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Submission - Inquiry into Review of the Citrus Industry in Australia

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I am not a citrus grower, but have been involved with the citrus industry for 47 years as a citrus pathologist and Principal Research Scientist with NSW DPI, then as National Citrus Improvement Manager for the Australian Citrus Budwood and Seed Scheme and responsible for managing scion and rootstock improvement and finally, until I resigned last year, as Technical Adviser (part-time) to Citrus Australia. During the latter two assignments I was on the Citrus Industry Advisory Committee (IAC).

I take this opportunity to air three major concerns for the Australian citrus industry:

- Biosecurity threats to the Australian citrus industry
- Allocation of HAL R&D funding
- Export market development

Biosecurity

Two of the major exotic diseases facing the Australian citrus industry are huanglongbing (citrus greening) and citrus canker.

Citrus canker: The first major infestation of citrus canker in a large citrus production region in Australia was reported in 2004 in an orchard at Emerald, Queensland. At the time, Emerald produced approximately 8.9% of QLD citrus production, with mandarins the principal variety and 35% exported. Citrus canker was declared eradicated in Feb. 2009. The cost of the eradication program, nationally cost-shared between state and federal governments, was A\$17.8 million, which included all surveillance, destruction and compliance costs. Additionally A\$9 million was paid *ex gratia* by the Australian and QLD Governments to assist affected growers. Alam & Rolfe (2006)¹ estimated that the annual loss of revenue to growers if all citrus trees were removed from Emerald would have been \$31.95m/year. Approximately 495,000 commercial citrus trees planted over 1100 ha were destroyed, along with 4235 citrus trees on 1283 residential properties. About 150,000 native desert lime plants were also destroyed. The economic benefits of averting a national outbreak of citrus canker, was estimated by Alam & Rolfe (2006) to be A\$410 million. So eradication of all citrus in an infected area is a worthy choice compared to the Australian citrus industry living with citrus canker. Future eradication efforts will be successful if the

¹ Alam K, Rolfe J (2006). Economics of plant disease outbreaks. Agenda, Volume 13, Number 2, 2006, pp. 133-146.

disease is identified early and legislative provisions and resources are sufficient to allow action to be taken swiftly and decisively².

While a DAFF Draft Contingency Plan existed for citrus canker at the time of the Emerald incursion, the Plan had a poor review of the literature on pathogen biology, so that the Consultative Committee on Emergency Plant Pests (CCEPP) had to refer to the Scientific Advisory Panel (SAP) for information on host susceptibility, survival in soil, on weeds and climatic effects. In 2008, a GAP analysis was held of the Plan with the aim that surplus funds from the eradication would be used to bring the Canker Contingency Plan up-to-date for use in future incursions. No revision has occurred. Staff with knowledge and experience of citrus canker in all state departments and DAFF are retiring or being made redundant. Information gained from the Emerald incursion should not be lost and an up-to date Plan, incorporating the final Emerald Response Plan (a confidential document), ODPI Canker Work Plans and new scientific data on strains, host susceptibility etc should be drafted.

PHA owner re-imburement did not exist at the time of the Emerald canker incursion. The Owner Reimbursement Costs framework for citrus has been under development for years, and despite attempts in 2009 to provide PHA with the most recent official benchmarking/cost of production data, *the framework has not progressed*. Citrus Australia has requested a 'simulation exercise' where PHA, federal, state government representatives and industry use the EPPRD and ORC to 'initiate, plan and execute' a theoretical incursion campaign in order to test the documents. There have been some initial discussions but no concrete progress.

In 2009 DAFF finalised an import risk analysis (IRA) of a proposal from Japan for market access to Australia for fresh unshiu mandarin fruit from Shizuoka Prefecture³, despite objections based on technical consideration from Australian Citrus Growers' Inc. and University of Queensland. The major point of contention was that there had been a change in BA policy in respect to acceptance of asymptomatic fruit from countries or areas with citrus canker, albeit at low pest prevalence, and with a systems approach to mitigate risk. The impression was given by DAFF that Unshiu mandarins are resistant to citrus canker, a position not supported by a considerable body of scientific literature. This IRA provided conflicting standards when compared to the rejection of asymptomatic fruit from the canker PQA of Emerald where no fruit movement to any state in Australia or within Qld was allowed. There was also a divergent risk assessment between the Florida IRA of June 2003 and the Japan Unshiu mandarin IRA, especially when Florida at that time was claiming Pest Free Areas, a claim not made for the 4 areas in Japan. Concerns were rejected by the Import Risk Analysis Appeals Panel and were not considered by the Expert Panel.

