PHYTOSANITARY REQUIREMENTS FOR IMPORTATION OF FRESH BLUEBERRY FRUITS (*Vaccinium corymbosum* L.) FROM POLAND INTO VIETNAM

General information

This phytosanitary requirement is developed by the Plant Protection Department (PPD), Ministry of Agriculture and Rural Development of Vietnam. Based on results of the Pest Risk Analysis (PRA) report, the pests listed in Annex 1 are concluded as quarantine pests associated with fresh blueberry fruits imported from Poland into Vietnam.

Fresh blueberry fruits imported from Poland into Vietnam shall be complied with following requirements:

1. Registration

a) Orchards, packing houses, storage and treatment facilities for blueberry fruits exported to Vietnam shall be registered with the National Plant Protection Organization (NPPO) of Poland (– State Plant Health and Seed Inspection Service - SPHSIS);

b) Registered packing houses will maintain a list of orchards designated to produce blueberry fruits for export to Vietnam and must have a system in place to ensure that all fruits can be traced to the supplying orchard;

c) SPHSIS will ensure that blueberry fruits are only exported to Vietnam from production orchards that are managed for pests of concern to Vietnam (Annex 1). Registered packing houses will be monitored by SPHSIS to ensure that safeguarding measures are in place to prevent entry and re-infestation of these pests;

d) In the event of a non-compliance, registration records will be made available for inspection and audit by PPD on request.

2. Pre-harvest pest management

Following conditions are applied for risk management of *Drosophila suzukii*, *Colletotrichum fioriniae*, *Pseudomonas syringae* pv. *syringae* and *Pseudomonas viridiflava* at pre-harvest stage:

a) Blueberry fruits must be grown in orchards registered with and monitored under supervision of SPHSIS to ensure that fruits are free of quarantine pests listed in Annex 1.
Details of the pest control programs must be provided to PPD on request in case of problem;

b) Monitoring requirements for *Drosophila suzukii*. Monitoring survey shall be conducted using *Drosophila suzukii* trap survey and fruit survey:

- *Drosophila suzukii trap survey*:

+ Period of survey will be from the blooming to the mature fruit

+ At least one *Drosophila suzukii* trap shall be placed every 1 square kilometre in the area of places of production or production sites and adjacent areas.

+ SPHSIS inspectors or persons authorized by SPHSIS will check *Drosophila suzukii* traps every two weeks. Attractant will be replaced every two weeks and trap is replaced every four weeks.

+ Flies caught on traps should be recorded at each inspection.

- *Fruit survey*: SPHSIS inspectors or persons authorized by SPHSIS conduct fruit survey every two weeks from fruitlet to the mature fruit end of harvest and inspect fallen fruits, colour change fruits and/or fruits showing signs of damage where it may be caused by *Drosophila suzukii*.

Data of monitoring results for *Drosophila suzukii* shall be provided to PPD, on request.

c) If any quarantine pests of Vietnam listed in Annex 1 is detected during SPHSIS's surveillance activities or joint inspection of orchard performed by SPHSIS and PPD, then SPHSIS will remove the orchard from the registered list authorised to export blueberry fruits to Vietnam for the season.

3. Post-harvest pest management

Following options are applied for risk management of quarantine pests (Annex 1) at postharvest stage.

3.1. Sorting and packing process

a) In packing houses, fresh blueberry fruits shall be sorted before packing into the export carton using electronic sorters and/or hand sorting by packing house staff who have knowledge on pests relevant to Vietnam to remove all the deformed or damaged fresh fruits;

b) On the outside of the export packing boxes of fresh blueberry fruits shall be marked "For Vietnam" and with the grower lot numbers and the name (or registration code) of packing houses;

c) The wood packing materials shall be compliant with ISPM 15.

3.2. Phytosanitary treatment

In order to minimize the risk from introduction of quarantine pests of Vietnam associated with fresh blueberry fruits exported from the Poland into Vietnam, the following phytosanitary measures are applied, as bellows:

3.2.1. Cold treatment (pre-shipment treatment or in-transit treatment) must be applied to all consignments exported to Vietnam for eradication of *Drosophila suzukii* at **0.5°C (± 0.3°C) or below for at least 14 days**

Pre-shipment cold treatment and In-transit cold treatment should meet the following conditions:
- Treatment parameters should be endorsed in the treatment section of the Phytosanitary certificate.
- For pre-shipment cold treatment: treatment process should be monitored and supervised by SPHSIS.
- For in-transit cold treatment: the original copy of certificate of calibration record for in transit cold treatment must accompany the phytosanitary certificate. The temperature recording system, all temperature sensors, must be capable of recording at least once every hour, with a resolution of 0.1°C and data of treatment can be archived and verified by PPD.

