



**ZESPRI GROUP LIMITED &
KIWIFRUIT VINE HEALTH INC**

INFORMATION PAPER – MAY 2011

Psa EUROPEAN UPDATE

Background

Over the past month several ZESPRI and P&FR staff have met with the French and Italian industry and visited a number of orchards. The situation in Europe continues to worsen and there is a purveying atmosphere that the defeat of the kiwifruit industry is possible, particularly in Italy, but also increasingly with the widespread identification of Psa in France.

It is mid-Spring in Europe and the past few weeks have seen Psa manifest itself aggressively, as expected. This is now the third spring we have observed the disease in Italy and the first for France.

The approach of the NZ industry and the resource being applied to resolve Psa is possibly the only structured means of ensuring kiwifruit production in Europe – if not globally! It is little comfort but the NZ industry remains well ahead when it comes to combating Psa.

France

The first Psa infections were confirmed in France in the Summerkiwi variety in the South East region mid 2010. This was quickly followed up by confirmation in other varieties including Hort16A in the South West region, close to the Atlantic Coast. French laboratories were not officially certified to identify Psa until autumn 2010.

Seven out of the eight initial cases were Summer Kiwi, Hayward or Jintao plants coming from Dalpane nurseries in 2008/2009. The Hort16A case was coming from Vitroplant.

During Spring/Summer 2010, ZESPRI also sampled 14 other orchards with suspicious symptoms on wood but no obvious exudates. All those were sent to Joel Vanneste for testing and came back negative.

- 129 samples have been sent to the ANSES laboratory, in Angers.
- 65 are very likely Psa positive, but only 25 have been confirmed by the laboratory test
- Monitoring is not yet consistent across all of France so the above stats cannot be considered definitive.
- The Aquitania (SW) region is facing the most cases and it is also the biggest kiwifruit production area in France with 2000ha out of 4000ha.

	Hayward	Hort16A	Jintao	Summer kiwi
Suspected cases	10	24 (20 Sikig, 4 BW)	17	19
Confirmed cases	4	7 (6 Sikig, 1 BW)	10	5

NB Present technology does not allow reliable Psa testing from wood samples.

Numbers are likely to be understated.

- The total area of the blocks infected is approximately 75 hectares (without the South East)
- The Summer Kiwi or Jintao situation in Midi Pyrenees is not known and nothing official is reported yet, but some orchards have been cut back.
- In the South East the disease has spread from the initial cases and the new cases will be integrated to the national table next month, but old Hayward orchards (20 years old) next to Summerkiwi have been destroyed.
- KVH technical bulletins have been widely circulated in France but the response to an aggressive cutting strategy has been varied.

Hort16A growers in the South West region around Peyrehorade have been badly affected this spring. We held two grower roadshows, one in Peyrehorade with SIKIG and the other with Blue Whale in Montauban. There was obvious preoccupation with the future and how to live with the disease. There was however a healthy interest in the seasons commercial performance and the possibilities that new cultivars may offer.

- Peyrehorade region (mainly SIKIG)
 - 22ha out of 73ha have some signs of infection (obvious symptoms and/or positive testing)
 - 4.35 ha are/will be cut back
 - 1ha has been dug out
 - In the remaining 16.65ha, plants are cut back progressively to contain the disease, with a buffer zone of 20 meters.
- Montauban region (mainly BLUEWHALE)
 - 16.51 ha out of 74ha have some signs of infection (obvious symptoms and/or positive testing)
 - 1.95 ha has been cut back
 - The remaining 14.56 ha are progressively cut back to contain the disease, no buffer zone. Mainly the males are affected and this is a limited number of plants per block. Generally speaking, the disease is less advanced that in the 40 and 64 Departments.

Potentially 26% of the Hort16A area in France has some degree of infection.

It is estimated that a total area of 8 to 12ha has been cut back/removed to date, that is 5 to 8% of the French Hort16A industry. The support fund document currently being compiled will allow us to precise this number.

What is apparent and concerning in France is that the nature of the spread is random and clearly linked to contaminated plant material as opposed to any environmental or geographic spread from an epicentre. This must be linked to France's reliance on the importation of plant stock from Italy and an observation and commonly held view is that Summerkiwi orchards appear to be consistently infected. There is a suggestion that the Dalpane nursery may be linked to the supply of infected plants, Summerkiwi in particular.

A meeting was also held at the Peyrehorade hall, attended by around 300 growers from the region. This meeting was organized by SIKIG and SCAAP, Julien Pedelucq and Francois Lafitte who have agree to collaborate to develop a regional approach to combat the problem. ZESPRI provided a technical and R&D update at the meeting and was acknowledged for their leadership and global support.

Alarmingly Hayward orchards are being hit extensively also, including mature blocks showing secondary symptoms.



Mature Hayward orchards in France showing secondary symptoms in spring 2011.

Italy

The situation in Lazio seems to confirm that time will not cure Psa. Unfortunately the detail and accuracy of information is limited, a function of this fragmented industry's inability to take a centralized perspective and action. The region is at present considering the implications of a future without kiwifruit production. Gold varieties and Summerkiwi appear to be 80 to 100% infected with upwards of 60% of orchards removed.