In a 2011 examination by the Interim Inspector General of Biosecurity of the performance of systems DAFF has in place to manage biosecurity risks along entry pathways⁴, the following were identified as potential pathways for the entry of citrus canker to Australia: propagative material, citrus fruit (commercial or in passenger luggage), leaves, fruit peel, tourism. From June 2009 to March 2011 at Sydney International Airport, citrus fruits, peel and leaves in amnesty bins constituted 13.05% of the total content of the bins with 8557 citrus items confiscated from passengers; i.e 142 items per week! Of these 2067 items were undeclared ie 34 items per week. At Melbourne International Airport, from January 2010 to April 2011, quarantine officers seized 4892 citrus items or 81 per week. Passengers did not declare 1162 of these items. The report's author commented: "Although there is a high level of citrus material confiscated, it is not clear what the Biosecurity risk from these items was, without testing for pest and diseases." In June 2012, 142 kilograms of kaffir lime leaves with citrus canker were seized in Melbourne. The reports did not indicate if the leaves were fresh or if they had they been dried or steamed ie if canker bacteria were alive or dead.

² Barkley P. & Telford G. (2013). Citrus Canker Eradication in Emerald, Australia. In: Ch. 18. Citrus Biosecurity. Springer. In Press.

³ http://www.daff.gov.au/ba/ira/final-plant/unshu_mandarin_from_japan/policy_determination_for_fresh_unshu_mandarin_fruit_from_shizuoka_prefecture_japan

⁴ http://www.daff.gov.au/_data/assets/pdf_file/0004/1991731/IIGB-pathways-citrus-canker-audit-report-July-2011.pdf

The risk in importing fruit from countries with canker remains controversial. The European Commission Scientific Panel on Plant Health concluded that the movement of commercial citrus fruit, particularly latently infected fruit and fruit that shows no external symptoms at harvest, does constitute a pathway for entry of canker bacteria *Xanthomonas citri* subsp. *citri* (Xcc), into a canker-free area. Even if the fraction of infected fruit shipped to a suitable habitat is small, the inoculum level may be epidemiologically significant (EFSA 2006)⁵. Viable Xcc has been isolated from lesions observed on fresh fruits commercially traded internationally with phytosanitary certification of postharvest bactericide treatments⁶. Rising temperatures and increased rainfall provide conditions which stimulate rapid host growth and increase susceptibility favouring canker development. While areas in Australia with summer rainfall are most prone to canker establishment, all citrus regions could be impacted sometime in the growing season. Questions remain about establishment of canker from infected fruit, but data submitted by USDA in support of movement of fruit from areas with citrus canker⁷ was rejected by DAFF: “In our view, the cull pile transmission experiments conducted by USDA⁸ do not provide conclusive evidence that the risk of fruit-to-tree transmission is insignificant”.

Huanglongbing (HLB) and its vector the Asian Citrus Psyllid (ACP). HLB infected trees produce misshapen and bitter fruit, mottled leaves and dieback and eventually stop producing. The trees may die within five years. The situation in Florida demonstrates the severity of the disease and its impact. HLB was first detected in Florida in 2005 although ACP had been present since 1998. Prior to 2004, Florida had about 800,000 acres in citrus production, but now is about 500,000 acres due mainly to HLB. Florida citrus industry's is in a 'precarious state'⁹. USDA estimates that 80 percent to 90 percent of Florida's groves in early 2013 have some HLB infection, many in southern counties with 100 percent infection rates. HLB has cost Florida an estimated \$3.63 billion in lost revenues and 6,611 jobs from 2006 through 2011 as a result of reduced orange juice production¹⁰. Production costs are up about 40 percent in many cases, mostly due to the cost of spraying for the psyllids that spread the disease and to nutritional programs to keep trees as healthy as possible. Florida growers missed two windows of opportunity: (1) to try to eradicate the psyllid when it arrived¹¹ and (2) infected tree removal in the early stages of the epidemic.

