I

GENERAL REGULATION

Article 1. Scope of application

1. This Circular regulates on pest risk analysis (PRA) procedure for regulated articles of plant quarantine subject to pest risk analysis before importing into Vietnam.
2. This Circular shall be applied to the Plant Protection Department that has function to implement pest risk analysis, review all earlier PRA reports or evaluate a risk to be weed for regulated articles of plant quarantine subject to PRA before importing into Vietnam.

Article 2. Terms and definitions

In this Circular, the following terms shall be understood to mean:

1. *Area*: An officially defined country, part of a country or all or parts of several countries.
2. *Vietnam's Agro-ecological areas*: Northern mountainous region, Red river Delta, North Central Coast, South Central Coast, Central highlands, South East and Mekong river Delta

3. *Endangered species*: all species are listed in the list of wild fauna and flora specified in the Appendices of the Convention on International Trade in endangered species of wild fauna and flora of the Circular 40/2013/TT-2013 dated September 5th, 2013 issued by the Minister of Agricultural and Rural Development.
4. *Entry of pest* is a movement of a pest into an area where it is not yet present, or present but not widely distributed and being officially controlled.
5. *Introduction* is an entry of a pest resulting in its establishment.
6. *Establishment* is a perpetuation, for the foreseeable future, of a pest within an area after entry.
7. *Infestation (of a commodity)* is a presence in a commodity of a living pest of the plant or plant product concerned. Infestation includes infection.
8. *Packaging* is a material used in supporting, protecting or carrying a commodity.
9. *Pest risk management (for quarantine pests)* is the valuation and selection of measures to reduce the risk of introduction and spread of a pest.
10. *Phytosanitary measure* is any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests.
11. *Spread* is expansion of the geographical distribution of a pest within an area.
12. *Pathway* is any mean that allows the entry or spread of a pest.
13. *Pest categorization* is the process of determining whether a pest has or has not the characteristics of a quarantine pest or those of regulated non-quarantine pests.

Article 3. General requirements

1. For regulated articles of plant quarantine subject to pest risk analysis before importing into Vietnam, which can be used for cultivation, the Plant Protection Department shall consider and decide implementation of risk analysis to be carried out before implementing PRA following this Circular.
2. Environmental risk analysis for natural enemy used for biological control imported into Vietnam, should be carried out in accordance with national technical Regulations.
3. Requirements of PRA for imported plants and plant products
PRA process consists of three stages:
 - a) Stage 1: Initiation of the PRA process;
 - b) Stage 2: Pest risk Assessment;

- c) Stage 3: Pest risk Management.
4. Requirements of a PRA report
- PRA report should present full results of the pest risk analysis for imported plants and plant products. Format and contents of PRA report should be in accordance with **Appendix VI** of the Circular on Regulation of Pest Risk Analysis Procedure.
5. National Plant Protection Organisation (NPPO) of the exporting country is an authorized agency responsible to provide information in Vietnamese or in English for PRA implementation in accordance with **Appendix I** (*for regulated article is plant or plant product*) or **Appendix II** (*for regulated article is natural enemy imported for biological control*) issued by this Circular; register with the Plant Protection Department for PRA implementation for their regulated articles of plant quarantine.

Article 4. Budget for implementation

Annually, Vietnam Government ensures to provide budget for pest risk analysis for regulated articles of plant quarantine subject to PRA.

CHAPTER II

PEST RISK ANALYSIS (PRA) PROCEDURE

Article 5. Initiation stage of the PRA process

1. Initiation points for a pest risk analysis

- a) The identification of a pathway of pest, usually an imported commodity that may allow the introduction and/or spread of quarantine pests;
- b) The identification of a pest that may satisfy the definition of a quarantine pest.

2. PRA Initiated by a Pathway

A requirement for a new or revised PRA originating from a specific pathway will most frequently arise in the following situations:

- a) International trade is initiated in a new commodity or a commodity from a new origin. The PRA may be triggered by a request for import, or by trade of a commodity. The pathway may concern a single or several area of origin.
- b) New plant species are imported for selection and scientific research purposes.
- c) A pathway other than import commodity is identified: natural spread, packaging material, mail, garbage, passenger's baggage etc.

