EUROPEAN COMMISSION
HEALTH AND CONSUMERS DIRECTORATE-GENERAL

Directorate F - Food and Veterinary Office

DG(SANCO) 2012-6314 - MR FINAL

FINAL REPORT OF AN AUDIT

CARRIED OUT IN

ITALY

FROM 11 TO 19 SEPTEMBER 2012

IN ORDER TO EVALUATE THE SITUATION AND OFFICIAL CONTROLS FOR PSEUDOMONAS SYRINGAE PV. ACTINIDIAE

In response to information provided by the Competent Authority, any factual error noted in the draft report has been corrected; any clarification appears in the form of a footnote.

Executive Summary

This report describes the outcome of a audit carried out by the Food and Veterinary Office (FVO) in Italy, from 11 to 19 September 2012, which was carried out as part of the FVOs planned audit programme.

The objective of the audit was to evaluate the situation and controls for Pseudomonas syringae *pv.* actinidia *Takikawa, Serizawa, Ichikawa, Tsuyumu and Goto (hereafter "*Psa*"), the causative agent of bacterial canker of kiwifruit. This organism is not listed as a harmful organism in Council Directive 2000/29/EC.*

The audit found that the Italian authorities have taken extensive measures to eradicate or contain Psa, including the intensive pruning or removal of whole orchards where Psa *was found. The implementation of the measures was assisted by the provision of financial compensation for affected producers.*

The measures are based on national legislation, adopted in 2011, which contains provisions for surveys and control measures, including the demarcation of infected areas and buffer zones, and also establishes conditions for the production and certification of Actinidia *plants, including kiwi plants for planting.*

The surveys, which are based on visual inspections and, if symptoms are present, laboratory confirmation, have confirmed that Psa *has been found in all of the main kiwi fruit producing regions of Italy.*

The ongoing presence of Psa *in the main production regions for plant propagating material, and the lack of a validated method for the detection of latent infection, epiphytic populations, or for confirming the presence or absence of the organism from 'old'* Psa *type symptoms means that the absence of the harmful organism, as opposed to the absence of symptoms of the organism, cannot be guaranteed. However, the low number of findings of* Psa *in places producing planting material, the control measures taken and the requirements for production and certification of planting material do provide considerable additional assurance in this regard.*

The report does not include any recommendations, since action has been taken in line with Article 16(2) of Council Directive 2000/29/EC.

Table of Contents

Abbreviations and definitions used in this report

Abbreviation	Explanation
CRA - PAV	Agricultural Research Council Plant Pathology Research Centre
cv	Cultivar
Decree	Ministerial Decree establishing control measures for *Psa*, adopted on 7 February 2011
DG SANCO	European Commission's Directorate-General for Health and Consumers
EPPO	European and Mediterranean Plant Protection Organisation
EU	European Union
FVO	Food and Veterinary Office
Green kiwi	Cultivar of *Actinidia deliciosa* – primarily 'Hayward'
ISO	International Standards Organisation
ISPM	International Standard for Phytosanitary Measures
MIPAAF	Ministry of Agriculture, Foodstuffs and Forest Policies
NPHC	National Plant Health Committee
Psa	*Pseudomonas syringae* pv. *actinidia* – causative agent of bacterial canker of kiwi
pv	Pathovar
RPS	Regional Plant Health Service
Yellow kiwi	Cultivar of *Actinidia chinensis* – including Jin Tao and Zespri Gold

1 Introduction

This audit took place in Italy from 11 to 19 September 2012 and was undertaken as part of the Food and Veterinary Office's (FVO) planned audit programme.

The FVO team consisted of two auditors from the FVO; representatives from the Single Authority, Central Plant Health Service of the Ministry of Agriculture, Foodstuffs and Forest Policies (MIPAAF), accompanied the FVO team during the audit.

An opening meeting was held on 11 September at the headquarters of the Single Authority in Rome during which, the objective, scope and itinerary for the audit were confirmed by the FVO team and additional information, necessary for the conduct of the audit, was requested.

2 Objectives

The objective of the audit is to evaluate the situation and controls for *Pseudomonas syringae* pv. *actinidia* Takikawa, Serizawa, Ichikawa, Tsuyumu and Goto (hereafter "*Psa*"), the causative agent of bacterial canker of kiwifruit.

The following table lists the sites visited and meetings held in order to achieve these objectives:

Meetings/visits		**No.**	**Comments**
Competent Authorities	Central	1	Single Authority – the Central Plant Health Service of the Ministry of Agriculture, Foodstuffs and Forest Policies (MIPAAF), Rome
	Regional	1	Regional Plant Health Services (RPS) of Lazio, Piemonte and Emilia Romagna. Meeting with RPS Veneto in Bologna
	Laboratories	2	RPS Piemonte (Turin) and Emilia Romagna (Bologna)
Plant health control sites			
Kiwi fruit production sites		6	Lazio, Piemonte, Emilia-Romagna
Places of production of plants for planting		5	Piemonte and Emilia-Romagna, including micropropagation, protected sites and open field sites.
Certification organisation		1	Emilia-Romagna. Includes laboratory and primary source material

3 Legal Basis

The audit was carried out under the general provisions of EU legislation, in particular Articles 21 and 27a of Council Directive 2000/29/EC.

3.1 Relevant EU legislation

Council Directive 2000/29/EC provides for protective measures against the introduction into and spread within the EU organisms harmful to plants or plants products. The legal reference for this Directive is listed in the Annex to this report.

References to EU legislation in this report are to the latest amended version, where applicable.

4 BACKGROUND

4.1 PREVIOUS AUDITS

This was the 14th audit carried out by the FVO in Italy since 2000 on issues related to plant health. The reports of the previous audits are available on the FVO's website: http://ec.europa.eu/food/fvo/index_en.cfm

4.2 ACTINIDAE

Actinidia is a Genus of woody, mainly dioecious (separate male and female) plants, which are native to temperate Asia. There are 60 species of *Actinidia*, which grow as either shrubs or vines. Of particular relevance to this audit are *A. deliciosa* – commonly known as green kiwi fruit, and *A. chinensis* – commonly known as yellow kiwi. One principle difference between these species is that *A. deliciosa* retains fine hairs when mature, while these are lost by *A. chinensis* during maturation. Both species are tolerant to low temperatures, although warm to hot summer conditions are required for fruit ripening.

Other common species that are known to be susceptible to *Psa* include *A. arguta* (Baby kiwifruit) and *A. kolomikta* (the Artic kiwifruit), which are grown as ornamentals as well as for fruit production.