3.2.2. Systems approach risk management measures

All following conditions, which are applied for risk management for *Colletotrichum fioriniae, Pseudomonas syringae* pv. *syringae, Pseudomonas viridiflava*, should be implemented:

a) SPHSIS ensures the efficacy of the systems approach to mitigate the risk of occurrence of *Colletotrichum fioriniae*, *Pseudomonas syringae* pv. *syringae*, *Pseudomonas viridiflava*. Each

component of the systems approach for each of these quarantine pest complies with International Standards for Phytosanitary Measures (ISPM) 14 and recognised with ISPM 29 by PPD.

b) During the initial export season, SPHSIS shall invite Vietnam quarantine experts to the Poland to conduct an on-site visit to a representative production area (or areas) to verify and confirm the implementation of the system approach program to ensure shipment freedom from *Colletotrichum fioriniae, Pseudomonas syringae* pv. *syringae, Pseudomonas viridiflava*. This on-site survey should be cost-covered by exporting country.

3.2.2.1. Production site component

- Conditions, which are applied for risk management of *Colletotrichum fioriniae, Pseudomonas syringae* pv. *syringae, Pseudomonas viridiflava* at production site/orchards managed in accordance with integrated pest management (IPM) guidelines, to ensure that *Colletotrichum fioriniae*, *Pseudomonas syringae* pv. *syringae*, *Pseudomonas viridiflava* are adequately controlled. Growers must maintain records of management, monitoring, and control activities undertaken in orchards throughout the growing season, are specified in Annex 2 for each pest species.

- Representative orchards should be audited, recognised and approved by PPD as per ISPM 29.

3.2.2.2. Harvest component

a) Blueberry fruits are hand harvested. Fruits exhibiting signs of insect damage are not harvested. Fruits exhibiting signs of *Colletotrichum fioriniae, Pseudomonas syringae* pv. *syringae, Pseudomonas viridiflava* are not harvested as well.

b) The conditions, which are applied for risk management of *Colletotrichum fioriniae, Pseudomonas syringae* pv. *syringae, Pseudomonas viridiflava* at harvest stage, are specified in Annex 3 for each pest species.

3.2.2.3. Post-harvest and storage component.

- The conditions, which are applied for risk management of quarantine pests (including *Colletotrichum fioriniae, Pseudomonas syringae* pv. *syringae, Pseudomonas viridiflava*) at post-harvest stage, including storage, are specified in Annex 4.

- Zero tolerance for quarantine pests (Annex 1) in fruit packed for export to Vietnam.

3.2.2.4. Phytosanitary export inspection component.

a) The conditions, which are applied for risk management of *Colletotrichum fioriniae, Pseudomonas syringae* pv. *syringae, Pseudomonas viridiflava* at Phytosanitary export inspection stage, are specified in Annex 5.

b) The fruit in the consignments prior to shipment are subject to phytosanitary export inspection to ensure that the consignments are met phytosanitary import requirements of Vietnam, specified in this document.

3.2.2.5. Post-harvest storage and transport component

Conditions, which are applied for risk management of *Colletotrichum fioriniae, Pseudomonas syringae* pv. *syringae, Pseudomonas viridiflava* at post-harvest storage and transport stage, are specified in Annex 6.

4. Pre-export inspection

a) The import permit will be delivered by PPD to the importers. This import permit will be presented by exporters to SPHSIS to request a phytosanitary certificate.

b) The consignment must be inspected in accordance with official procedures by SPHSIS and found to be free from quarantine pests specified in the Annex 1.

c) A phytosanitary certificate issued by SPHSIS is required for each consignment. Each phytosanitary certificate must be included the additional declaration, stating in English:

(1) **"The consignment of fresh blueberry fruits has been produced and prepared for export in accordance with the phytosanitary import requirements for importation of fresh blueberries (*Vaccinium corymbosum* L.) from Poland into Vietnam".**

(2) In case of fruit undergoing in-transit cold treatment, additionally:

"Subject to in-transit cold treatment"

d) The consignment must be also practically free from soil, plant debris/leaf.

e) For consignments exported in sea freight containers must use be sealed.

