

# EU Certification Scheme Fruit Plants

## EXPLANATORY LEAFLET TO VACCINIUM



Animal &  
Plant Health  
Agency

### CONTENTS

1. Introduction
2. Applications
3. Labelling / sealing and supplier / variety registration
4. Grades and stock eligibility
5. Freedom from quarantine diseases
6. Spacing
7. Isolation distances for field grown material
8. Aphid proof gauze house production and isolations
9. Roguing
10. Gapping up
11. Number of inspections
12. Quarantine diseases
13. Validity of certificates
14. Summary of pest and disease tolerances, sampling and testing
15. Record keeping (critical points plan)
16. Requirements for pre-basic plant material
  - 16.1 Eligible material
  - 16.2 Growing conditions
  - 16.3 Pests and diseases
  - 16.4 Documentation
  - 16.5 Trueness to type
17. Required methods of testing for diseases for pre-basic Vaccinium

## 1. INTRODUCTION

This document is a guide to Vaccinium certification taken from the implementation of Council Directive 2008/90/EC and its Commission Implementing Directives 2014/96/EC, 2014/97/EC and 2014/98/EC.

## 2. APPLICATIONS

The scheme is open to any grower in England and Wales who can meet the general conditions for entry and comply with the specific conditions of entry. Applications for entry of material to be submitted through the approved administrator presently the Nuclear Stock Association Limited. Visit <http://nsa-plants.co.uk>

Growers will need to apply to APHA and be registered as producers under the scheme.

## 3. LABELLING / SEALING AND SUPPLIER / VARIETY REGISTRATION

Refer to separate documents covering labelling / sealing and supplier / variety registration.

## 4. GRADES AND STOCK ELIGIBILITY

<b>GRADE</b>	<b>PARENT STOCK</b>
Pre-basic	Candidate / Pre-basic Material
Basic 1	Any variety that meets Pre-basic requirements
Basic 2	Any variety certified at Pre-basic or Basic 1 the previous year
Certified	Any variety certified at Basic 1, Basic 2 the previous year

## 5. FREEDOM FROM QUARANTINE DISEASES

Crops must not be grown on land known to be infected with the following soil-borne diseases: Rhizomania, Strawberry red core or Verticillium wilt disease of hops or which is under notice for Potato Wart disease or Potato Cyst Nematode.

Growers who become aware of or suspect the presence of any quarantine disease must notify the Plant Health Inspector immediately.

## 6. SPACING

For field grown material bed widths must not exceed 2 metres. There must be alleyways of at least 1 metre between beds to allow inspection.

For glasshouse production, separation must be sufficient to ensure varieties of the same grade do not mix. Field isolation distances apply between different grades; exceptionally approval to reduce isolation distances may be granted from PHSI, requiring additional precautions and standard operating procedures.

## 7. ISOLATION DISTANCES FOR FIELD GROWN MATERIAL

Stocks entered must be isolated by at least the distance shown in the following table in metres

	Basic 1	Basic 2	Certified	CAC	Fruiting
Basic 1	4	4	100	400	400
Basic 2	4	4	4	400	400
Certified	100	4	4	400	400
CAC	400	400	400	1	100
Fruiting	400	400	400	100	0

## 8. APHID PROOF GAUZE HOUSE PRODUCTION AND ISOLATIONS

Specific conditions apply to the construction of an aphid proof structure for certification. Contact PHSI for full details. All material grown in the structure must be entered for certification.

The propagator must have a PHSI approved Standard Operating Procedure in place detailing the operation of the gauze house.

	Isolation for plants outside the gauze house (metres)				
		Basic 1	Basic 2	Certified	CAC / Fruiting
Plants grown inside gauze house	Pre-basic	100	100	100	250
	Basic 1	4	4	10	100
	Basic 2	4	4	4	100
	Certified	10	4	4	100

Separation must be sufficient to ensure varieties of the same grade do not mix.

## 9. ROGUING

Limited roguing is permissible after inspection with prior approval of the APHA Plant Health Inspector. Records must be kept and made available of the stocks rogued, the reason for roguing and numbers of plants removed.

## 10. GAPPING UP

Gapping up is permissible providing that the material used is eligible and prior approval from APHA Plant Health has been obtained. Growers must keep records and make them available if requested to do so.

## 11. NUMBER OF INSPECTIONS

Pre-basic, Basic 1 and Basic 2 will receive two inspections during the growing season.

Certified will receive one inspection during the growing season.

## **12. QUARANTINE DISEASES**

Growers who become aware of or suspect the presence of any quarantine disease must notify the Plant Health Inspector immediately.

## **13. VALIDITY OF CERTIFICATES**

Harvested canes from certified crops, including those subsequently potted up, may be described as certified at the appropriate grade until 31 May in the year after certification.

## **14. SUMMARY OF PEST AND DISEASE TOLERANCES, SAMPLING AND TESTING**

### **TESTING**

Each Pre-basic mother plant shall be sampled and tested five years after its acceptance as a Pre-basic mother plant and with subsequent intervals of five years concerning the presence of pests listed in Annex II, and in the case of doubts concerning the presence of pests listed in Annex I Part B.