There are numerous cultivars of *A. deliciosa*, but the most common is Hayward. This is considered to be tolerant to *Psa* in many conditions, however during this audit, the RPS in Piemonte and Emilia Romagna informed the team that infection has been identified on this variety.

A. chinensis produces a sweeter fruit than *A. deliciosa*, and has a light green to yellow coloured flesh, in some cases with a red centre. It is marketed mainly in Asia and, according to trade representatives met by the team, sells for a higher price than the 'standard' green kiwi fruit known in Europe. The production of yellow varieties has increased significantly in recent years; the main cultivars produced in the EU are Jin Tao and Hort16A ('Zespri® Gold'). The current yellow varieties are considered to be particularly susceptible to *Psa*.

In commercial production, the kiwi vines are trained on support wires and posts, 2 – 3m high; it is often planted as an alternative to grape production since the infrastructure required is very similar.

Pollination is often assisted, since the flowers are not attractive to bees. In this case, pollen is collected from the male flowers and mechanically blown onto the female flowers. Imported pollen may be applied using the same method.

4.3 *PSEUDOMONAS SYRINGAE* PV ACTINIDIAE

Psa is not listed as a harmful organism in Council Directive 2000/29/EC. At the time of drafting this audit report, a proposal for regulation of *Psa* had been discussed by the Standing Committee on Plant Health.

The European and Mediterranean Plant Protection Organisation (EPPO) has recently included *Psa* in its A2 List, which means that it is recommended for member countries to regulate the organism.

Detailed information on *Psa* is available in a data-sheet published by on its website: (http://www.eppo.int/QUARANTINE/Alert_List/bacteria/P_syringae_pv_*Actinidia*e.htm); the following is a summary of the key elements:

Psa causes brown discolouration of buds, dark brown angular spots surrounded by yellow haloes on leaves, cankers with white to reddish (oxidation) exudate on twigs and trunks, fruit collapse, wilting

and eventually plant mortality. The most conspicuous symptom is the red-rusty exudation which covers bark tissues on trunks and twigs. Removal of the bark usually reveals a brown discoloration of the external vascular tissues and reddening of the tissues beneath lenticels. Recent research indicates that in field produced plants, there is a period of several months between the development of primary and secondary symptoms.

A. deliciosa, A. chinensis, A. arguta, and *A. kolomikta* are all susceptible. Observations in Italy suggest that damage is more severe on yellow fleshed kiwifruit (*A. chinensis* cvs. 'Hort 16A' and 'Jin Tao') than on the more widely grown green fleshed cultivar (*A. deliciosa* cv. 'Hayward').

Male and female vines are attacked in the same way but young vines (less than 5 years old) are more susceptible to the disease. During the audit it was reported that male plants are considered to be more susceptible to *Psa* than female vines, largely due to the pruning immediately following flowering (i.e. completion of pollination).

It has been observed that the pathogen is active between 10 to 20 °C and is limited by temperatures above 25°C. Inoculation studies show that the bacterium can infect the plant through natural apertures (stomata, lenticels) and wounds. Symptoms are usually expressed during spring and autumn when climatic conditions are favourable to the disease (cool temperatures, persistent rains, high humidity), but the occurrence of latent infections cannot be excluded. Recent research indicates that *Psa* infects both the phloem and xylem tissues and if able to survive at root level.

It is suspected that *Psa* is spread by heavy rain, strong winds, animals and human activity. Over long distances, trade of infected planting material can spread the disease. It has also been hypothetised that infected pollen could spread the disease but this has not been demonstrated.

Further information on *Psa* in Italy is included in section 5.3. below.

4.4 Production and Trade of *Actinidae*

4.4.1 Production

Italy is the second largest producer of kiwi fruit in the world, after China (492 000 tonnes), with a total annual production of approximately 420 000 tonnes. New Zealand and Chile are the third (380 000 tonnes) and fourth (220 000 tonnes) largest producers. Kiwifruit is also produced in Greece (116 000 tonnes), France (70 000 tonnes), Spain (23 000 tonnes) and Portugal (15 000 tonnes)[1]. Italy is also one of the world's largest producers of plants for planting, with an annual production of approximately 1.7 million plants.

The production of both fruit and plants for planting, varies significantly in Italy, as detailed in table 1 below:

1 Data provided by FAOSTAT - http://faostat.fao.org/ for production year 2010

Table 1: Production of plants for planting, pollen and fruit of *Actinidia* spp, since 2009, by region

Year	No of places of production/area		
	Plants for planting	Pollen	Fruit
LAZIO			
2010	3	*	8 169 ha
2011	12 (3 nurseries and 9 garden centres)	*	8 403 ha
2012	1 outside demarcated area	*	Not available
EMILIA ROMAGNA			
2010	84 companies, included those for final consumers/ 1 186 417 plants	*	3 944 ha
2011	71 companies, including those for final consumers/997 338 plants	*	4 396 ha
PIEMONTE			
2010	19 companies/150 000 plants	*	5 390 ha
2011	19 companies/60 000 plants	*	5 296 ha
2012	19 companies/73 180 plants	*	Not available
FRIULI VENEZIA GIULIA			
2010	3 (1 experimental station - mother plants) + 1 nursery producer + 1 micropropagation facility)	*	714 ha (350 sites)
2011	3 (as above)	*	714 ha (350 sites)
2012	4 (as above + 1 nursery (adaptation after micropropagation and cuttings production)	*	714 ha (350 sites)
VENETO			
2010	9 companies (27 ha)	*	3 484 ha
2011	25 companies (7 ha)	*	3 494 ha
2012	16 companies (6 ha)	*	3 494 ha
CAMPANIA			
2010	5	*	1 217 ha
2011	5	*	1 249 ha
CALABRIA			
2010	0	*	639 ha
2011	0	*	632 ha

Note:

* - Places of production of pollen are not recorded, as it is generally intended to be used in the farm where it is collected.

As detailed in the above table, the main fruit producing region in Italy is Lazio; significant production also takes place in Piemonte, Emilia Romagna and Veneto. The majority of plants for planting are produced in Emilia Romagna, Veneto and Piemonte.

The Single Authority informed the FVO team that *A. deliciosa* plants are primarily produced in Italy from tissue culture; the production of plants from cuttings has decreased significantly in recent years. *A. chinensis* are mainly grafted onto *A. deliciosa* rootstock (cv. Hayward).

Ornamental kiwi plants are not widely planted in Italy; *A. kolomikta* is sold in limited quantities in garden centres, as pot plants, sourced mainly from the Netherlands. *A. arguta* is produced in small quantities in Italy, but mainly sourced from the Netherlands.

4.4.2 Trade

4.4.2.1 Imports of Actinidia

Table 2 below provides details of imports of plants for planting and pollen since 2007.