Californian and Texan citrus industries are now threatened as ACP moves across USA and up from Mexico. In Brazil, the number of plants with symptoms of HLB increased from 3.8% in 2011 to almost 7% in 2012.

Why should Australia be concerned? ACP and HLB in tandem present an entirely new threat and potential significant economic loss to the Australian citrus and nursery industries. But keeping these pests out of Australia could provide one of the greatest economic benefits to our industry

⁵ EFSA (European Food Safety Authority) (2006). Scientific Opinion of the Panel on Plant Health on a request from the Commission on an evaluation of asymptomatic citrus fruit as a pathway for the introduction of citrus canker disease (*Xanthomonas axonopodis* pv. *citri*) made by the US Animal and Plant Health Inspection Service. The EFSA Journal (2006) 439: 1-41.

⁶ Golmohammadi *et al.* 2007; Scuderi *et al.* 2010; Al-Saleh & Ibrahim 2010; Bonn *et al.* 2010

⁷ Docket APHIS-2009-0023 Citrus Canker: Movement of Fruit from Quarantined Areas (<http://www.regulations.gov/#!docketDetail;rpp=10;po=40;D=APHIS-2009-0023>)

⁸ Gottwald TR, Graham J, Bock C, Bonn G, Civerolo E, Irey M, Leite R, McCollum G, Parker P, Ramallo J, Riley T, Schubert T, Stein B, Taylor E (2009). The epidemiological significance of post-packinghouse survival of *Xanthomonas citri* subsp. *citri* for dissemination of Asiatic citrus canker via infected fruit. *Crop Protection* 28 (6): 508-524.

⁹ <http://www.thegrover.com/news/Report-Florida-citrus-industrys-in-precarious-state-200033201.html?ref=201>

¹⁰ Spreen TH, Baldwin J-P. 2013. The impact of Huanglongbing (HLB) on citrus tree planting in Florida. Selected Paper prepared for presentation at the Southern Agricultural Economics Association (SAEA) Annual Meeting, Orlando, Florida, 3-5 February 2013.

¹¹ The Northern Territory eradicated ACP in the early 1900's when it eradicated all citrus trees down to the 19th parallel due to a citrus canker incursion.

given the effects on juice production in Florida and Brazil and the impending situation faced by California.

The probability is high that a private citizen, tourist or immigrant will introduce the HLB-associated bacterium and/or ACP into Australia through the inadvertent movement of plant material including budwood, fruit and kaffir lime or curry leaves from their homeland or areas visited to their backyard in a residential area. **Last year 3 adult ACP were found on curry leaf leaflets intercepted at Melbourne Airport.** Other *potential pathways* are illegal introductions of budwood from South Africa, Brazil, Asia or Florida by growers seeking to gain advantage through new or improved varieties; air movements (e.g., cyclonic and jet streams) carrying infected psyllids from areas where HLB and ACP occur e.g., the Indonesian archipelago and New Guinea; movement of people carrying citrus fruits and other plant material across the Torres Strait from Papua New Guinea, principally by sea; and unregulated landings of boats carrying citrus from other areas to the north of Australia. Military planes from Guam, Hawaii, American Samoa or Asia are another possibility, as psyllids are attracted to light.

ACP and HLB represent significant threats to commercial citrus production in Australia, to backyard citrus growing and to the six species of *Citrus* that are native to Australia. The *vulnerability* of the citrus industry Australia-wide derives from Australia's proximity to Indonesia, East Timor and NE PNG where both HLB and *D. citri* are endemic; the continuity of indigenous citrus and wild forms of *Murraya* around the Australian coastline; the widespread occurrence of the ACP and HLB host, orange jasmine, *Murraya exotica*, in gardens; current evidence suggesting that all species and varieties of *Citrus* are susceptible to HLB and all citrus producing regions of Australia having climates that are favourable for HLB and ACP.