- d) A policy decision is taken to establish or revise phytosanitary regulations or requirements concerning to import commodity.
- e) A new treatment, system or process, or new information impacts on an earlier decision.

3. PRA Initiated by a Pest

A requirement for a new or revised PRA originating from a specific pest will most frequently arise in the following situations:

- a) An emergency arises on discovery of an established infestation or an outbreak of a new pest within a PRA area.
- b) An emergency arises on interception of a new pest on an imported commodity.
- c) A pest is reported to be more damaging in a new area other than in the PRA area and in its area of origin.
- d) Audits reveal that a particular pest is repeatedly intercepted.
- đ) A request is made to import an organism, for example by researchers, educators, biological practitioners, businesses (pet store owners), the food industry (including snails cultivation for consumption) or hobbyists (including aquatic plants).
- e) A new treatment system, process, or new information impacts on an earlier decision.

4. Listed the pests which are likely to follow the pathway (e.g. be carried by the commodity) are then listed, and each is then subjected to Stage 2 in the PRA process. If no potential quarantine pests are identified as likely to follow the pathway, the PRA stops at this point.

Article 6. Review of earlier PRA reports

1. Previous pest risk analysis reports from the same country/or region or related commodity should be reviewed. If there is an existing risk analysis that adequately assesses the risks in question then that PRA report shall be used.
2. Describe current importations (e.g., same commodity from different countries. Report on pest interceptions in imported commodities etc.).

Article 7. Risk assessment to be weed

Risk assessment to be weed for regulated plants and plant products before importing into Vietnam, that can be used for cultivation must be conducted in accordance with a suitable national technical regulation.

Article 8. Contents of Pest Risk Assessment

1. Review of data on pests intercepted on imported plants and plant products

Review all records, reports of intercepted pest on imported plants and plant products, which are given in **Table 1, Appendix III** issued by this Circular.

2. Pest categorization

a) Information sources used to establish the List of pests associated with regulated article of plant quarantine subject to PRA are included:

- List of plant pests and their information in export country and other requirements for providing information for doing PRA is described in the **Appendix I** issued by this Circular;

- List of intercepted pests on import commodity is described in **Table 1, Appendix III** issued by this Circular;

- Previous PRA reports;
- Relating international databases.

b) Information used for pest categorization is included:

- Geographical distribution (distribution map, climate region);
- Pest biological characters;
- Pattern of pest attack;
- Pathways;
- Current pest managements;
- Other related information;

c) Result of pest categorization should be followed a format of **Table 2, Appendix III** issued by this Circular.

3. Identify Quarantine Pests Likely to follow the Pathway (imported plants, plant products)

a) The criteria for quarantine pests likely to follow the pathway include:

- Being present in the exporting country;

- Being associated with the plant and plant products;
- Being a potential quarantine pest.

b) Any associated pest in the list following point c), Item 2 of this Article that meets all above criteria mentioned in point a), Item 3 of this Article, will be selected for further assessment as the **Table 3, Appendix III** issued by this Circular .

4. Assessing for Consequences of Introduction

a) For each of these quarantine pests, the potential consequences of introduction are rated using **five Risk Elements** that are included: Climate-Host Interaction of quarantine pest; Host Range; Dispersal Potential; Economic Impacts and Environmental Impact. Risk assessment will be followed the **Appendix IV** issued by this Circular.

b) Assessment summarization for consequence of introduction

Assessment summarization for consequence of introduction will be followed a format of the **Table 4, Appendix III** issued by this Circular.

5. Assessing for Introduction Potential

a) The introduction potential of each of these quarantine pests, is rated using **Six Risk Elements** that are included: Volume of plant and plant products imported annually; Quarantine Pest Survival after post harvest treatment; Quarantine Pest Survival during shipment; Quarantine Pest are not detected at the port of entry; Further movement of imported plant and plant products to an area with an environment suitable for quarantine pest survival and Come into contact with host material suitable for pest reproduction. Risk assessment will be followed the **Appendix V** issued by this Circular.

b) Assessment summarization for Introduction Potential

Assessment summarization for introduction potential will be followed a format of the **Table 5, Appendix III** issued by this Circular.