Table 2: Imports of plants for planting and pollen of *Actinidia* spp., since 2007

Year	Origin	No. of consignments/quantity	
		Plants for planting	**Pollen ***
2007	China	1 consignment (2 550 cuttings) - Lazio	-
	New Zealand	1 consignment (9 019 micropropagated plants) - Lazio	-
2008	New Zealand	1 consignment (340 plants) - Lombardy	-
	USA	1 consignment (5 250 plants) - Lombardy	
	Argentina	2/23 110 (plants)) - Tuscany	-
2009	USA	1/36 kg (3 500 micropropagated plants) - Emilia Romagna	-
	Chile	1/150 (plants) - Emilia Romagna	-
	China	1/15 (cuttings) - Emilia Romagna	-
	New Zealand	1/76 (plants) - Emilia Romagna	-
	Argentina	1/19 000 (plants)) - Tuscany	-
2010	New Zealand	1/30 kg (5 900 micropropagated plants) - Emilia Romagna	1 consignment (50 kg) - Lombardy
	Argentina	1/11 500 (plants) - Tuscany	-
2011	China	1/120 (buds) - Emilia Romagna	-
	New Zealand	1 consignment (1 913 buds) - Lazio	2 consignments - Lazio
	Argentina	1/20 200 (plants) - Tuscany	-
	Chile	2 consignments (6 000 plants) - Lombardia	
2012	Chile	2/11.410 + 6 620 (plants and cuttings) - Lombardia	1 consignment - Lazio
	Argentina	1/18 306 (plants) - Tuscany	-
	New Zealand	7/5 479 (cuttings) - Emilia Romagna	-
		2 consignments (456 kg + 332 grafts) - Lazio	-

The Single Authority and RPS met during the audit, informed the FVO team that all imported plants of *Actinidia*e, were subject to inspection at the point of entry. The RPS visited noted that a significant number of plants for planting, including buds, arrive in Italy via other Member States.

4.4.2.2 Exports and Intra-EU movements

76% of Italian kiwi fruit are sold to other Member States; the remainder are exported to a wide range of Third Countries including Russian Federation, Middle East and North America.

Italy is also one of the world's largest producers of plants for planting of kiwi – no data on the volume of exports was available at the time of the audit.

The Single Authority stated that plants for planting of *Actinidia* are known to have been moved to Spain, Portugal, Greece, Slovenia and France.

5 Findings And Conclusions

5.1 Organisational aspects of plant health controls

Legal requirements

Article 1(4) of Council Directive 2000/29/EC provides that Members States shall ensure a close, rapid, immediate and effective cooperation between themselves and the Commission in relation to matters covered by this Directive and that, to this end, each Member State shall establish or designate a single authority, which shall be responsible, at least, for the coordination and contact in relation to such matters.

Article 2(1)(g) of Council Directive 2000/29/EC requires that the responsible official bodies in a Member State shall either be the official plant protection organisation established under the IPPC, or any other State authority established at national level or at regional level, under the supervision of the national authorities. Article 2(1)(i) of the same Directive requires Member States to ensure that their public servants and qualified agents have the qualifications necessary for the proper application of the Directive.

Findings

5.1.1 Competent authorities

The Single Authority stated that there have been no changes made to the organisational aspects of plant health controls in Italy, as described in the the FVO country profile for Italy (http://ec.europa.eu/food/fvo/last5_en.cfm?co_id=IT), and in the reports of previous audits, in particular that of a general audit carried out in Italy from 1 to 12 March 2010 (Ref: DG(SANCO) 2010/8601). In summary:

- The Single Authority, within the meaning of Article 1(4) of Council Directive 2000/29/EC is the Central Plant Health Service of the Ministry of Agriculture, Foodstuffs and Forest Policies (MIPAAF);
- The Regional Plant Health Services (RPS), which are usually part of the Agriculture Department of each Region, are responsible for the implementation of plant health controls within their region.

As previously described, meetings of the National Plant Health Committee (NPHC), which is chaired by MIPAAF, are held at least once a month. This body provides the main platform for the co-ordination between the MIPAAF and RPSs. It allows for the consultation of new legislative drafts before being forwarded to the State-Region Conference as well as the exchange of information on various topic related to plant health.

5.1.2 Guidelines and training

All of the RPS visited had issued guidelines and technical information for technical staff and inspectors involved in the the controls for *Psa*. The FVO team noted that all of the staff met during the audit were fully familiar with the organism and requirements of the Ministerial Decree (see section 5.2. below).

5.1.3 Communication with stakeholders

The Single Authority and RPS visited stated that they had issued a wide range of publicity and

technical information to stakeholders and the public in kiwi producing areas. This includes articles in the trade and technical press aimed at professional producers.

The FVO team met with fruit and plant producers in the three regions visited during the audit and noted that they were fully familiar with the requirements of the Decree as well as the symptoms and treatments for *Psa*. Many of the producers were also aware of the compensation that was available for control measures (see section 5.4.2 below).

5.1.4 Laboratories

Each of the RPS visited by the FVO team has its own plant health laboratory, which, the RPS stated have the necessary facilities, equipment and expertise to carry out analysis in plant health, including for *Psa.* In this regard, Lazio RPS uses the laboratory of the Agricultural Research Council's Plant Pathology Research Centre (CRA-PAV) in Rome (http://sito.entecra.it/portale/cra_conosci.php?lingua=EN&opz_menu=1&access_flag=0) because it does not have its own reference laboratory.

The Single Authority and RPS specialists met, informed the FVO team that a validated method for the confirmation of the presence of *Psa* in symptomatic samples, had been developed by specialists at the CRA-PAV This method is required to be used by all RPS laboratories and certification bodies (see section 5.5 below).

The specialists also informed the FVO team that there is currently no validated test method for latent infections, epiphytic populations or for detecting the organism in older (>5 days) *Psa*-type symptoms. The CRA-PAV stated that they are continuing to work on developing a suitable method.

Conclusions on organisational aspects of plant health controls

There is a clear structure and division of responsibilities between the competent authorities responsible for developing and implementing control measures against *Psa* in Italy. There is a good awareness of the disease amongst staff responsible for performing controls and stakeholders.

5.2 National legislation

Legal requirements

Psa is not listed as a harmful organism in Council Directive 2000/29/EC. Article 16 (2) of Directive 2000/29/EC requires that, *inter alia*, following the actual or suspected appearance of any harmful organisms not listed in Annex I or in Annex II [of that Directive] whose presence was previously unknown in its territory, Member States shall inform the Commission and the other Member States of the protective measures which it has taken or intends to take. These measures must, *inter alia*, be such as to prevent risk of the spread of the harmful organism concerned in the territory of the other Member States.