5. Import inspection

Upon arrival in Vietnam, every consignment will be inspected by PPD. If any quarantine pests (Annex 1) are intercepted during inspection, the consignment shall be treated according to Vietnamese phytosanitary regulations.

6. Review policy

PPD reserves the right to review this phytosanitary requirements at any time if quarantine pests are detected. The review is also considered when the phytosanitary status of the exporting country is changed.

Annex 1: List of quarantine pests

Drosophila suzukii
Colletotrichum fioriniae
Pseudomonas syringae pv. *syringae*
Pseudomonas viridiflava

Annex 2: Risk management measures on plantations throughout the entire growing season

Regularly disinfect tools (saws, pruners) used for cutting bushes in order to prevent the possible transfer of pests from infected plants.

1. Observations for signs of infection by *Colletotrichum fioriniae* should be carried out in April-May; record the number of infected shoots found in 4 randomly selected samples (25 shoots each) in different parts of the plantation.
2. Observations for signs of *Pseudomonas syringae* pv. *syringae* infection should begin in February-April in order to assess shoot infection. Continue observations on leaves during the growing season (July-September); assess the number of infected leaves in 4 randomly selected samples (100 leaves each) from plants in different parts of the plantation. At the same time performed observations for signs of infection caused by *Pseudomonas viridiflava*.
3. Cut out and remove from the plantation all shoots with symptoms of diseases caused by the quarantine pests for Vietnam, mentioned in points 2 and 3.
4. Shoot infection by *Colletotrichum fioriniae* above 10% indicates a large source of pathogens, which poses a threat to developing blueberry flowers and fruits. In this case, spray the plants during the flowering and growth of blueberry fruits with fungicides registered for this purpose (containing fludioxonil, cyprodinil in a mixture with fludioxonil, fluopyram in a mixture with trifloxystrobin or fludioxonil in a mixture with pyrimethanil). Adjust the number of treatments to the weather conditions (a larger number with increased air humidity); treatments with a mixture of cyprodinil and fludioxonil can be performed up to three times a season, and treatments with a mixture of fluopyram and trifloxystrobin, fludioxonil solo, and mixture of fludioxonil and pyrimethanil up to twice a season, with a withdrawal period.
5. During the period of colouring of blueberry fruits, inspected their infection by *Colletotrichum fioriniae* by assessing the number of infected blueberry fruits in 4 randomly selected samples (100 blueberry fruits each) from plants in different parts of the plantation. When the infection of blueberry fruit reaches above 10%, it is necessary to continue chemical protection of the fruit until harvest, and to use biological products in the periods between fruit harvests.
6. In case of biological protection against *Colletotrichum fioriniae*, being implemented, it is recommended to use agents based on *Pythium oligandrum*.

7. Keep a written record of observations and their results, as well as chemical or biological protection treatments performed.

Annex 3: Risk management measures at the harvest stage

1. During harvest, assess fruit infection by *Colletotrichum fioriniae* by counting rotting berries in a sample of 4 × 100 fruits from 30 randomly selected bushes from an area of 1 ha of plantation (or plot of a given variety). If the disease severity exceeds 3%, the fruit won't be intended for export to Vietnam.
2. Maintain a written record of observations made and their results.

Annex 4: Post harvest risk management measures

Store the fruit in the temperature range of 0-4°C, except for the period when cold treatment is performed to eliminate *Drosophila suzukii* larvae in the blueberry fruits.

Annex 5: Risk management measures at the stage of export control

Each consignment of blueberry fruits prepared for export, before SPHSIS issues a phytosanitary certificate, will be inspected by SPHSIS inspectors for fruits infection by quarantine pests listed for Vietnam: *Pseudomonas syringae* pv. *syringae, Colletotrichum fioriniae* and *Pseudomonas virdiflava*, as well *Drosophila suzukii*. The sample size (number of unit packages) taken from the shipment for inspection will guarantee the detection of at least 0.5% of infection with 95% probability (in accordance with ISPM 31).

Annex 6: Risk management measures during post-harvest transport

Transport of fruits after harvest from the plantation to the storage room, and, if applicable, from the storage room to the packing room, will be carried out in a way that ensures the elimination of the risk of secondary infection of the fruits by the quarantine pests listed for Vietnam: *Pseudomonas syringae* pv. *syringae, Colletotrichum fioriniae* and *Pseudomonas virdiflava*, as well in particular *Drosophila suzukii.*