6. Conclusion on Pest Risk Potential and Pests Requiring Phytosanitary Measures

a) Assessment summarization for Pest Risk Potential for each quarantine pest species will be followed a format of the **Table 6, Appendix III** issued by this Circular.

b) Depending on the Pest Risk Potential for each quarantine pest species, the risk assessor may comment briefly on risk management options/measures as follows:

Low Risk: Not require specific phytosanitary mitigations measures for pest;

Medium Risk: Specific phytosanitary measures need to be applied.

High Risk: Specific phytosanitary measures are strongly recommended. Port-of-entry inspection is not considered as sufficient to provide phytosanitary security.

Article 9. Pest Risk Management

1. Management Measures

Based on PRA results and consultation with relevant stakeholders such as scientists, managers, producers and importers, the Plant Protection Department (PPD) will consider and decide pest management measures to minimize the risk such as:

- a) Request the exporting country to implement specific phytosanitary requirements or measures on particular plant and plant product subject to the PRA before importing into Vietnam;
- b) Negotiating with the exporting country to conclude bilateral agreement or memorandum of understanding on export a particular plant and plant product subject to the PRA before exporting into Vietnam.

2. Pest risk mitigation options to be considered

- a) Prohibited list of plants and plant products from certain countries;
- b) Phytosanitary import permit;
- c) Inspection at the exporting country;
- d) Required treatments at the exporting country (fumigation, heat treatment, etc.);
- đ) Requirements of pest free area;
- e) Inspection and treatment at entry;
- g) Post-entry of plant quarantine;
- h) Other measures.

3. Consideration and evaluation of Efficacy and impact of options/measures

- a) Economic impact;
- b) Environmental impact;
- c) Social impact;
- d) Feasibility;
- e) Impact on existing regulations;
- f) Time to implement a new regulation.

4. Selection of risk mitigation options/measures

Appropriate measures for a specific pest are decided on the basis of efficacy and impact of available options/measures; phytosanitary regulations on import of plants and plant products are proposed for adoption.

5. Drafting PRA report

- a) Draft PRA report form is regulated in the **Appendix VI** issued by this Circular.
- b) Consultation with relevant stakeholders for draft PRA report.

6. Drafting phytosanitary import requirements

- a) Draft phytosanitary import requirements form is regulated in the **Appendix VII** issued by this Circular.
- b) Consultation with relevant stakeholders for draft phytosanitary import requirements.

7. Completion of pest risk analysis report and phytosanitary import requirements.

CHAPTER III IMPLEMENTATION

Article 10. Responsible of the Plant Protection Department

1. Plan preparation and implement pest risk analysis following regulation of this Circular.
2. Notify the result of PRA implementation for a specific plant, plant product (by official document) to the authorized agency on plant quarantine in export country and relevant organisations/individuals.

Article 11. Effect

This Circular takes effect from 01st January, 2015

Article 12. Implementation

The Director General of Plant Protection Department, Heads of Units, Organizations and Individuals responsible for implementation of this Circular.

In the course of implementation, if any problems arise, agencies, organizations and individuals should promptly report to the Ministry of Agriculture and Rural Development (Department of Plant Protection) for synthesis, the Minister considered review and decision.

Recipients:

- President Office;
- Office of Government;
- National Assembly Office;
- Government Gazette;
- Government website;
- MARD's website
- Vice Ministers
- Relevant Ministries, ministerial level agencies
- Ministry of Justice (Department of legal document control)
- People's Committees of provinces, cities
- Provincial Department of Agriculture and Rural Development
- MARD's departments, offices
- Filling in PPD office

**SIGN INSTEAD OF MINISTER
VICE MINISTER**

Le Quoc Doanh

APPENDIX I

Required information for PRA implementation

(Appendix of Circular N^o.36/2014/TT-BNNPTNT dated October 31st, 2014 issued by the Minister of Agriculture and Rural Development)

I. General Requirements

National Plant Protection Organisation (NPPO) of the exporting country is an authorized agency responsible to provide updating information (*not over 10 years from the date of providing information*) in Vietnamese or in English (*include hard copy and electronic copy*) for Pest Risk Analysis.