HLB is probably already in Australia, introduced on an illegally imported Asian citrus variety, but this is a dead-end situation without the vector, unless the HLB pathogen enters the nursery propagation chain – a situation that could be avoided if Australia had legally mandated use by nurseries of high health status budwood from Auscitrus. The worst scenario is the introduction of the ACP vector into a suburban area with massive *Murraya* hedges – a favoured host of ACP.

Both the Asian Citrus Psyllid and the HLB pathogen are Categorised Emergency Plant Pests (EPPs) and are listed in Schedule 13 of the Emergency Plant Pest Response Deed (EPPRD). The HLB pathogen is a Category 2 (EPP) which has a corresponding cost sharing split between government and industry of 80:20 and ACP is a Category 3 EPP, with a corresponding cost sharing split of 50:50. In theory this has no bearing on whether an Eradication Response is mounted or not and the Category of the Pest should not relate to the effort put into a response nor the likelihood of a response being mounted. The decision to eradicate or not relates only to the technical feasibility and cost benefit of the Eradication Response and this is very incident specific. Citrus Australia approached PHA for a re-categorisation of ACP to reflect its severity to the Australian citrus and nursery industries, to native vegetation and to urban horticulture (ie more than the citrus industry affected) and the need to address an ACP incursion BEFORE a HLB/ACP problem developed. In 2010, a PHA Categorisation Meeting was held. At that Meeting, the Categorisation Group determined they could not Categorise ACP on its own and would only look at it as a complex with the HLB pathogen. The Category determined by the Group when looking at the complex came out as a Category 2, though some of the Group were concerned about the process and change in policy (to Categorise a complex, not an individual organism). The Categorisation Group report was sent to Relevant Parties for approval as the Category is only formalised when all Relevant Parties (those that will pay in a Response situation) agree to the Category. PHA did not receive responses from all Parties but one did not accept the Category based on the change of policy issue. The result of this is that we do not have agreement by all Parties so the category of ACP remains at 3. There is no appeal process although the citrus industry could ask for the process to be run again. It would appear that some state government representatives are not receptive to a category change, based on how much eradication would

cost their state government! ie the degree of cost sharing may influence the willingness to support an "all out" attempt at eradication. Category 2 is "high public benefits". But what "beggars belief" is that a leaf and fruit spotting disease such as citrus canker (extremely serious and a threat to our exports, but doesn't kill trees) is a category 2, while the vector of the most serious of all citrus diseases is a category 3. Without the vector, the HLB pathogens '*Candidatus Liberibacter spp.*' are unimportant, yet are a category 2! One way to resolve this issue is to conduct an economic impact assessment before an incursion of the Asian citrus psyllid and/or HLB, to determine the potential economic consequences to the citrus industry nationally and on a regional basis, to associated industries and to the economies of local communities. This would determine if ACP, through the 40% increase in additional spraying costs would "also impose major costs on the industries concerned so that these industries would significantly benefit from eradication" (a Category 2 requirement)¹².

The greatest challenge that the nursery industry in Florida had to overcome after HLB was detected in the state in 2005 was the loss of the budwood facilities that resulted in a critical shortage of budwood (Spann et al. 2008¹³) and a clean nursery stock programme is the foundation of a robust fruit production industry. Recognising this, Auscitrus (trading name of Australian Citrus Propagation Association) recently held a risk analysis workshop and a follow-up meeting to determine how the citrus budwood scheme should be moved forward to address the HLB threat. The directors of Auscitrus resolved that they should work toward a mandatory certification or accreditation scheme for use of pathogen-tested citrus budwood; registration of all nurseries and maintenance of budwood sources in insect-proof screenhouses.