Findings

The Single Authority stated that there have been no changes to the legal framework for the organisation and implementation of plant health controls from that described in the FVO country profile.

Following the development of *Psa* in Italy, affected regions adopted their own Regional Decrees establishing control measures for *Psa* and the payment of compensation for the implementation of measures including the removal of infected plants and orchards. A specific working group of the NPHC was established, and following further development of *Psa* in Italy, a Ministerial Decree, establishing control measures for *Psa* at national level was adopted on 7 February 2011 (hereafter

'the Decree').

The control measures include the following:

- Any suspected occurrence of *Psa* must be notified to the RPS;
- Places of production of plants for planting of *Actinidia* must be registered and inspected by the RPS. The requirements for such places are detailed in section below,
- Mandatory surveillance for *Psa*, and where found,
- Establishment of demarcated areas and implementation of control measures,
- A scheme for the certification for plants of *Actinidae*.

Details are included in section 5.3 and 5.4 below.

The Single Authority notified the Commission and other Member States of the adoption of the Regional Decrees at the same time as their adoption, and were discussed in the context of requests submitted by Italy for solidarity funding.

The Single Authority notified the Commission and other Member States in writing, of the adoption of the Decree on 7 February 2011. The Decree and its control measures were discussed during the meeting of the Standing Committee on Plant Health on 10-11 May 2011 (http://ec.europa.eu/food/fs/rc/scph/sum_1011052011_en.pdf)

Conclusions

National legislation for the control of *Psa,* which includes measures that, if fully implemented should at least prevent the spread of the disease to other Member States, have been adopted and notified to the Commission and other Member States, in line with relevant EU legislation.

5.3 Situation of *Pseudomonas syringae* pv. *actinidiae* in Italy

Legal requirements

Article 16 (2) of Directive 2000/29/EC requires that, *inter alia*, each Member State shall immediately notify in writing the Commission and the other Member States of the actual or suspected appearance of any harmful organisms not listed in Annex I or in Annex II whose presence was previously unknown in its territory.

Findings

5.3.1 Development of Psa in Italy

The RPS informed the FVO team that *Psa* occurred for the first time in Italy in 1992. Two other bacteria are present in the same areas, *Pseudomonas viridiflava*, agent of bacterial spot and *Pseudomonas syringae pv. syringae,* agent of bacterial flower necrosis. *P. viridiflava* and *P. syringae* pv *syringae* cause symptoms on flowers and leaves that are similar to those caused by *Psa* but they do not cause cankers or death of the plants.

Until 2008, *Psa* caused only sporadic damage to *A. deliciosa*; severe damage or epidemics had not been observed until this time. *Psa* was reported on gold varieties of kiwifruit (Jintao, Hort 16A Soreli, and their respective pollinators) for the first time in Lazio in 2008.

The Single Authority notified the Commission and other Member States of the increase in damage caused by *Psa* on 20 May 2009. At that time, this was attributed to the introduction of gold varieties, that are more susceptible to the disease.

Psa was found for the first time in Emilia Romagna in 2009 on *A. chinensis,* and in Piemonte in 2010 on both *A. chinensis* and *A. deliciosa*. A single case of *Psa* was found in Veneto in April 2010 on *A. chinensis*. The disease has subsequently been found in other regions (see section 5.3.2 below). The FVO team noted that the first occurences of the disease in a region was notified in writing immediately to the Commission and other Member States following confirmation of presence of the organism.

The Single Authority informed the FVO team that research, including genetic analysis of the Psa strains present in Italy, had shown that the strains found in 1992, and 2008 onwards were different. In particular, the genetic analysis indicated that the new virulent strain (v-Psa) had not evolved from the *Psa* population found in 1992 in Italy, but was a new strain, the most likely origin of which, is China. Additional research on clonal outbreaks of *Psa* in Italy, indicates that it is most likely that the new strain was introduced from a single, or very few introductions of latently infected kiwi plants.

5.3.2 Surveys

The Single Authority informed the FVO team that a survey for *Psa* is carried out in all main production areas including new plantations. In line with the Decree, inspections are carried out in all places of production of plants for planting. Both focus on the detection of symptoms of *Psa*. Samples of any symptomatic material are collected for laboratory testing and confirmation for the first occurrence in an area, and in all cases on nurseries.

In general, surveys are carried out twice each year; the first inspection is in March to June and the second in September to October, which are the peak times for the presence of symptoms of *Psa*. In Lazio, the second inspection is carried out only if it is considered necessary. The surveys focus on the following:

- 500m around all nurseries (in Lazio, only in 500m around nurseries in demarcated areas)
- 500m around all infections identified in 2009
- All plantations of yellow kiwis
- All new plantations of green kiwi
- All places where private individuals and technical experts have notified the suspicion that *Psa* may be present.

In Lazio, where infection is present in large areas, inspections of yellow and green kiwis are carried out based on a 1.5km x 1.5km grid, to check the level of infection, the progress of containment measures and the effectiveness of any measures taken. Surveys are only carried out following a report of the suspected presence of *Psa* if it is located in an area considered to be disease free, or non-demarcated areas.

A national protocol for the analysis of symptomatic samples has been developed by CRA-PAV in Rome. This is based on isolation and culture of live bacteria. The RPS visited stated that samples are only rarely taken from asymptomatic plants, due in part to the difficulties in performing analysis of such samples as detailed in section 5.1.4 above.

The FVO team noted during visits to kiwi fruit production sites within and outside of demarcated areas, that typical symptoms, other than cankers, of *Psa* may be commonly found, in particular after rain in early autumn.

The RPS in Emilia-Romagna and Veneto informed the FVO team that inspections have been carried out in places producing plants of *Actinidia*e since 2009, prior to which, inspections were primarily for export purposes. Systematic inspections have been carried out in all regions since 2010. All

plants present in the nurseries are inspected. If symptoms are found, then samples are taken for laboratory analysis. If *Psa* is subsequently confirmed, the nursery is re-inspected to confirm the extent of the infection and the control measures that should be applied. The control measures are detailed in section 5.4 below.

Details of the number of sites checked in 2011 and 2012 in the main production regions is detailed in table three below. The data excludes 'non-specific surveillance', which is carried out to ensure that control measures for which compensation has been claimed, have been implemented. The RPS visited stated that a minimum of 100 plants/hectare are inspected in each case.

The orchards are mainly controlled by technical staff from the RPS and trained technical staff from producer organisations. In Emilia-Romagna the checks are carried out by monitoring teams made up of staff who have been authorised to carry out the checks at the expense of the RPS and who report directly to the RPS. Nurseries are inspected by the RPS.