II. Specific requirements

1. ***Full address of NPPO*** (*telephone, fax, email of the official in charge of providing information*).
2. ***Information on commodity/ plant and plant products proposed to be exported into Vietnam***
 - 2.1. Scientific name;
 - 2.2. Pest classification;
 - 2.3. Common name;
 - 2.4. Other name (Syn.);
 - 2.5. Variety/strain;
 - 2.6. Plant part to be exported into Vietnam (fruits, seeds,...);
 - 2.7. Proposed purpose of final use of the commodity propagation, consumption, processing..);
 - 2.8. List of current importing countries of this commodity (not includes Vietnam);
 - 2.9. Images, photos of commodity/plant, plant products.
3. **Information on Production area for export product**
 - 3.1. Name of area, state or province, district producing products for export;
 - 3.2. Describe climate of production area for export (highest temperature, lowest temperature, and average temperature per year; average rain fall per year; wind speed);
 - 3.3. Time (month) for cultivation and time (month) for harvest in the year;
 - 3.4. Estimate export volume (tons/year);
 - 3.5. Indication of production areas on map (country and province)
4. ***Information on cultivation practices and pests management***

- 4.1 Specific pest surveillance and pest management programs; certification procedures (survey data/sampling method/certification process, etc.);
- 4.2 Products produced from pest free areas, certified by NPPO;
- 4.3 Information on production and harvest method.

5. Information on pest relevant to export commodity and plant pathogen vectors (refer to the below table) ⁽¹⁾

Scientific name and other name	Common name	Order	Family	Affected plant parts (i.e. egg on leaf, larva on or in fruit, etc.)	Distribution	Reference documents
Mite 1.						
Insects 1.						
Fungi 1.						
Bacteria 1.						
Virus 1.						
Nematodes 1.						
weeds 1.						
Other quarantine pests 1.						

(¹) Request to provide complete relevant information for each pest species

6. Information on post-harvest management

- 6.1. Packing method;
- 6.2. Inspection procedure ;
- 6.3. Disinfestation treatments or Post harvest treatment for infestation and efficiency of each type of treatment;
- 6.4. Storage conditions and security;
- 6.5. Commodity transportation means and conditions (domestic and international) for export;
- 6.6. Images of packed products, label for export.

7. Information on current phytosanitary certification system (field inspection, sampling, additional notification, etc.)

8. *Information on transportation means and storage conditions of commodity during shipment/or transportation*

8.1. Describe transportation means for export commodity;

8.2. Describe storage conditions of export commodity (temperature, humidity) during shipment/or transportation.

9. *Results of PRA done in other countries*

Pest risk analysis done in other countries must consistent with ISPMs on phytosanitary measures, especially with ISPMs on pest risk analysis for regulated pests.

APPENDIX II

Required information for implementation of environmental risk assessment of natural enemy imported to be used for biological control

(Appendix of Circular N^o. 36/2014/TT-BNNPTNT dated October 31st, 2014 issued by the Minister of Agriculture and Rural Development)

I. General Requirements

National Plant Protection Organisation (NPPO) of the exporting country is an authorized agency responsible to provide updating information (*not over 10 years from the date of providing information*) in Vietnamese or in English (*include hard copy and electronic copy*) for Pest Risk Analysis.

II. Specific requirements

1. Full address of NPPO (*telephone, fax, email of the official in charge of providing information.*)

2. General information on pest to be controlled by biological agent

2.1. Taxonomy : scientific name, taxonomic position (class, order, family, genus, species, race/strain,..), other name, common name (if any), identification characteristics.

2.2. Origin and distribution.

2.3. Biological and ecological characteristics.

2.4. Distribution and damage status of other major pest species closely to the pest that needs to be controlled.

2.5. Pest Status that need to be controlled by biological agent in PRA area (including all regulations applied for the pest).

2.6. Economic impacts

2.7. All measures applied for pest control.

3. General information for imported biological control agent

3.1. Taxonomy: scientific name, identification position (class, order, family, genus, species, race/strain,..), other name, common name (if any), identification characteristics;