*So what is needed NOW?*¹⁴

- A full economic assessment of the impact on citrus, nursery and allied industries in regional areas should be completed before an incursion occurs,
- at the HLB Workshop held in Melbourne in February, 2009, to discuss the draft HLB/ACP Pest Specific Contingency Plan, it was agreed to form a national Scientific Task Force to address issues related to pre-incursion preparedness for an incursion by the Asiatic citrus psyllid (ACP) and/or '*Candidatus Liberibacter spp.*' causing HLB and post-incursion action responses when national eradication is feasible; this group needs to be reformed
- surveillance for ACP incursions, including maintenance of current NAQS and QDPI activities in northern Australia, and establishment of surveillance programs in other states for nurseries, orchards, urban areas and areas where native or naturalised hosts of HLB and its vectors occur and around air force bases and ports; early detection of ACP is imperative; late detection will render eradication almost impossible if large populations occur
- a "mock outbreak" of ACP and HLB in a major citrus growing region to test our preparedness
- a PHA schedule of owner reimbursement costs that reflects current costs, and is tailored to different varieties, production areas and tree age, accepted by the Australian citrus industry
- continual revision of post-entry quarantine requirements for *Citrus* and *Citrus* relatives, particularly hosts of HLB as new hosts are determined

¹² NOTE: This issue also affects grapes with Pierce's disease and Glassy Winged Sharpshooter and the pome fruit/stone fruit industries with nepo viruses and their nematode vectors. the plant deed does not cover combination pests and the vegetable industry with zebra chip and the tomato/potato psyllid.

¹³ Spann TM, Atwood RA, Rucks P, Graham JH. 2008. Rebirth of Florida citrus industry. http://citrusagents.ifas.ufl.edu/agents/atwood/PDF/rebirth_fl_citrus_nursery_ind.pdf.

¹⁴ See the pdf of a talk on HLB given at the 2013 Annual Citrus Conference by Prof. A. Beattie at <http://www.citrusaustralia.com.au/events/national-conference.htm>

- completion of the HLB diagnostic protocols commissioned by PHA; and its continual updating to reflect the latest most cost-effective and reliable detection methodologies
- uniform legislation in place nationally for mandatory removal of host plants in the absence of positive HLB determinations e.g., abandoned orchards, orchards where psyllids positive for the HLB bacterium are found .
- a nursery registration process implemented and supported by legislation, that ensures those involved in the nursery industry (and especially those growing *Citrus* and *Citrus* relatives, particularly *Murraya* (orange jasmine) and *Berberis* (curry leaf) are identified and address details are current; this must include producers and sellers at ‘flea market’ retail outlets;
- a mandatory budwood certification scheme supported by legislation that ensures that all nurserymen use budwood from a pathogen tested source
- awareness plan in place to be rolled out when an incursion of ACP and/or HLB occurs
- updating of the comprehensive HLB/ACP Pest Specific Contingency Plan that was funded by HAL with citrus levy funds and completed in 2009. This update must not be generic but must be based on the experiences of California, Florida and Brazil in dealing with incursions of ACP and HLB and on the scientific knowledge gained since 2009.

Allocation of HAL R&D funding

The Productivity Commission Enquiry Report (No. 52, 10 Feb. 2011) on Rural Research & Development Corporations¹⁵ in its recommendations and findings states that the design of individual funding programs should:

- encourage the **efficient delivery of quality research** outputs, including through promoting effective intra- and inter-program coordination
- facilitate collaborative research effort where this would improve the quality of research outcomes or **avoid wasteful duplication of research effort**
- help ensure that there are appropriately resourced mechanisms to facilitate the adoption of worthwhile research outputs
- **promote transparency and accountability** in regard to program outcomes **through effective governance, evaluation and reporting requirements**
- facilitate future research efforts by providing for appropriate disclosure and dissemination of research results
- **promote transparency in funding flows** and discourage leveraging behaviour that is administratively costly relative to the benefits provided, and/or designed solely to shift costs onto other parties.

HAL funding of citrus projects does not meet the Productivity Commission objectives and lacks the rigour, transparency and good governance expected of HAL, citrus IAC and Citrus Australia to ensure that industry and government funds are spent in a manner which provides the best outcomes for the citrus grower and high quality research. A number of irregularities have occurred in the HAL/CAL funding process.