Basic and Certified grade plants sampling and testing shall be carried out in the case of doubts concerning the presence of pests listed in Annex I Part B and Annex II.

### **INSPECTION**

Pre-basic, Basic and Certified plant material shall be visually inspected and found free from pests and diseases listed in Annex II. Freedom can be met by removal of infected plants and / or by biological, physical or chemical treatments if applicable.

Pre-basic, Basic and Certified plant material infested by pests and diseases listed in Annex I Part B shall not exceed the tolerance levels indicated. Sampling and testing will be required if in doubt to the presence and identity of those pests and diseases.

Tolerances can be met by removal of infected plants and / or by biological, physical or chemical treatments if applicable.

<b>Annex I Part B</b>	Pre-basic	Basic 1-2	Certified
<b>Fungi</b>			
<i>Exobasidium vaccinii</i> var. <i>vaccinii</i>	0	0.5	1
<i>Godronia cassandrae</i> (anamorph <i>Topospora myrtilli</i> )	0	0.1	0.5
<b>Bacteria</b>			
<i>Agrobacterium tumefaciens</i>	0	0	0.5
<b>Viruses</b>	0	0	0.5

<b>Annex II</b>	
<b>Viruses</b>	Nil tolerance for all categories Pre-basic, Basic and Certified
<i>Blueberry shoestring virus</i> (BSSV)	
<i>Blueberry red ringspot virus</i> (BRRV)	
<i>Blueberry scorch virus</i> (BIScV)	
<i>Blueberry shock virus</i> (BIShV)	
<b>Phytoplasmas</b>	
<i>Blueberry stunt phytoplasma</i>	
<i>Blueberry witches' broom phytoplasma</i>	
<i>Cranberry false blossom phytoplasma</i>	
<b>Viruses-like diseases</b>	
Blueberry mosaic agent	
Cranberry ringspot agent	

## 15. RECORD KEEPING (CRITICAL POINTS PLAN)

The supplier must maintain relevant information to monitor the key points in the production process of all stocks entered for certification.

These include:

- Location and number of plants
- Timing of their cultivations

- Propagation operations
- Packaging, storage and transportation operations.

The information should remain available for at least three years and made available to PHSI upon request.

## **16. REQUIREMENTS FOR PRE- BASIC PLANT MATERIAL**

### **16.1 Eligible material**

Any new or established variety or candidate material of potential new varieties can be entered (see 3 and 14). The progeny of pre-basic is eligible as parent material to produce pre-basic grade cuttings or to plant field grown basic 1 grade material.

### **16.2 Growing conditions**

Candidate pre-basic mother plants must be kept under insect proof conditions and physically isolated from pre-basic mother plants until all tests have been successfully completed.

Pre-basic plants must have been maintained in a suitably designed insect-proof gauze house containing only *Vaccinium* Pre-basic material. (See section 8) Strict precautions should be taken to prevent the introduction of any pests and diseases listed in Annex I and II.

All mother plants must be grown singly in sterilised growing medium and in individually labelled pots.

Pre-basic material maintained and multiplied in vitro must be adequately labelled.

### **16.3 Pests and diseases**

Each pre-basic mother plant must be tested every five years and found free from the pests and diseases in Annex II, as appropriate, using the indicator plants or test methods described in the section "Required Methods of Testing for Diseases for Pre-basic *Vaccinium*".

No plants are to be entered into the pre-basic stock house unless tested and found free of all the pests and diseases listed in Annex II, as appropriate.

Any plants found to be infected or exhibiting suspicious symptoms should be removed immediately.

### **16.4 Documentation**

The Person Responsible for the production of the plants must provide documentary evidence to show that the material has been produced under the conditions described above and that all the necessary tests were carried out and no evidence of infection was found.

This evidence must be provided to the purchaser of the pre-basic material before it can be used as parent material to produce Basic grade.

Please see the requirements for labelling and registration in the relevant general guidance document.

#### 16.5 Trueness to type verification

Pre-basic material will be subject to trueness to type verification.

### 17. REQUIRED METHODS OF TESTING FOR DISEASES FOR PRE-BASIC VACCINIUM

	<b>Pest</b>	<b>Test Method and Indicator Plant</b>
<b>Virus</b>	<i>Blueberry shoestring virus</i> (BSSV)	ELISA
	<i>Blueberry Red Ringspot Virus</i> (BRRV)	Grafting on woody indicator (Cabot)
	<i>Blueberry Scorch Virus</i> (BISCv)	ELISA
	<i>Blueberry Shock Virus</i> (BIShV)	ELISA
<b>Phytoplasmas</b>	<i>Blueberry Stunt Phytoplasma</i>	Grafting on woody indicator (Cabot, Jersey)
	<i>Blueberry Witches' Broom Phytoplasma</i>	Grafting on woody indicator ( <i>V. myrtillus</i> )
	<i>Cranberry False Blossom Phytoplasma</i>	Visual examination
<b>Virus-like Diseases</b>	Blueberry Mosaic Agent	Grafting on woody indicator (Stanley, Cabot)
	Cranberry Ringspot Agent	Visual examination