update

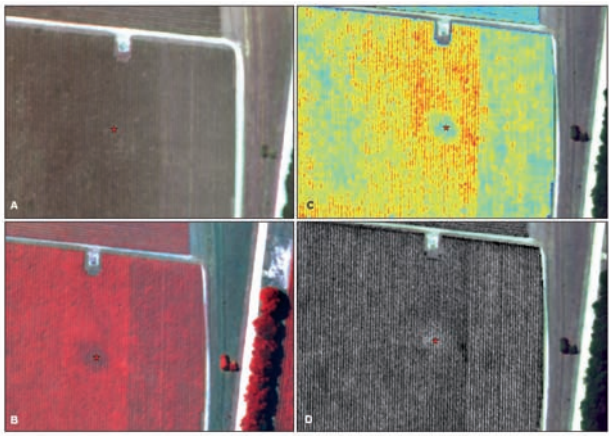
Phylloxera and Grape Industry Board of South Australia

PGIBSA programs endorsed

A review by a panel of industry leaders has given overall support to PGIBSA's programs and services. The review was initiated by the Hon Rory McEwen, SA Minister for Primary Industries, as part of determining the rate for the 2007 phylloxera levy.

The review panel was chaired by Brian Walsh of Yalumba and included Philip Laffer (representing winemakers), Vic Patrick (representing grapegrowers), Peter Stephens (PGIBSA nominee) and Kris Roberts (PIRSA). In their final report, the review panel found that PGIBSA's programs were appropriate to protect SA from phylloxera. A summary of the report's conclusions on specific programs is given below:

- **Rootstocks** - an important protection program against phylloxera. Program appears to be under-resourced given the importance of industry having access to accurate information on rootstock performance.
- **Surveillance** – program supported but because the technology has yet to demonstrate that it can detect phylloxera before ground symptoms occur, measures should be found to reduce the cost of this program
- **Vineyard register** - program was strongly supported as an important pest and disease outbreak management tool
- **Phylloxera research** - PGIBSA's investment was found to be essential for ensuring research continues
- **Education and awareness** – programs such as phylloxera workshops and training are important for maintaining industry commitment to protecting against phylloxera
- **Regional grants** – should continue but focus on funding phylloxera protection projects
- **SA Winegrape Utilisation & Pricing Survey** - fulfils an important need in the SA wine industry but options should be examined for it to be funded other than through the levy paid to PGIBSA, or taken over by another agency.



Research tells us that early infestations of phylloxera spread in a radial pattern. PGIBSA utilises image processing software and multi-spectral aerial imagery to identify sites displaying this radial pattern of low vigour for field inspection. This image illustrates the information Board staff generate and use for this process.

Not (just) another survey!

With a new PGIBSA Board starting and a new five year plan to be developed this year, we are starting to work on setting our direction for the next five years.

To help us, we are seeking your feedback on the Board's programs and your priorities. Please take 10 minutes to fill in the survey enclosed with this newsletter and send it back to us in the envelope provided. This will definitely be time well spent, as your input makes a very important contribution.

The review panel recommended that the minimum levy be increased to $150 to ensure that smaller vineyards are contributing fully to phylloxera protection and not being subsidised by other medium and larger sized vineyards. The panel was concerned to ensure that PGIBSA operate with a balanced budget rather than in deficit.

No Change

Board to keep general levy at 1997 rate

At its February meeting this year, the Phylloxera & Grape Industry Board resolved not to seek an increase in the phylloxera levy for 2007. The impact of frosts and the drought was a major factor in resolving to keep the levy at its 1997 rate; however, the decision was also made possible by significant budget cuts. 'Staff have worked hard to contain costs and to identify alternative revenue streams', Board chairman, Peter Stephens, explained. All administrative costs have been reviewed, and scheduled replacement of major office items such as photocopiers and printers has been deferred. Mr Stephens noted that as a result the Board would achieve a small surplus in 2007, when it had budgeted for a deficit. While an increase in the levy at some stage soon is inevitable, the Chairman commented that 'Apart from small increases in the minimum levy back in 2002/03, we have had ten years without an increase in the general levy. I hope this will be seen by grapegrowers as a pretty good outcome'.