The current process falls far short of the rigour, transparency and governance in developing, reviewing and funding citrus research proposals in South Africa¹⁶, Florida¹⁷ and California¹⁸. Note particularly the

¹⁵ http://www.pc.gov.au/_data/assets/pdf_file/0006/109995/rural-research.pdf

¹⁶ <http://www.cga.co.za/site/files/5438/CGA%20Annual%20Report%202012e.pdf>

¹⁷ <http://citrusrdf.org/about>

¹⁸ <http://www.citrusresearch.org/>

2012 Annual Report of the Citrus Growers Association of Southern Africa (CGSA), as Citrus Australia (CAL) models many of its operations on CGSA (<http://www.cga.co.za/site/files/5438/CGA%20Annual%20Report%202012e.pdf>), but without the regional representation present on CGSA Board, and subject specialist committees (technical experts as well as industry representatives) who annually review research proposals and refer proposals to the Citrus Research Institute Board, who in turn refer recommendations to CGSA for funding.

Instead CAL has a technical reference committee comprising a CAL employee on a HAL grant (CT09055 “Co-ordinating a Market Development Program for the Australian Citrus Value Chain”), a HAL employee (no citrus expertise) and a NSW DPI and National Horticulture Research Network representative (no expertise in citrus), who foster and vet HAL grant proposals and make recommendations to the Citrus Industry Advisory Committee (IAC).

As CAL is a major recipient of HAL funding for projects with CAL listed as the service provider, the process is not transparent and lacks good governance. There is a conflict of interest when a CAL employee is recommending projects CAL has submitted or formulated. The technical committee does not have the breadth of citrus knowledge to ensure quality research and avoid wasteful duplication of research conducted a few years ago. In addition, some projects have not been adequately scrutinised because they were commissioned/sub-contracted from within larger Citrus Australia projects.

Much of the current criticism of the Citrus IAC and the independency and transparency of project funding could be overcome by an R&D Committee of independent citrus or discipline specialists which scrutinises research proposals and makes recommendations to the citrus IAC, who then ensure the recommended projects meet industry priorities.

While much has been made of a broadening of the IAC to include members who are not CAL Board members, *it is not the role of the IAC¹⁹ to evaluate the technical worth of a project* but merely to determine whether it fits industry priorities (as in the citrus strategic plan).

Roles and Responsibilities and Obligations of IACs

The role of IACs is to:

- Prepare a Strategic Investment Plan (3 to 5 years) for submission to HAL. This establishes the strategic direction for HAL's investment of R&D and marketing funds for the industry.
- Prepare Annual Investment Plan (1 year) for submission to HAL. This plan determines the annual expenditure required to achieve the outcomes detailed in the strategic plan.
- Preparation of an Annual Report for submission to industry and HAL that details the outcomes achieved from the expenditure outlined in the Annual Investment Plan.

These documents are produced with industry input and developed in conjunction with appropriate HAL staff.

The role of individual IAC members is to:

- Advise on the direction of industry marketing and R&D plans.
- Ensure HAL program are in line with industry priorities.
- Provide a channel for industry input on the programs.

20

The results of HAL funded research are poorly communicated to the citrus industry, in part because there has been no CAL Communications Manager since April 2012. With the exception of work undertaken by CAL employees, few research reports are now published in Australian Citrus News and the Annual Citrus Conference has little focus on Australian research (although last year posters were permitted). Information about recently funded projects (other than title and service provider) and research milestones are not available to growers or researchers on the HAL or CAL websites. Compare this with California <http://www.citrusresearch.org/research> (member only) and Florida <http://research.citrusrdf.org/reports/> where all milestones of projects are available for grower scrutiny. Summaries of some projects are

¹⁹ <http://www.horticulture.com.au/librarymanager/libs/84/Citrus%20IAC%20Position.pdf>

²⁰ http://www.horticulture.com.au/librarymanager/libs/142/Investment_of_leivies_For_Australian_horticulture.pdf

available to CAL members in the Citrus Industry Annual Report, along with a list of all projects, the service providers, but not the funding allocations. This poor communication of the details and results of HAL projects funded through the citrus levy limits the adoption of worthwhile research outputs.

