

**Pest Risk Assessment Information**  
**For the entry of agricultural products into**  
**Trinidad and Tobago**

1. Map of the country indicating the location(s) of the areas where the item is grown  
 See attached maps of the following locations.

Rootstocks:  
 Willamette Nurseries  
 Canby, OR

Scionwood:  
 Kuffel Creek Apple Nursery  
 Riverside, CA

2. Plant health problems of the crop in the producing areas which occur during the different growth stages and the chemical or biological agents used to control these problems.

**Fire Blight *Erwinia amylovora*** A bacterial disease that affects flowers and young shoots. It over winters on sunken cankers on the trunk of the tree and is most active in temperatures between 24° C to 29° C, being spread by insects and wind. Temperatures above 35° C slow or stops the development. It is controlled by disinfecting pruning tools between trees, pruning out infected shoots and destroying them by burning, cutting out cankers to sound wood, growing the trees with low nitrogen to limit the vigor (and thus tender, susceptible shoots), and pruning to allow light and air to penetrate the canopy of the tree.

**Powdery Mildew, *Podosphaera leucotricha*** A fungal disease that affects the foliage and fruit of the apple. It is controlled by pruning out infected shoots and destroying them by burning, and application of fungicides, such as neem oil. Best prevention is obtained by pruning trees to an open shape that allows light and air to penetrate the canopy.

3. List of plant pests which affect the item. Please provide the scientific name for each pest.

Class/Order	Scientific Name	Common Name	Distribution	Plant Part Affected
Insecta/Coleoptera	<i>Anisandrus dispar</i>	Pear blight beetle	Oregon	TG, TR
Insecta/Coleoptera	<i>Chrysobothris femorata</i>	Flatheaded appletree borer	Oregon, California	BK, TG, TR
Insecta/Coleoptera	<i>Chrysobothris mali</i>	Pacific flatheaded borer	Oregon, California	BK, TG, TR
Insecta/Coleoptera	<i>Melalgus confertus</i>	Olive twig borer	Oregon, California	TG, TR
Insecta/Coleoptera	<i>Scolytus rugulosus</i>	Shothole borer	Oregon, California	BK, TG, TR
Insecta/Coleoptera	<i>Synaphaeta guexi</i>	Spotted tree borer	Oregon, California	BK, TG, TR

Insecta/Coleoptera	<i>Xyleborinus saxeseni</i>	Lesser shothole borer	Oregon, California	TG, TR
Insecta/Coleoptera	<i>Xylosandrus germanus</i>	Black stem borer	Oregon, California	TG, TR

. **BK= Bark TG= Twig TR= Trunk**

Class/Order	Scientific Name	Common Name	Distribution	Plant Part Affected
Arachnida/Acari	<i>Panonychus ulmi</i>	European red mite	California	BK, BR, TG
Insecta/Coleoptera	<i>Otiorhynchus cribricollis</i>	Apple cribrate weevil	California	BK
Insecta/Hemiptera	<i>Epidiaspis leperii</i>	Italian pear scale	California	BR, TR
Insecta/Hemiptera	<i>Eriosoma lanigerum</i>	Woolly apple aphid	California	RT
Insecta/Hemiptera	<i>Diaspidiotus perniciosus</i>	San Jose scale	California	BR, TR
Insecta/Lepidoptera	<i>Choristoneura rosaceana</i>	Oblique-banded leafroller	California	BK

. **BK= Bark BR = Branch RT = Root TG= Twig TR= Trunk**

4. *Post harvest treatments employed (in field, storage and pre-export) and shipping conditions to which the item will be subjected.*

The benchgraft trees consist of two parts; the clonal rootstock grown in a stool bed, and the scion which is grafted onto the rootstock. The rootstock is harvested during dormancy and mechanically graded and trimmed, then boxed for shipment to the grafter where they are stored sealed inside airtight plastic bags at 1°C. Scionwood cuttings are taken from dormant trees and stored inside airtight plastic bags at 1°C. The grafting is performed indoors where the scion is cleft-grafted onto the rootstocks. The graft union is completely sealed with clear vinyl tape, and the scion is completely wrapped in Parafilm laboratory wax tape. The resulting “benchgraft” is then sealed inside airtight plastic bags and refrigerated at 1° C. until shipment. The typical time for the components to spend in refrigeration before final shipping is 21 days. Upon shipment the benchgraft orders are sealed inside airtight plastic bags and then packaged in a heavy cardboard carton with no vent holes which is completely taped with plastic tape.

5. *Measure(s) taken to prevent the export of pest on/with the item*

The nursery where the rootstocks are grown is regularly inspected and certified by the State of Oregon Department of Agriculture, Plant Division to be free from dangerous pests and diseases. The rootstocks are also certified by the State of Oregon Department of Agriculture to be virus-free. The rootstocks are inspected and certified by the State of Oregon Department of Agriculture prior to shipment to California, and a *California/Oregon Origin Inspection Certificate for Interstate Shipments* is serialized and issued jointly from the Oregon Department of Agriculture and California Department of Food and Agriculture with each package and packing slip. The grafting is performed at Kuffel Creek Apple Nursery, California

State Nursery License # A0075.001 and is inspected by the Riverside County Agriculture Commissioner's Field Inspector just prior to export, who issues the Phytosanitary Certificate.

*6. Measure(s) taken to prevent the re-infestation of item by pests.*

The benchgrafts are removed from refrigeration and shipped wrapped in an air-tight plastic bag and sealed inside a heavy cardboard carton with no vent holes which is completely sealed with plastic tape, preventing any re-infestation of pests during transport. Upon planting, good orchard hygiene, pruning to encourage light and air, and encouraging beneficial insects as part of the Integrated Pest Management program are the best control for pests and disease.

*7. State whether these items are Genetically Modified Organisms if YES please provide details.*

None of the items are *Genetically Modified Organisms*.