3.2. Origin and distribution (including distribution in natural environment and release areas);

- 3.3. Biological and ecological characteristics, in experiment and in natural condition: life cycle, number of generation/year, information on development and reproduction such as reproduction form, parasitic characteristics, development period, longevity, reproduction potential,..., generation protection manner (such as overwinter, diapause, shelter, migration,...); dispersal manner; climate conditions of biological control agent in natural environment and release areas;
- 3.4. Functions of biological control agent: parasite/symbiosis/predatism,...;
- 3.5. Identification method of biological control agent (e.g. morphology, molecule,...);
- 3.6. Production location of biological control agent;
- 3.7. Production method, packing, storage and usage (release quantity and frequency);
- 3.8. Isolation method and impurity removal;
- 3.9. Host range in natural condition and in experiment;
- 3.10. Collecting sources of biological control agents (laboratory, rearing tools, packing tools, first location of biological control agent collection, name of sample collector, name of taxonomist);
- 3.11. Interactive organism species (example: hyperparasitoid, pathogen of biological control agent, competitors, antagonists);
- 3.12. History of past use of the biological control agent;
- 3.13. Pathogens, parasites, hyperparasitoids of the biological control agent and their removal methods;
- 3.14. Information on other organism species closely or similar with the biological control agent.

APPENDIX III

DATA TABLES OF PEST RISK ANALYSIS

(Appendix of Circular N^o.36/2014/TT-BNNPTNT dated October 31st, 2014 issued by the Minister of Agriculture and Rural Development)

Table 1. Pest intercepted on commodity... (scientific name)from...(Country)

Pest	Origin	Number of interception				Total
		Fruit	Plant	Stem, branch	Other plant parts	

Table 2. List of Pests Associated with imported plant and plant products in the exporting country

Pest	Geographic Distribution ¹	Plant Part Affected	Quarantine Pest (yes/no)	Follow Pathway (yes/no)	References
Arthropods					
Quarantine pest species (Order, Family)					
Fungi					
Quarantine pest species (Order, Family)					
Bacteria					
Quarantine pest species (Order, Family)					
Virus					
Quarantine pest species					
Nematode					
Quarantine					

pest species (Order, Family)					
Weeds					
Quarantine pest species (Order, Family)					
Other quarantine pests					

Table 3. List of quarantine pests (likely to follow the pathway on imported plants and plant products) selected for further assessment

Series Number	List of quarantine pests (likely to follow the pathway of ...(<i>name of commodity</i>)..<i>(scientific name of plant commodity)</i> selected for further assessment
Arthropods	
Order	
Family	
1	Quarantine pest species
Fungi	
Order	
Family	
2	Quarantine pest species
Bacteria	
Order	
Family	
3	Quarantine pest species
Virus	
4	Quarantine pest species
Nematode	
Order	
Family	
5	Quarantine pest species
Weeds	
Order	
Family	

6	Quarantine pest species
Other quarantine pest species	

Table 4: Rating for Consequences of Introduction

Pest	Risk Element 1	Risk Element 2	Risk Element 3	Risk Element 4	Risk Element 5	Cumulative Risk Rating
Quarantine pest species (Order, Family)	Low, Medium, High (1,2,3)	Low, Medium, High (1,2,3)	Low, Medium, High (1,2,3)	Low, Medium, High (1,2,3)	Low, Medium, High (1,2,3)	Low, Medium, High (5-15)

Note: The cumulative risk rating for **consequence of introduction** of each pests species should be interpreted as follows:

- Low:** 5 - 8 points
- Medium:** 9 - 12 points
- High:** 13 - 15 points

Table 5. Risk Rating for Likelihood of Introduction

Pest	Element 1	Element 2	Element 3	Element 4	Element 5	Element 6	Cumulative Risk Rating
	(Volume of imported plant and plant products annully)	(Pest Survival after post-harvest treatment)	(Pest Survival during shipment)	(Pest not detected at port of entry)	(Following movement of plant and plant products to location having suitable habitat for pest survival)	(Contact with host material suitable for pest reproduction)	Pest of species
Pest species	Low, Medium, High	Low, Medium, High	Low, Medium, High	Low, Medium, High	Low, Medium, High	Low, Medium, High	Low, Medium, High

	(1,2,3)	(1,2,3)	(1,2,3)	(1,2,3)	(1,2,3)	(1,2,3)	(6-18)
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Note: The cumulative risk rating for **likelihood of introduction** of each pests species should be interpreted as follows:

- Low:** 6 - 9 points
- Medium:** 10 - 14 points
- High:** 15 - 18 points

Table 6. Pest Risk Potential

Pest	Consequences of Introduction	Likelihood of Introduction	Pest Risk Potential
Pest species	Low, Medium, High (5 - 15)	Low, Medium, High (6 -18)	Low, Medium, High (11 - 33)

Note: The cumulative risk rating for both **Consequences of Introduction** and **likelihood of introduction** of each pests species should be interpreted as follows:

- Low:** 11 - 18 points
- Medium:** 19 - 26 points
- High:** 27 - 33 points.