There is severe infection in all varieties including Hayward. Whilst Hayward remains less susceptible we are observing an acceleration of spread and secondary symptoms. 15 - 30% lost production is the range which is most consistently linked to this year's Hayward crop, however this is anecdotal as no entity or agency is able to offer anything more specific. Some technicians suggest that 100% of the Lazio region is infected with Psa.

Particularly for Hayward it appears that some orchards may have been abandoned, others are being farmed, and many are taking a piecemeal approach to cane and vine removal. An estimate following discussion with several Hayward growers would suggest that production is decreasing at around 20% per annum if the grower continues to farm his orchard. That would imply that the commercial viability may be 2-3 years for an Italian grower.

Males and juvenile vines appear more susceptible however there are many mature orchards completely impacted with secondary symptoms.

Use of sprays, and copper in particular, have been extensive. Our conclusion is that copper use is effective in slowing the spread of Psa but this is probably only marginal and at best may delay the 'inevitable' infection.

Best practice establishment of buffer zones has never been undertaken and it is considered a strong contributor to the continued spread of the disease.

The Lazio Local Authority is still very much in a state of confusion with regard to any action and compensation or aid to growers, the restriction of plant movements or orchard development. This is in contrast to the Emilia Romagna region and Piemonte, where orchards and plants are being removed, nursery plants are tested and monitored by the local Phyto-sanitary Services, and new regional laws governing the establishment of new orchards are in place. However as more incidents of Psa infection are identified the local authorities are struggling to apply the new removal obligations.

Emilia Romagna has seen a number of additional cases this spring, and Piemonte has 80 Psa confirmed orchards. This is the northern region around Turino, an area where there are no Hort16A plantings however JinTao and Hayward are broadly impacted.

Hort16A

100% of ZESPRI GOLD orchards in Latina now have some level of infection. The least affected grower has removed 5 plants from his 1 hectare orchard. Growers who were trying to get through this season and then cut in many instances have been forced to cut or abandon work on their orchards as the spring infection has been too aggressive to carry on.

Since harvest 2010, 93.8 hectares of Hort16A plantings in Latina have been removed. There are many other orchards that are continuing to crop but remove large amounts of vegetation from the orchards on a weekly basis. A full survey of hectares/plants removed will be available in June. Removed hectares to date account for approximately 700,000 TE of Class 1 crop volume from the 2.5 million TE supplied in 2010.

The property of Roberto Altobello, which had previously been considered Psa free(a possible case study for serious consideration) is unfortunately also now demonstrating some secondary symptoms with vines having been removed. Our conclusion here is that he was aided by three factors:

1. His relative isolation from the early infected zone.
2. His very good orchard techniques and hygiene.
3. His use of chemical such as conventional and chelated copper and Micosat (biological).

In ZESPRI trial blocks G9 has suffered severe infection and some moderate symptoms seen in G3.

Role of the New Zealand industry

It is evident in both Italy and France that there is a heavy reliance and expectation on the role of ZESPRI to inform the industry and develop a solution. The progress to date and nature of the Italian industry has led us to conclude that there is limited value in engaging heavily with growers, commercial entities, local authorities or researchers. We have selected some specific partners – University of Bologna, Francesco Spinelli – and will continue to work with them but will avoid the headwind of being drawn into industry politics or debates which we don't consider as valuable.

France probably provides better opportunity for collaboration due to the smaller and more cohesive nature of their industry. There are already some state initiatives to mitigate and monitor and a research community which we have begun to work with. The broad geographic spread of Psa in France may imply that the timeframe is limited for meaningful action.

The R&D and extension programs are being coordinated to fast-track northern and southern hemisphere learnings. Callum Kay, Severine Brun, Joel Vanneste, Sonia Whiteman, Shane Max and Greg Clark are all collaborating closely.

Conclusions

- The seriousness of the situation in Europe provides a clear indication of what we may be facing in New Zealand in the future. Action to limit the spread and research to develop a solution continue to be our priorities.
- Time is not a cure for Psa and several years of the disease in Lazio are now demonstrating the extent of the spread and effect on orchards of all varieties.
- Chemical sprays, including copper, have been broadly used and may delay the spread of Psa but are not a guarantee of protection.

- Hayward is showing extensive secondary symptoms of Psa and production is beginning to be significantly impacted.
- Chinensis varieties, male plants and young vines are all particularly susceptible.
- Plant material movements appear responsible for the spread across relatively isolated geographies eg Lazio to Piemonte, and from Italy into France.
- Spread in France appears to be moving quickly with many orchards showing symptoms, particularly those in proximity to Summerkiwi orchards.
- The Italian approach to restrict plant material movements, ensure grower action and fund and coordinate R&D has been slow and ineffective to date.
- The French industry may have the possibility to coordinate an effective response, however the random spread of the disease implies the solution will need to come from R&D rather than innoculum removal.

Author:

Simon Limmer
GM Grower & Government Relations