Table 3 Number of inspections and samples taken since 2011

Year	Orchards	Nurseries	Total	Samples
Lazio				
2011	85	107	192	-
2012*	224	9	233	1(+)
Veneto				
2011	147	34	181	248
2012*	126	32	158	123
Emilia Romagna				
2010	89	41	130	246
2011	382	76	458	509
2012	612	65	677	311
Friuli Venezia Giulia				
2011	68	2	70	168
2012*	39	3	42	67
Calabria				
2011	30	N/A	30	3
2012*	100	N/A	100	6
Piemonte				
2010	118	14	132	161
2011	679	50	729	262
2012*	745	21	766	96
Campania				
2011	42	N/A	42	0
2012	42	N/A	42	0

5.3.3 Outcome of the surveys

The outcome of the surveys in each kiwi producing region is detailed in table 4 below. The RPS stated that findings of *Psa* on nurseries, and for the first time in an area are confirmed by PCR analysis, except in Lazio, where PCR is used only in cases where there are doubts concerning symptoms. In Emilia-Romagna, confirmation is by PCR followed by direct isolation.

The Single Authority informed the FVO team that there have been no cases of *Psa* identified in private gardens.

Table 4 – outcome of the surveys for Psa carried out from 2010

Emilia Romagna

Year	Number of findings of *Psa*		
	Plants for planting	Orchards	Pollen
2011	5 companies (6 fields)	128	2
2012*	2 companies (2 fields)	119	0

Note:
* Until 31/07/2012

Veneto

Year	Number of findings of *Psa*		
	Plants for planting	Orchards	Pollen
2011	2	61	N/A
2012*	2	55	N/A

Note:
* Until 31/07/2012
N/A = not applicable

Piemonte

The RPS stated that *Psa* has not been detected in places of production of plants for planting. Samples were taken from symptomatic and asymptomatic plants during the survey. *Psa* was confirmed in 955 ha of orchard of a total of 5 200 ha.

Lazio

The RPS stated that the *Psa* infection peaked in Rome and Latina provinces in 2009 and 2010 and seriously affected approximately 50% of 800 hectares of yellow varieties. The disease was also reported on 10-15% of Hayward plantations. In 2010, *Psa* appeared for the first time in one orchard in Viterbo province. In 2011 a new outbreak was identified in Frosinone province as well as an extension of the outbreak in Viterbo province.

Symptoms of *Psa* were found in all orchards monitored in 2011. In 2012, all, except for 14, of the monitored orchards were found to have symptoms of *Psa*.

The RPS stated that *Psa*-type symptoms have not been detected in nurseries in the Lazio region[2].

The RPS also stated that there are no recorded places of production of pollen. Pollination is done by the farmers with pollen collected from male plants in their own orchards or with pollen imported from third countries.

2 In their response to the draft report, the competent authority noted that: 'while *Psa* symptoms have not been detected in the Lazio region, the responsible RPS has also ordered destruction measures in two nurseries in a demarcated area'.

Friuli Venezia Giulia

Year	Number of findings of *Psa*		
	Plants for planting	Orchards	Pollen
2011	1	12	N/A
2012*	0	0	N/A

Note:
* Until 31/07/2012
N/A = not applicable

The RPS reported that in 2011, *Psa* was identified in 12 orchards, four of which were recently planted green kiwi (Hayward) located in the province of Udine.

Psa was confirmed in once case in plants for planting. The infection was found in the glasshouse of a nursery. The RPS stated that eradication measures were imposed and no further evidence of infection was identified in 2012.

Campania

Year	Number of findings of *Psa*		
	Plants for planting	Orchards	Pollen
2011	N/A	1	N/A
2012*	N/A	0	N/A

Note:
* Until 31/07/2012
N/A = not applicable

The RPS stated that the single case of *Psa* identified in 2011 was found in a one-year orchard of yellow kiwi (cv. Jin Tao) of approximately 5ha in the Municipality of Sessa Aurunca. The orchard was destroyed. The source is unknown.

Calabria

Year	Number of findings of *Psa*		
	Plants for planting	Orchards	Pollen
2011	N/A	4	N/A
2012*	N/A	2	N/A

Note:
* Until 31/07/2012
N/A = not applicable

The RPS stated that the presence of *Psa* had been confirmed in 3 municipalities (Rosarno, Laureana di Borrello, Filadelfia) in a recently planted orchard of yellow kiwi. The orchards were destroyed. The source was unknown.

Lombardia and Trentino-Alto Adige

Year	Number of findings of *Psa*		
	Plants for planting	Orchards	Pollen
2011	N/A	0	N/A
2012*	N/A	?	N/A

Note:
* Until 31/07/2012

N/A = not applicable

The RPS stated that in the summer of 2012, isolated occurrences of *Psa* had been recorded in orchards. At the time of the audit, no additional information was available.

Conclusions

Psa has been present in Italy since 1992 but has only been considered harmful, since 2008. The changing status of the disease, as well as its appearance in new regions of Italy, has been notified to the Commission and other Member States in line with relevant EU legislation.

The distribution of *Psa* in Italy has been established by systematic survey and inspections based on the presence of symptoms and laboratory confirmation. A validated test method has been developed for this purpose. *Psa* has now been found in all of the main kiwi fruit producing regions of Italy.

The lack of a validated test method for the detection of *Psa* in the absence of symptoms, suggests that the presence, or absence, of (non-symptomatic) latent infections and epiphytic populations of the organism, or the absence of *Psa* if only 'old' symptoms are present, cannot be concluded with certainty. The true distribution of the organism, as opposed to the distribution of symptomatic disease, may therefore not be fully established.

5.4 CONTROL MEASURES

Legal requirements

Article 16(2) of Directive 2000/29/EC establishes that measures taken following the appearance of a harmful organism, not listed in Annex I or II of that Directive must, *inter alia*, be such as to prevent risk of the spread of the harmful organism concerned in the territory of the other Member States.

Findings

The Decree establishes control measures to be taken following a finding of *Psa*, which are detailed in this section. The Decree also establishes requirements aimed at ensuring that plants for planting of *Actinidia* are free from *Psa*; these apply to all such plants produced in Italy. The measures are covered in detail in section 5.5 below.

5.4.1 Demarcated Areas

The Decree requires that a demarcated area must be established following a finding of *Psa*. The Single Authority stated that all regions where *Psa* has occurred, have designated such areas, according to the criteria and measures laid down in the Decree. The RPS met by the FVO team stated that except for the minimum size of the safety zone (500m radius), the extent of each area is at the discretion of the RPS and, as detailed below, differs significantly between regions.