APPENDIX IV

Elements Assessing for Consequences of Introduction

(Appendix of Circular N^o.36/2014/TT-BNNPTNT dated October 31st, 2014 issued by the Minister of Agriculture and Rural Development)

1. Risk Element 1: Climate-Host Interaction of quarantine pest

When introduced to new areas, pests can be expected to behave as they do in their native areas if host plants and climates are similar. Ecological zonation and the interactions of the pests and their biotic and abiotic environments are considered in the element. Estimates are based on availability of both host material and suitable climate conditions. To rate this Risk Element, the 7 defined agro-ecological zones are used. Due to the availability of both suitable host plants and suitable climate, the pest has potential to establish a breeding colony:

Risk Assessment Scores are as follows:

Low: In a single ecological zone1 point

Medium: In two or three ecological zones..... 2 points

High: In four or more ecological zones..... 3 points

In a case that quarantine pest is being evaluated as potentially to establish a breeding colony and spread in **concentrated production areas of host plants as a major crop** for Vietnam's agriculture, a risk rating for that quarantine pest will be considered and increased to **one higher level** (*only apply for quarantine pests having low and medium risk levels*) than regulation of Risk Element 1.

2. Risk Element 2: Host Range

The risk posed by a plant pest depends on both its ability to establish a viable, reproductive population and its potential for causing plant damage. For arthropods, risk is assumed to be correlated positively with host range. For pathogens, risk is more complex and is assumed to depend on host range, aggressiveness, virulence and pathogenicity; for simplicity, risk is rated as a function of host range.

Risk Assessment Scores are as follows:

Low: Pest attacks a single species or multiple species within a single genus..... 1 point

Medium: Pest attacks multiple species within a single plant family... 2 points

High: Pest attacks multiple species among multiple plant families.....3 points

3. Risk Element 3: Dispersal Potential

A pest may disperse after introduction to a new area. The following items are considered: 1) Reproductive patterns of the pest; 2) Dispersal Potential of the pest; 3) Factors facilitating for pest dispersal.

Risk Assessment Scores are as follows:

Low: Pest has neither high reproductive potential nor rapid dispersal capability.....1 point

Medium: Pest has either high reproductive potential or the species is capable of rapid dispersal.....2 points

High: Pest has high biotic potential (e.g., many generations per year, many offspring per reproduction, and evidence exists that the pest is capable of rapid dispersal such as over 10 km/year under its own power; or via natural forces like wind, water, vectors, etc., or human assistance 3 points

4. Risk Element 4: Economic Impacts

Introduced pests are capable of causing a variety of direct and indirect economic impacts. These are divided into three primary categories: Lower yield of the host crop (e.g. by causing plant mortality, or by acting as a disease vector); Lower value of the commodity (e.g. by increasing costs of production, lowering market price, or a combination); Loss of foreign or domestic markets due to a presence of new quarantine pest.

Risk Assessment Rating is as follows:

Low: Pest causes any one or none of the above impacts..... 1 point

Medium: Pest causes any two of the above impacts..... 2 points

High: Pest causes all three of the above impacts 3 points

5. Risk Element 5: Environmental Impact

The assessment of the potential of each quarantine pest to cause environmental damage, proceeds by considering the following factors:

Introduction of the pest is expected to cause significant, direct environmental impacts (e.g. ecological disruptions, reduced biodiversity);

Pest is expected to have direct impacts on plant species listed as endangered or threatened in Vietnam;

Pest is expected to have indirect impacts on plant species listed as endangered or threatened in Vietnam (e.g. by disrupting sensitiveness, critical habitat);

Introduction of the pest would stimulate chemical or biological control programs.

Risk Assessment Rating is as follows:

Low: None of the above would occur.....1 point

Medium: One of the above would occur..... 2 points

High: Two or more of the above would occur..... 3 points.

