

Standards for Restoration Plant Stock – Buyer Beware



Natural Area
CONSULTING MANAGEMENT SERVICES

Presenter
David Hancock
Founder & Consultant
Natural Area Holdings Pty Ltd

Precis

- Standards in general, need & benefits
- Seed standards for propagation
- Nursery standards – NIASA Accreditation
- Nursery hygiene – “ Are we in denial ?”
- Suggestions to improve & protect.
- Discussion & questions

Standards in general

- Standards establish procedures and best practice guidelines to provide confidence & integrity.
- All mature industries have standards
- Standards Australia was formed in 1922
- The International Standards Organisation (ISO) has operated since 1947
- Standards represent a statement about an organisation and its people
- Adoption of standards can provide a competitive edge.
- Restoration plans will increasingly specify accreditation and standards conditions.



Our Industry Standards

- We are a relatively young industry.
- NIASA guidelines 1997
- Florabank published 1999
- SERA Restoration standards launched this year
- RIAWA Accreditation also
- All organisations will have their own internal standards and consider external audited options, e.g.
- Natural Area has over 60 pages of documented SOPs. and has adopted NIASA & RIAWA Accreditation, ISO 9001 Quality Management & Safety

Seed Standards in Propagation

- Outcomes in propagation will be influenced by the quality of seed supplied
- The best available guides to seed quality are Florabank & RIAWA Accreditation
- Your seed supplier should be Accredited to display integrity, best practice compliance & sustainability.
- There are costs and conditions to Accreditation but they are not onerous.



The Natural Area Experience

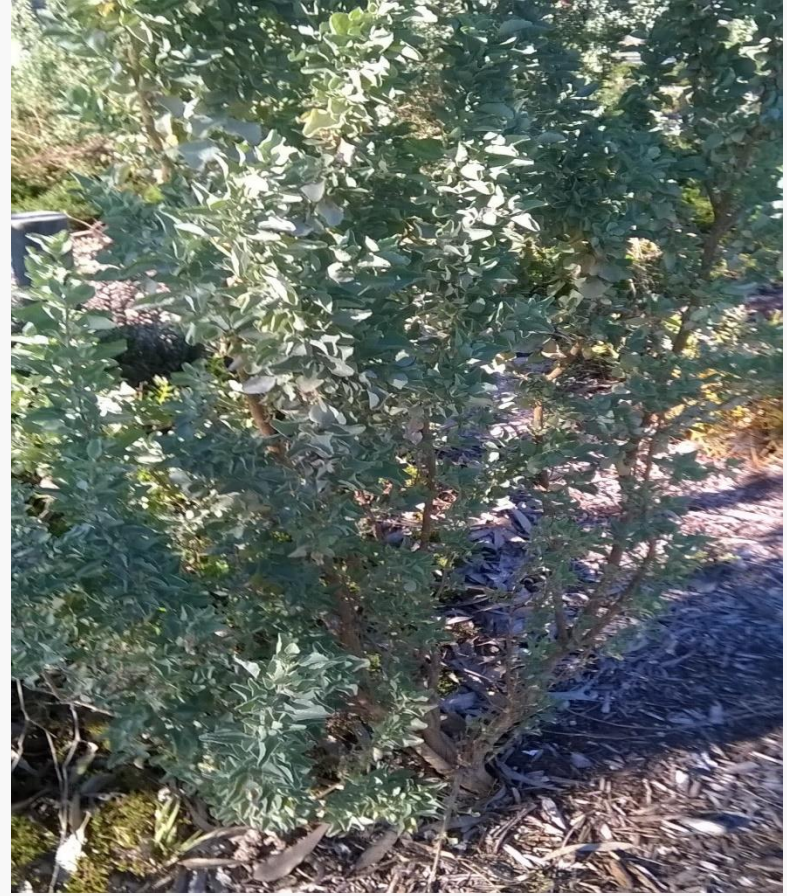
- In 15 years of propagation, poor quality seed often been a factor in prop failure
- The issue of seed viability is vexed
- Seed suppliers need to protect themselves against claims for poor outcomes.
- We moved to collect our own and now almost all needs covered internally
- Expect any seed purchased in future will only be from Accredited sources

Propagation Seed Problem 1.



Natural Area
CONSULTING MANAGEMENT SERVICES

Propagation Seed Problem 2



Natural Area
CONSULTING MANAGEMENT SERVICES

Nursery Hygiene Standards – NIASA Accreditation.