The Decree prohibits the movement of *Actinidia sp.* plant material, including wood and pollen but expressly excluding fruit, outside of a demarcated areas is prohibited. Article 10(7) of the Decree permits the Single Authority to grant exemptions; this has been done for those plants of *Actinidia* produced under specific containment conditions (see section 5.5. below).

Contaminated areas

The measures required to be taken in a contaminated area are intended to eradicate or at least suppress the disease. The measures vary depending on the severity and distribution of the disease and range from the pruning of infected plants to remove all infected tissue and at least 70cm of non-

infected tissue, to the entire removal of infected plants.

In Piedmont the regional regulations establish the level of infection in the orchard is high (>30%), the removal of the entire orchard is usually required. All pruning material must be destroyed by deep burial or incineration *in situ.* The uprooted plants must not be replaced; grubbed areas cannot be replanted with kiwi for at least two growing seasons following the destruction.

Containment areas

The measures required to be taken in containment areas are intended to suppress the disease and to prevent its further spread. The measures include the pruning of plants with cankers as well as those showing signs of wilting. If only leaf spotting is present, then appropriate plant protection products must be applied, such as copper based products or antagonistic bacteria.

Security zones

A security zone of at least 500m radius must be established around contaminated or containment areas. The Decree requires that security zones must be inspected in the spring and again in late summer, for signs of *Psa*. If the disease is found in the security zone, the demarcated areas must be adjusted accordingly.

Revocation

The demarcation may be removed if no *Psa* is detected in the demarcated areas for two consecutive years.

The FVO team visited the three main kiwi fruit and planting material producing regions to evaluate the control measures for *Psa*. In addition, the FVO team met with representatives of the RPS for Veneto, which is an important region for the production of plants for planting. The RPS provided the following information on the demarcated areas established in their regions:

Lazio

The RPS informed the FVO team that, following the adoption of the Decree, two demarcated areas were established by Regional Decisions. The first includes the infected areas of Rome, Latina and Viterbo Provinces (Decision A4964 of 16/05/2011). The second area includes the infected areas of Paliano and Frosinone Provinces (Decision A7363 of 18/07/2011). Following additional findings during the survey in 2011, the demarcated areas were extended to include the municipalities of Nettuno in Rome Province, and Bolsena, Celleno and Vetralla in Vitterbo Province (Decision A08447 of 14/08/2012).

The above Decisions are published on the RPS website: www.agricoltura.regione.lazio.it/sfr

Emilia-Romagna

The RPS informed the FVO team that at the time of the audit, there were 125 demarcated areas established in Emilia-Romagna. The details of each area are published on the RPS website: (https://servizimoka.regione.emilia-romagna.it/mokaWeb92/apps/fito01_259/mapviewer.jsf?width=948&height=480). Each demarcated area is mapped using GPS technology and consists of the the total surface covered by all the foci and the relevant 500 m radius areas.

Piemonte:

The RPS informed the FVO team that four demarcated areas had been established at the time of the audit. Details of each area are published on the RPS website: http://www.regione.piemonte.it/agri/area_tecnico_scientifica/settore_fitosanitario/vigilanza/batteriosi.htm

Veneto

The RPS informed the FVO team that a similar approach to that used by Emilia-Romagna is used for the designation of demarcation of areas. At the time of the audit, 62 demarcated areas had been established. Details, including a map, are available on the RPS website: http://www.regione.veneto.it/Economia/Agricoltura+e+Foreste/Servizi+Fitosanitari

5.4.2 Control measures

5.4.2.1 Orchards

Lazio

As detailed in section 5.4.1 above, Lazio has established containment areas for *Psa*. The RPS stated that in the winter of 2010, nearly 1 000ha of kiwi fruit orchards were found to be infected by *Psa*. A high level of symptoms were noted in orchards planted with yellow kiwis Hort16A. Approximately 600 ha of yellow kiwi out of a total area of 800 ha, and 383 ha out of a total area of approximately 5 000ha of green kiwi have been destroyed or pruned. Approximately 90% of remaining kiwi fruit orchards are included in the demarcated areas. The RPS stated that the measures had resulted in a large reduction in the incidence of *Psa* in the region.

The RPS informed the FVO team that they had not been able to identify the owners of three abandoned orchards and therefore had not been able to gain access or to destroy the infected plants.

The producers met by the FVO team said that kiwi fruit was previously 'organic' in the sense that pesticides and other plant protection products were not usually applied. The requirement for the application of copper based products, had imposed a considerable extra cost.

It was noted that the producers had pruned infected green kiwi and had either removed the whole orchards of yellow kiwi, or had pruned grafted plants back to the (green kiwi) rootstock, which is considered to be tolerant to *Psa*.

The team was informed by the RPS that it takes the view that the incidence of *Psa* in the containment area is decreasing. This was confirmed by the producers met.

It was noted that no biosecurity measures are required; the producers met informed the team that this was because it is considered that natural spread of the bacteria in the area was taking place via the wind and movements of animals.

Piemonte and Emilia-Romagna

As detailed in section 5.4.1 above, Piemonte and Emilia-Romagna have both established contaminated areas. The FVO team visited infected orchards in both regions and noted that measures taken include the uprooting of infected plants, and in the case of high levels of infection, the destruction of whole orchards had been carried out in line with the Decree.

The RPS in Piemonte informed the FVO team that since 2007 approximately 300ha of new kiwi plantations were established each year. In 2010, 40 outbreaks were identified, the majority linked to plants supplied in 2009 by nurseries located outside the Region. In total, 700 ha out of 5 500ha of kiwi plants had been destroyed by 2012 due to the presence of *Psa*.

The RPS of Emilia-Romagna stated that 19 ha of orchards were destoyed and 7 000 plants were pruned due to the presence of *Psa* in 2011.

The producers met by the FVO team stated that heavy winter snowfall in the region had caused significant damage to the plants; this was followed by conditions in the spring that favoured the development of *Psa*. The producers stated that all plant material and debris had been destroyed on

site and that they were required to apply copper based products every 15 days to the remaining orchards within the demarcated areas.

5.4.2.2 Plants for planting

Lazio

The RPS informed the FVO team that in 2011, all kiwifruit plants present in nurseries located in the newly demarcated areas were destroyed. One nursery with kiwi plants remains, situated in the east of the Region. No symptoms of *Psa* were found in this nursery in 2012.

Emilia-Romagna, Piemonte and Veneto

The RPS informed the FVO team that action is taken in line with the Decree, which requires that the plants from the entire infected batch be destroyed and that the adjacent batches are quarantined until the end of the following growing season.