APPENDIX V

Elements Assessing for Introduction Potential

(Appendix of Circular N^o.36/2014/TT-BNNPTNT dated October 31st, 2014 issued by the Minister of Agriculture and Rural Development)

1. Element 1 - Volume of plant and plant products imported annually

The likelihood that a quarantine pest will be introduced depends on the amount of the potentially infested plant and plant products imported. For qualitative pest risk assessments, the amount of plant and plant products imported is estimated in units of standard 40 feet shipping containers. In those cases where the quantity of an imported plant and plant products is provided in terms of kilograms, pounds, etc, convert the units into terms of 40 feet (40') shipping containers.

Scores are assessed based on number of 40' containers as follows:

Low: < 10 containers/year 1 point

Medium: 10 - 100 containers/year 2 points

High: > 100 containers/year 3 points

For importation of regulated articles of plant quarantine that can be used for propagation, **risk rate in the Element 1 is considered as High** if the volume of import commodity is 10 containers per year and up.

2. Element 2 - Quarantine Pest Survival after post harvest treatment

For this sub-element, post harvest treatment refers to any manipulation, handling or specific phytosanitary treatment to which the commodity is subjected. Examples of post harvest treatments include culling, washing, chemical treatment, cold storage, etc. If there is no post harvest treatment, estimate the likelihood of this element as High.

3. Element 3 - Quarantine Pest Survival during shipment

Estimate pest survival during shipment based on biological characteristics of quarantine pest, storage and shipping conditions of plant and plant products.

4. Element 4 - Quarantine Pest are not detected at the port of entry

Unless specific protocols are in place for special inspection of the commodity in question, assume standard inspection protocols for like commodities. To consider this sub-element, the following issues should be taken into account: commodity type (such as planting materials), pests (latent diseases, development stages), staff capabilities, equipment, existing protocols, etc.

5. Element 5 - Further movement of imported plant and plant products to an area with an environment suitable for quarantine pest survival

Consider the geographic location of likely markets and the proportion of the plant and plant products that is likely to move to locations suitable for pest survival. Even if infested plant and plant products enter the country, not all final destinations will have suitable climatic conditions for pest survival.

For regulated plant and plant products of plant quarantine, imported for **consumption purpose** (such as vegetables, flowers, and fresh fruits), storages of imported products are supermarkets or shopping malls, where there is a cool system (**low temperature**), therefore it is **less** or **not** suitable for pest survival. Therefore, **risk rate** of this products group as described in **element 5** is **from low to medium**.

For regulated plant and plant products of plant quarantine, imported for **propagation purpose**, storages of imported products are seed storages, where condition is **suitable** for pest survival. Therefore, **risk rate** of this products group as described in **element 5** is **from medium to high**.

6. Element 6 - Come into contact with host material suitable for pest reproduction

Even if the final destination of infested commodities is suitable for pest survival, suitable hosts must be available in order for the pest to survive. Consider the complete host range of the pest species.

For regulated plant and plant products of plant quarantine, imported for **consumption purpose** (such as vegetables, flowers, and fresh fruits), normal final destination of imported products are supermarkets or shopping malls, where is far from plantation of host plant, so the ability to contact with suitable host pest is low. On the other hand, the residue of imported plant and plant products after using shall be destroyed with garbage. Therefore, **risk rate** of this products group as described in **element 6** is **from low to medium**.

For regulated plant and plant products of plant quarantine, imported for **propagation purpose**, normal final destination of imported products are seed storages, farmer's houses or plantation of host plant, so the ability to contact with suitable host of pest is high. Therefore, **risk rate** of this products group as described in **element 6** is **from medium to high**.

Rate Elements from 2-6 is assessed depending on specific case as follows:

- Low:**..... 1 point
- Medium:** 2 points
- High:**..... 3 points

The events described in Elements from 2 - 6 should be considered as a series of independent events that must all take place before a pest outbreak can occur, i.e., the estimates for one element should not affect estimates for other elements.

APPENDIX VI

PRA Report Form

(Appendix of Circular N^o. 36/2014/TT-BNNPTNT dated October 31st, 2014 issued by the Minister of Agriculture and Rural Development)

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Glossary of letters abbreviated

1. General information

General information relating to commodity proposed to be imported included:

- PRA implementing Agency/Individual;
- Type of imported commodity;
- PRA area;
- Exporting country;
- Implementation Methods (name of applied procedure).