Rootstock plantings on the rise: a heartening trend

Since 2002, 39% of new plantings in South Australia (4195 ha out of 10779 ha planted in five years) have been grafted on phylloxera tolerant rootstocks[1]. This means that rootstock plantings now account for 19% of all plantings in South Australia. The Riverland has the greatest proportion of plantings on rootstocks (40%), and the highest proportion of new plantings on rootstocks in the past five years. Other big movers include:

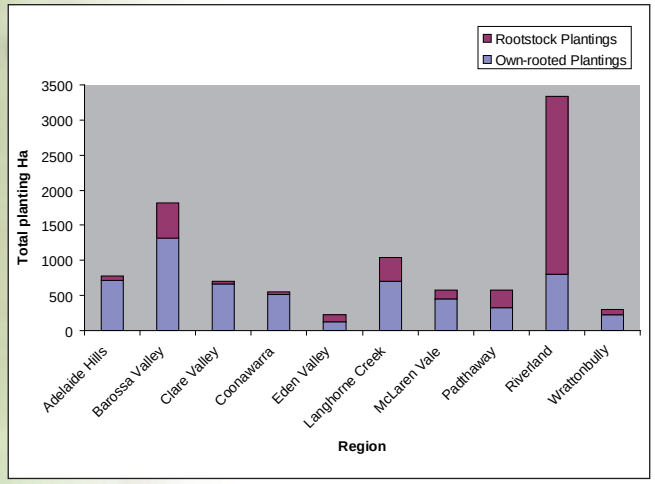
	% of plantings on rootstocks	
	Last 5 years (since 2002)	Total
Eden Valley	42	18
Langhorne Creek	33	15
Barossa Valley	28	19
Wrattonbully	26	11
McLaren Vale	22	8
Padthaway	22	8
Total S.A.	39	19

There are some notable exceptions, however with the some major regions still lagging behind - in particular the Adelaide Hills, Clare Valley and Coonawarra.

	% of plantings on rootstocks	
	Last 5 years (since 2002)	Total
Clare Valley	7	5
Adelaide Hills	8	5
Coonawarra	8	1

Increased rootstock planting is welcome news as it means more growers are protected from a potential phylloxera outbreak and are taking advantage of the many benefits that rootstocks offer (drought tolerance, salt tolerance etc).

Many growers now consider rootstocks to be their preferred planting material…..do you?



Rootstock and own-rooted plantings as a proportion of total planting in the last five years 2002-2006.

1 PGIBSA vineyard register statistics

Identity checks

As part of the PGIBSA 'Rootstock Project', each block involved in the project has been DNA-tested to ensure trueness-to-type, using a service provided by Provisor at the Australian Genome Research Foundation (AGRF). While 38 blocks returned confirming results (ie the DNA test matched the documented variety), six blocks (16%) returned a result different from what was expected. Three of these contradictory samples were explained by incorrect planting details i.e. grower had mixed up the rootstock identity of two blocks. The other three discrepancies (8% of the blocks sampled) could not be explained by the grower, indicating that the material supplied was not what had been ordered. These results highlight the importance of using material from VINA or AVIA-certified nurseries or suppliers (such as Vine Improvement) as it is the best way to reduce the chance of an incorrect variety being supplied.

For more information on DNA-testing, contact Nick Dry on 8362 0488.

DNA testing has confirmed that these vines in the rootstock trial are Shiraz on 140 Ruggeri.

What more do we need to know?