The RPS of Emilia-Romagna informed the FVO team that the plants in nurseries are between 1 to 2 years old, and that this age are unlikely to develop cankers, however any latent infection would become symptomatic within the same growing season, i.e. before any blocked plants are released for sale.

5.4.3 Compensation for control measures

Emilia Romagna, Lazio, Piemonte, Friuli Venezia Giulia and Veneto provided for compensation for measures taken to control *Psa*.

Emilia-Romagna

In 2010, the regional government adopted deliberation n° 1438 of 27 September 2010, which established the criteria for the provision of compensation for eradication measures carried out in 2010. Regarding *Psa*, €75 451 was granted for orchards and €120 000 for nurseries.

In 2011, another deliberation, n° 1275 of 5 September 2011, was issued for eradication measures carried out in 2011. In contrast to 2010, compensation was only paid for uprooting of plants, not pruning. In total €587 784 had been granted for *Psa* at the time of the audit (€387 784 for orchards and €200 000 for nurseries).

In 2012, a new deliberation was issued, n° 965 of 16 July 2012; the budget for *Psa* measures had not been defined at the time of the mission.

Lazio

Compensation is provided to farmers on the basis of Regional Law n° 2 of 16 March 2011, "Intervention measures to assist small and medium-sized agricultural enterprises for the prevention and eradication of diseases and parasitic infestations".

The Regional government deliberation n° 301/2011, ("Measures of intervention in favour of small and medium-sized farms for the prevention and eradication of plant diseases and pest infestations.") approved the payment of compensation for uprooting or pruning of kiwi fruit orchards infected by *Psa*. The total fund available was €1 million for both orchards and nurseries. The RPS informed the FVO team that the scheme (n° SA.33263 (2011/XA)) had been communicated to the European Commission, under Regulation (EC) n. 1857/2006.

Compensation is paid only once with respect to the area subjected to statutory measures and is calculated based on the number of plants subjected to measures, up to a specified amount per hectare. In 2011, a total of 338 requests for financial compensation were received: 265 requests

were submitted by fruit producers and 2 were submitted by nurseries. 71 additional requests were considered not eligible.

As regional list of growers considered eligible for contribution was subsequently drawn up by the RPS, using criteria established by regional Decision no. A03053/2012. As a result of this, € 800 000 was provided to the first nine producers on the list, and the remaining €200 000 was provided to the two nurseries.

Piemonte

In 2011, approximately €2.5 million was provided in compensation for pollarding (15ha), uprooting (227 ha), compensation for loss of earnings (€3 000 per hectare) and suspension of plantations under construction (29ha).

In 2012 compensation will only be payable where uprooting of an orchard is required. This is estimated to affect 350ha and the total amount payable will be €1.5 million.

Friuli Venezia Giulia

The RPS stated that €200 000 had been provided from regional funds, in order to compensate farmer losses resulting from the orders of destruction. The RPS stated that the regional legislation providing for funding has been notified to the European Commission.

Veneto

The RPS stated that compensation of €161 000 had been provided for the uprooting of orchards (16.35 ha). No compensation was provided for nurseries.

Conclusions on control measures

The Decree establishes measures that are intended to eradicate or contain the spread of *Psa*. Demarcated Areas are established following a confirmed occurrence of the disease. The approach and extent to demarcation varies between regions, but in all cases is in line with the minimum established by the Decree.

Extensive control measures have been taken in all demarcated areas, including the destruction of infected orchards and plants for planting. A large proportion of the more susceptible yellow kiwi varieties have now been removed. The provision of compensation for affected producers should be beneficial in assisting the implementation of such measures.

Measures effectively aiming at eradication are in place in all affected areas except for Lazio, where climatic conditions, intensive production and other factors, including the natural spread of *Psa* within the containment areas, mean that such measures are not feasible. The risk of movement of *Psa* from the demarcated areas in Lazio, has practically been eliminated by the closure of nurseries within or adjacent to the demarcated areas in this region.

The high number of demarcated areas, and ongoing findings of *Psa* in the main plant producing regions of Emilia-Romagna and Veneto are of concern. Although the incidence of symptomatic *Psa* in nurseries is very low, the risk of natural spread from infected areas and the lack of a test for confirming the absence of the disease in the absence of symptoms, means that the possibility that *Psa* may be present on plants cannot be ruled out. The measures detailed in section 5.5. below, should provide considerable additional assurance, when fully implemented.

5.5 Production of plants for planting of *Actinidia*

Legal requirements

Article 16(2) of Directive 2000/29/EC establishes that measures taken following the appearance of

a harmful organism, not listed in Annex I or II of that Directive must, *inter alia*, be such as to prevent risk of the spread of the harmful organism concerned in the territory of the other Member States.

Findings

The Decree establishes rules for the production and certification of kiwi fruit plants and related propagating material. *Actinidia* are not regulated by Directive 2000/29/EC for movement within the EU and therefore the registration and supervision of places of production of such plants is not required at EU level. The specific requirements vary by the type of production as detailed in the following sections.

Certification may be carried out by four private organisations that have been approved for this purpose by the relevant RPS. The FVO team visited one organisation in Emilia-Romagna, which also maintains primary source material for several producers of plants of *Actinidia* spp. It was noted that the organisation had the necessary expertise, including laboratory and testing facilities to comply with the requirements established by the Decree. The organisation also issued the certification label, which appeared to be similar to those specified by Council Directive 2008/90/EC on the marketing of fruit plant propagating material.

The Single Authority informed the FVO team that the Decree provides for a two year transitional period for plants for planting of *Actinidia* to comply with the additional requirements detailed in the following sections. During this period, plants of *Actinidia* may be sold that do not comply fully with the provisions detailed below. According to the Single Authority, six regions have decided not to avail of the transitional measures and have imposed a ban on the new planting of *Actinidia* for two years from the date of the adoption of the Decree.

5.5.1 Primary source material

The Decree requires that primary source material for kiwi plants must be obtained directly from cross breeding or a clonal selection procedure. The source material must be subjected to tests for a range of diseases listed in Annex III to the Decree, which includes *Psa.* The testing is carried out by laboratories accredited by the RPS and, in some cases, are certified in accordance with ISO 17025.

The Decree also requires that the primary source material must be maintained in minimum conditions specified in Annex II to the Decree, which include a greenhouse that must provide protection against wind and rain and a sufficient degree of microbiological isolation. The greenhouse must be equipped with a rigid roof and walls, with a vestibule with insulated walls and dual doors. The flooring must ensure complete separation between the containers and the ground. The greenhouse must also be situated a minimum of 50m from the nearest kiwifruit plantation.