- Soil media to be supplied from Accredited sources.
- Soil to be housed in hygienic facility with no surface water inflow
- Nursery water to be treated
- Clean down points at nursery entry
- Restricted vehicle entry
- Exclusive tools and equipment for nursery use.
- Distinct quarantine area for external sourced stock.
- Various in nursery hygiene practices & continual improvement program.
- Accredited nurseries subject to annual NIASA audit



Non Accredited Nursery Hygiene



Natural Area
CONSULTING MANAGEMENT SERVICES

Nursery Hygiene – A Question of denial ?

- The risk to our bushland and restoration sites from Phytophthora is real and well established. *
- Nursery stock as a high potential vector for Phytophthora transfer is not in question. **
- What is the evidence to support this and how do we deal with it ? ***
- If nurseries carry current Phytophthora sp. what about those yet to arrive ?
- Is Phytophthora the invisible elephant loose in the nursery and restoration industry that nobody wants to talk about ? I do.

Murdoch University - Plant Health Laboratories Analysis report

Batch Details

Analysis Fee \$1,160
 Delivery Date 18/5/2016
 Registered By Penny Fletcher
 Organisation Town of Victoria Park

Address Locked Bag No. 437, Victoria Park WA 6979

Phone Number (08) 9373 5559

Email Address pfletcher@vicpark.wa.gov.au

Sample Information

Sample	Sample Label	Date Collected	Symptom Description	Site Description	Location	Sample Type	Species Isolated
1	A1	8/4/2016	Screening sample	Nursery 1		Plant	<i>Phytophthora palmivora</i> *
2	A2	8/4/2016	Screening sample	Nursery 1		Plant	No <i>Phytophthora</i> species isolated
3	B1	8/4/2016	Screening sample	Nursery 2		Plant	<i>Phytophthora nicotianae</i> *
4	B2	8/4/2016	Screening sample	Nursery 2		Plant	<i>Phytophthora boodjera</i> *
5	C1	12/4/2016	Screening sample	Nursery 3		Plant	No <i>Phytophthora</i> species isolated
6	C2	12/4/2016	Screening sample	Nursery 3		Plant	No <i>Phytophthora</i> species isolated
7	D1	12/4/2016	Screening sample	Nursery 4		Plant	No <i>Phytophthora</i> species isolated
8	D2	12/4/2016	Screening sample	Nursery 4		Plant	<i>Phytophthora boodjera</i> *

* Identified using DNA sequencing



Plant Health Laboratories
 Biological Science and Biotechnology
 Contact: Briony Williams 0432 095 227
 E-mail briony.williams@murdoch.edu.au
 Web www.cpsm-phytophthora.org Page 1

Phytophthora alticola in Wheat belt Nursery



Published Nursery Sampling

- The Centre for Phytophthora Science & Management has undertaken random anonymous sampling & testing at various nurseries & retail outlets.
A high percentage of positives have been found, including *P. multivora*, *P. cinnamomi*, *P. elongata* & *P. nicotianae*.
- Similar experience from overseas with US Forestry Service finding its supplier nurseries were harbouring *P. ramorum* responsible for killing their native trees in large numbers.

Plant Stock Buyers – Best Practice

1. Avoid non accredited nurseries.
2. Inspect nurseries regularly, assess for;
 - Weeds
 - Stock on ground....
 - Exposed soil / mud & puddling in growing areas
 - Recycled growing media
 - Container reuse sterilisation methods
 - Nursery water chlorinated or UV sterilised
 - Independent Phytophthora test results.

Plant stock buyers – Stock Quality

- Species true to botanical description & provenance
- Propagated from seed, cutting or tissue. (Sourced ?)
- Free of weeds
- Foliage free of disease and showing fresh growth
- Stems free of lesions (Common sign of root disease)
- Root mass well developed and not bound
- Potted soil and roots free of parasites (Cockchafer grubs etc)

Summation

- Standards needed to protect and grow our industry
- Perfection is not the intention. Improvement is !
- Accredited nurseries is the minimum buying standard
- Professional seed collectors should upgrade to Accreditation standard
- A higher level of nursery hygiene is appropriate for restoration/revegetation work
- Its in everyones interests to get on board and develop their standards and support the industry.

References

- * Dieback Working Group
- ** National Phytophthora Threat Abatement Plan
- *** Hardy & ors 1988

Thanks to;

Giles Hardy – Centre for Phytophthora Research & management

Kat Sambells & the Dieback Working Group

Joe Grehan, Terratree Consulting.

Matt Lunn, CEO NGIA WA

Luke Summers & Natural Area Team

THANKS FOR SUPPORTING RIAWA



Questions?

Presenter:

David Hancock

Founder & Consultant

Natural Area

david@naturalarea.com.au

Natural Area:

Head Office

99c Lord Street, Whiteman

Perth WA, 6068

P 08 9209 2767

E info@naturalarea.com.au

www.naturalarea.com.au



Natural Area
CONSULTING MANAGEMENT SERVICES