Export Market Development

Citrus Australia has been pointing out the overproduction of early-mid season navels and advocating a move to mandarins²¹. But with the exception of the HAL funded SCHAFFE report (CT 09038: Research into the US Citrus Market), there has been no export market analysis since the HAL citrus levy funded report by Australian Business Ltd. CT99027 (2000): Development of a Citrus Market Access Intelligence System and Citrus Export Market Research Report. This report formed the basis for cultivar development 2000-2005. But times have changed: we have new Southern Hemisphere competitors in our US and Asian markets²² and we have recently gained access to markets in Vietnam and the Philippines.

The comprehensive ABL (2000) report recommended:

1. Reports on the numbers of citrus trees planted in each region of Australia by age and variety as a basis for forecasting citrus production. This has been done through the levy funded HAL project CT10035 National Plantings Database.
2. A report which attempts to forecast the coming season's citrus production by quantity, quality and timing. This is being attempted in the levy funded HAL project CT09034 National Infocitrus Development Project. This should provide a basis for making export and domestic market decisions such as where and when a supply surplus/shortfall might occur, as well as assisting in a range of tactical decisions such as whether to pick early or late etc.
3. Continuing citrus export market intelligence

In 2008, an "Australian Citrus Industry, Industry Development Needs Assessment & Recommendations" report (CT08012) was commissioned by the Boards and Citrus Australia through HAL. The report by de Vos identified domestic and export market development as high priority areas and recommended that the program identify and analyse potential new markets, analyse existing markets and their potential for growth, carefully and with sound process establish priorities and implement marketing and and market development strategies – the program to be implemented by the industry's General Manager, Market Development and to report quarterly to the IAC.

CT09055 Co-ordinating a Market Development Program for the Australian Citrus Value Chain was commenced in April 2010 when A. Harty was appointed as CAL General Manager Market Development and Project Leader. The project does not seem to have addressed the major issues raised by de Vos in his needs assessment for market development for the citrus industry.

The Australian citrus industry, if it is to remain competitive, needs to re-examine its competitors' production, statistics (volume, varieties, tree age) and policies. A new study is needed to address impediments to trade, competitor comparison and analysis (seasonal volumes, quality and price of supply), marketing systems and support and product differentiation opportunities (quality and variety related) and an overview of markets in North America, Middle East, Europe, and the Asian region including India and especially for our newly opened markets in the Philippines and Vietnam. Australia needs to establish a foothold in these latter markets before our Southern Hemisphere competitors gain access, especially as we are in closer proximity to these markets.

²¹ <http://www.citrusaustralia.com.au/latest-news/mandarins-outselling-navels>

²² [http://passionfruit.cirad.fr/index.php/download/tid/4759/\(langue\)/eng/\(type\)/complet](http://passionfruit.cirad.fr/index.php/download/tid/4759/(langue)/eng/(type)/complet) (2010)

Chile is committed to strengthen relations with Asia Pacific region and has Free Trade agreements with China, Japan, South Korea, Singapore, Malaysia and Vietnam, and soon with Thailand. Chile is also currently negotiating an agreement with Indonesia²³. The Citrus Growers Association of Peru (ProCitrus) has recently reported²⁴ that Peru has obtained entry into China and Mexico, and in the next years they expect to enter Japan, Korea, Brazil and the Middle East. Peru aims to become one of the most important countries in the Southern Hemisphere citrus market, increasing exports by 10% per year, as well as planting new citrus varieties adapted to Peruvian conditions, with a high productivity and attractive to the target markets. *ProCitrus believes it is essential, when establishing crops, to take into account harvest times and export windows.* Australia has a successful HAL citrus levy and ACIAR funded project (CT10012) for evaluating the horticultural potential of new varieties, but this project does not consider export windows.

²³ http://www.freshplaza.com/news_detail.asp?id=997111#SlideFrame_1

²⁴ <http://www.andina.com.pe/ingles/noticia-peruvian-citrus-exports-to-rise-10-in-2013-444834.aspx>