The FVO team visited a facility holding primary source material situated in the Emilia-Romagna region. The organisation operating the facility is one of four certification bodies in Italy that have been authorised for this purpose. The organisation informed the FVO team that the facilities for the holding of primary source material were established in 2009 and that the material, which is provided by the plant breeding companies had been subjected to annual testing for the organisms included in Annex III to the Decree. This was confirmed by the laboratory records maintained by the organisation.

5.5.2 Mother plants

The Decree specifies that mother plants shall be directly derived from primary source material, or from propagation material that has been proved to be free from *Psa* at the end of two cycles of

vegetation. The conditions for the production of mother plants are detailed in point 3 of Annex II to the Decree, in summary:

- For plants produced in demarcated areas: the plants must be produced in '*Psa* free production sites' i.e greenhouses that meet the requirements for production of primary source material and which must be situated at least 50m from the nearest kiwi fruit plantation, and comply with the general rules below.
- For plants produced in *Psa* free areas: the plants shall be produced in places of production that are registered by the RPS and comply with the general rules. The growing media used should not have been used for the production of *Actinidia* for at least two years. The production blocks must be at least 500m from the nearest *Actinidia* orchard.

The general rules that apply to the management of mother plants, are intended to reduce the likelihood of infection, and include:

- The plants must be protected by anti-hail nets;
- The individual plants must be permanently labelled at the time of planting and must be recorded on a plan;
- There must be full, separate rows for each accession;
- The plants must be subject to an active and regular programme of pest and disease control. All horticultural operations must be recorded in a management register kept for that purpose;
- The plants must be protected against any inflow of surface water;
- Only disinfected tools and equipment may be used;
- The use of sprinkler irrigation is prohibited.

5.5.3 Propagating material production

The Decree establishes conditions for nurseries producing propagating material of *Actinidia* in point 5 of Annex II. The plants must be produced in line with the same conditions as for mother plants, as detailed above. In addition, the following general rules apply:

- The nurseries must use only plants obtained from mother plants produced in accordance with the above requirements;
- The plants must be subdivided into easily identified homogeneous lots which are shown on a plan;
- Must be protected against any inflow of surface water;
- Only disinfected tools and equipment may be used;
- The use of sprinkler irrigation is prohibited.

The FVO team visited producers of propagating material in Piemonte and Emilia-Romagna. It was noted that the conditions for production were in line with the above conditions.

5.5.4 Micro-propagation

The Decree establishes the following minimum requirements for micro-propagation of kiwi fruit plants in point 6 of Annex II, as follows:

- The initial material must be taken exclusively from mother plants that have been produced

in line with the above requirements. The identity of each mother plant must be recorded;

- In the case of *in vitro* propagation, a maximum of 15 sub-cultures may be produced;
- The culture containers must be marked individually, so as to be easily identifiable, including the date, serial number of the sub-culture and the culture phase;
- Transplanting operations must be recorded daily in an initial register and on a weekly basis in the register of goods inward and outward with non-removable, sequentially numbered pages certified by the RPS.

The FVO team visited a micro-propagation facility situated in a *Psa* free area of Emilia-Romagna. It was noted that the plants were produced in line with the above requirements. The seedlings that are produced are 'hardened' in closed polytunnels, before being planted in open fields in an area known to be free from *Psa*.

5.5.5 Movement and labelling of plants

The Decree requires that all kiwi fruit plants and related propagating material, which are produced in line with the above requirements, must be accompanied by appropriate labels issued by the RPS.

In addition, the Decree requires any commercial operator that holds kiwi fruit plants and related propagation material, or places them on the market must maintain a register, certified by the RPS, for the purpose of registering details of the labels and any movements of such plants, which are acquired, held or delivered to third parties.

5.5.6 Pollen

There are no specific measures for pollen in the Decree. The Single Authority informed the FVO team that it is considered that the majority of pollen is produced for own use, although a 'considerable' amount of imported pollen is also used. Producers met by the FVO team indicated that there was growing interest in the establishment of separate male plantations for the production of pollen, in order to minimise the risk of *Psa* in fruit producing orchards. However, the producers stated that mechanical pollination was not considered to be an effective substitute for natural pollination, and therefore, in order to maintain fruit yields, it would be unlikely that all male plants could be removed from orchards.

The RPS in Emilia-Romagna informed the FVO team that In 2010, one orchard of male plants for pollen production was inspected, without ascertaining *Psa* visual symptoms. Analyses in the winter on collected pollen confirmed some lots infected. The orchard was uprooted and destroyed and specific guidelines on the use of pollen were issued in 2012.

Conclusions on production of planting material

Comprehensive conditions for the production and certification of *Actinidia* plant material have been introduced in Italy. These measures should, once fully implemented, be very beneficial in reducing the risks of *Psa* potentially being present on such material identified in section 5.4 above.

There are no specific requirements for the production and movement of pollen in the Decree, although *Psa* has been found on pollen. While the majority of pollen is for own use and as such may not move outside of the immediate area of its production, the prevention of the possible further spread of *Psa* via pollen has not been ensured.

6 Overall Conclusions

The audit found that the Italian authorities have taken extensive measures to eradicate or contain *Psa*, including the intensive pruning or removal of whole orchards where *Psa* was found. The implementation of the measures was assisted by the provision of financial compensation for affected producers.

The measures are based on national legislation, adopted in 2011, which contains provisions for surveys and control measures, including the demarcation of infected areas and buffer zones, and also establishes conditions for the production and certification of *Actinidia* plants, including kiwi plants for planting.

The surveys, which are based on visual inspections and, if symptoms are present, laboratory confirmation, have confirmed that *Psa* has been found in all of the main kiwi fruit producing regions of Italy.

The ongoing presence of *Psa* in the main production regions for plant propagating material, and the lack of a validated method for the detection of latent infection, epiphytic populations, or for confirming the presence or absence of the organism from 'old' *Psa* type symptoms means that the absence of the harmful organism, as opposed to the absence of symptoms of the organism, cannot be guaranteed. However, the low number of findings of *Psa* in places producing planting material, the control measures taken and the requirements for production and certification of planting material do provide considerable additional assurance in this regard.

7 Closing Meeting

A closing meeting was held on 19 September 2012 at the headquarters of the Regional Plant Health Service of Emilia-Romagna, with representatives of the Single Authority and the Regional Services visited during the audit.

During the meeting, the preliminary findings and conclusions of the FVO team were presented, which were, subject to certain clarifications, provisionally accepted by the authorities.

8 Recommendations

There are no recommendations in this report.

Annex 1 - Legal References

Legal Reference	Official Journal	Title

Legal Reference	Official Journal	Title
Dir. 2000/29/EC	OJ L 169, 10.7.2000, p. 1-112	Council Directive 2000/29/EC of 8 May 2000 on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community