Outline of commodity:

- Scientific name of commodity (plant and plant products), name of documents/materials and year published.
- Compilation of any information relating to imported commodity, they are included:
 - + Place of growing (ecological, geographical, soil conditions and soil maps);
 - + Area and cultivated method;
 - + Yield;
 - + Variety and characteristics of plant and plant product;
 - + Time of harvest, maintained method; post harvest treatment; storage conditions and transportation means of commodity;
 - + Export markets and export capacity

2. Pest Risk Analysis

Pest risk analysis report must be in accordance with pest risk analysis procedure for imported plants and plant products mentioned in the above part included:

2.1. Initiation of PRA

Outlining events leading to PRA implementation, providing evident adequately (if know).

2.2. Review previous Pest Risk Analysis reports

Review previous pest risk analysis reports.

Consider status of the same commodities imported from different countries that were analyzed the associated pests risk (compilation of pests interception on imported commodities at ports of entry).

2.3. Assessment to be weed (if required)

2.4. Contents of Pest Risk Assessment

2.4.1. Pest Categorization

Any pests listed on table “Pest Categorization” must be ordered alphabet with order, family, species (of each row).

Each pest species assessed independently attached with relevant information adequately (*i.e. detected on field, at point of entry or removed during packing, storage...etc*).

2.4.2. Consequences of Introduction

Based on cumulative risk rating, risk level of each pest species will be identified to be high or medium or low level.

2.4.3. Likelihood of Introduction

Likelihood of Introduction of each pest species will be also assessed according to points provided in the above Procedure.

2.4.4. Conclusion on risk level

Each quarantine pest species will be identified to be high or medium or low of risk level based on both results of assessment of Consequences of Introduction and Likelihood of Introduction of pest.

2.5. Risk Management

Only apply measures for risk management and risk mitigation for quarantine pest concluded as **High** or **Medium** level of cumulative risk.

2.5.1. Requirements for application of risk mitigation options in the export country

2.5.1.1. Proposed risk management measures to be applied in the cultivation area in the exporting country.

2.5.1.2. Proposed risk management measures to be applied during harvest, processing, post-harvest treatment and packing in the exporting country.

2.5.1.3. Proposed risk management measures to be applied for lot of commodity subject to PRA before exporting.

2.5.1.4. Proposed risk management measures to be applied for consignment during shipment/or transportation.

2.5.2. Requirements for application of pest free area for export commodity

2.5.3. Inspection and treatments at port of entry.

2.5.4. Post-Entry of plant quarantine

2.5.5. Other risk mitigation options

2.5.6. Evaluation the efficacy and impact of proposed risk management measures.

2.5.7. Import Phytosanitary requirements

3. Assessment Authors and Reviewers

3.1. Authors (included name, organization ordered alphabet)

3.2. Reviewers (included name, organization ordered alphabet)

4. References

5. Biological information of quarantine pests.

APPENDIX VII

Import Phytosanitary Requirements

(Appendix of Circular N^o. 36/2014/TT-BNNPTNT dated October 31st, 2014 issued by the Minister of Agriculture and Rural Development)

1. General Introduction

2. Requirements for application of pest risk mitigation measures

2.1. Requirements for registration of cultivation area, packing houses and treatment facility;

2.2. Requirements for application of pest risk mitigation measures before harvest.

2.2.1. Requirement for pest free area;

2.2.2. Requirement of pest management programs;

2.2.3. Requirement of inspection programs, phytosanitary certification during production by plant quarantine Organisation of exporting country.

2.3. Requirements for application of pest risk mitigation measures after harvest, storage in the export country

2.3.1. Requirement of processing procedure, product packing, and security assurance for pest re-infestation of product after harvest;

2.3.2. Requirement for application of phytosanitary treatment measures;

2.3.3. Requirement for packing and storage of the product;

2.3.4. Requirement of sampling procedure, inspection and phytosanitary certification by authorized agency on plant quarantine before exporting;

2.4. Requirements for inspection at port of entry

2.5. Other requirements

2.5.1. Requirement for transportation;

2.5.2. Requirement of traceability of the origin of imported consignments in the export country;

2.5.3. Requirement for inspection and evaluation before exporting the first consignment;

2.5.4. Requirement for re-inspection and re-evaluation (if quarantine pests found on imported consignment in Vietnam or changing in quarantine status in the export country).

3. Conclusion