There are still some gaps in rootstock knowledge. Over the next five to ten years the PGIBSA believes there needs to be research in the following areas:

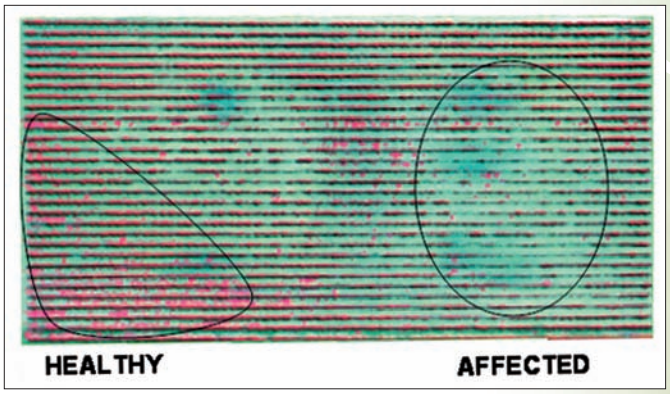
- Evaluation of rootstocks in cool climates;
- Evaluation of rootstock performance under pressure from aggressive root-knot nematode species;
- The importation and assessment of rootstocks with broader nematode resistance;
- Rootstock/soil-type interactions and how the interactions affect vine performance and water-use efficiency;
- Development of best-practice management strategies for the drought- and salt- tolerant rootstocks 140 Ruggeri, 99 Richter, 110 Richter, 1103 Paulsen and Ramsey;
- Using rootstocks to increase grower profitability;
- Field assessment of the new CSIRO rootstocks, which have been bred specifically for Australian conditions.

Are root-knot nematodes breaking down rootstock resistance?

The rootstock 1103 Paulsen has been widely recommended as an alternative to Ramsey in the Riverland. Since 1997, 1500 Hectares of 1103 Paulsen have been planted in the region. In 2004 PGIBSA was made aware of four vineyards in the Riverland planted with 1103 Paulsen that were underperforming. Preliminary investigations during 2005 and 2006 have indicated that the poor performance of these vines is associated with two species of root-knot nematode M. *javanica* and M. *arenaria.*

The fact that the majority of the 1103 Paulsen plantings in the Riverland are performing well despite growing in soils infested with these RKN species suggests that there is something 'special' about the RKN populations on the poorly growing blocks i.e these RKN populations are more virulent or aggressive and are capable of breaking down the resistance of 1103 Paulsen.

Nematode affected vines



Example of the use of NDVI to identify affected vines.

Growers need to bear in mind that the currently affected vineyards account for less than 1% of the 1103 Paulsen plantings in the Riverland and that so far we are seeing a problem only under the following circumstances:

- Sandy soils
- High RKN populations (>500 / 400 g soil).
- Root-knot nematode species: M. *javanica* and M. *arenaria*

Further research is proposed to confirm:

a) whether the populations are more virulent or aggressive
b) whether common populations of the species can evolve to become more virulent/aggressive
c) which rootstocks will perform best in association with these 'special' populations

Limestone Coast Phylloxera Inspections

Vineyard inspections were undertaken in the Limestone Coast wine regions during February 2007. A total of 51 sites were inspected with no phylloxera detected.

Sites of interest were identified from aerial imagery taken in early 2006. Roots of six vines surrounding each site of interest were inspected for phylloxera galls or insects with a hand-held magnification lens. For the first time, emergence traps were set at ten sites where no obvious reason could be identified for the canopy decline or digging proved too difficult. Emergence traps are used frequently in Victoria to monitor phylloxera populations in infested vineyards. These were recently collected and the contents are being analysed by DPI research staff in Victoria.

PGIB staff Karen Hansen and Nick Dry with Board Member Pete Balnaves (left) during vineyard inspections

Usually the inspection sites are easy to locate. However with many vines in the Limestone Coast affected by frost in 2006 the high vigour secondary growth made finding the inspection site difficult and GPS had to be used.

Surveillance for the 07/08 cycle will focus on McLaren Vale and the Adelaide Plains. For more information contact Karen Hansen on 8362 0488.

Pierce's Disease GWSS 1200kms closer

Glassy-winged sharpshooter (GWSS), the vector for Pierce's Disease, has been found in the Cook Islands. Biosecurity New Zealand has so far only found two insects but the discovery must be causing concern in the NZ wine industry because of the high level of trade, in particular tourism, between the two countries. GWSS had previously been found in Tahiti and this latest discovery brings the insect 1,200kms closer to Australia. Small boat and plane trade between islands in the South Pacific is very high and this means that it is likely the insect will spread to other islands.

Pierce's Disease is a bacterium that is injected into a vine's xylem tissue by the GWSS where it multiplies, eventually causing total blockage and vine death. In the last decade, over $US65 million has been invested into fighting the disease and preventing the spread of GWSS in California. GWSS and Pierce's Disease are considered the biggest exotic disease threat to Australian viticulture.

Why email?

If there is ever an outbreak of phylloxera in South Australia, we need to get accurate information out to growers as quickly as possible. Email is a vital tool in getting accurate information out to growers ahead of the rumour 'grapevine'. By having your email address, we can send you direct information on where the outbreak is, what is being done to contain it, who is affected, and what the ramifications are for you. And because it's coming from us, you can be confident you are getting the most accurate and up-to-date information.

Please make sure your email address is correct when you check your vineyard return this year or send us an email and we will update our records now.

Importing grapevines

As part of our attempts to increase efficiency and make things easier for growers, we have greatly simplified the process of applying for an importation declaration to import grapevine planting material. There is a single on-line form to complete. There's a link to the Importation section from our homepage and it's a simple process. Because it's done electronically, it's much quicker and postage costs and time are eliminated.

Remember, you can only import cuttings or rootlings and not potted vines. Potted vines must be heat treated and come with a plant health certificate. You can only import from a known PEZ (Phylloxera Exclusion Zone). For more information, go to www.phylloxera.com.au, or give us a call.

Call for nominations to the PGIBSA Board

A selection panel appointed by the Minister for Agriculture is calling for nominations for members to form a new Board which will serve the next three years.

People with viticultural expertise and a strong interest in and commitment to keeping South Australia free from phylloxera and other major pests and diseases are encouraged to apply. Typically, the Board meets five times a year and committees made up of a few Board members meet two to three times.

If you would like to find out more, an information package can be obtained from our website: www.phylloxera.com.au or by contacting Simon Treloar, PIRSA, 8226 2015.

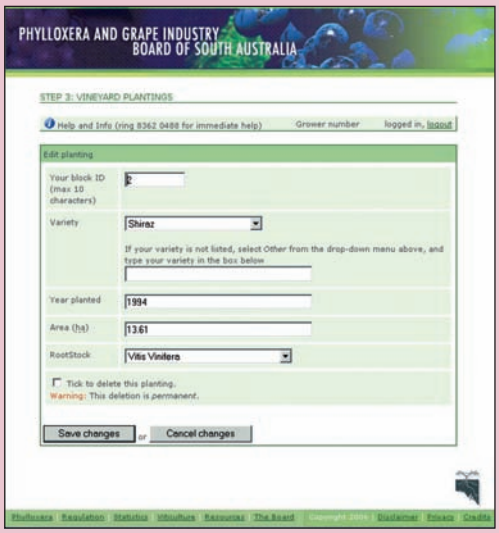
Vineyard Registrations On-line

Every year the Board sends out Vineyard Returns to every grower in the State. That's one or more pages, plus a map, for 8,539 vineyards, which makes for a lot of paper! Always conscious of trying to reduce costs, we decided to try an on-line option.

The on-line system provides for all the options of the paper-based system: you can amend your contact details, notify us of a sale or purchase, add or delete plantings and check your map. Instead of signing, you tick the "I declare this is accurate" box and it's done.

From our point of view, processing the on-line returns has reduced a 10-minute job down to 30 seconds! With over 4,000 growers, that's a potential saving of several hundred hours per year.

While we're not getting rid of the paper option any time soon, obviously the more growers who do their returns on-line, the more time, money and resources are saved for you and for the Board. If you are interested in switching to the paper-free version this year, send us an email with your grower number to admin@phylloxera.com.au.



Disclaimer
While the Board has made every effort to ensure the accuracy of the information contained in this newsletter, it accepts no liability for the use of the information and any consequences arising from doing so.

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