

Hello Everyone,

Since preparing the last newsletter, Tom and I have been over to S.A. and met several members of the H.S.G. and been shown their gardens. It was a most interesting enlightening experience and introduced me to hakeas I had not seen before. In one visit, to Tom Story's very large garden at Port Lincoln, he showed me *Hakea nitida*, with the very spotted fruit which is characteristic of this species, however the foliage was markedly toothed and very flexible and quite different from that of the *H. nitida* that I have in any garden. I have never been able to identify mine conclusively because it has never set seed, but mine is of a very upright growth, reddish stems and firm, entire lighter green leaves. Later in Tom's garden I saw a replica of mine, also without seed, and Tom was unaware of its name! When I arrived back in Melbourne I found a reference to two forms of *H. nitida* growing in Mr. Ken Stuckey's garden at Turner, S.A. and through the courtesy of Hamilton Group (Vic) I have since seen both forms and have confirmation from Mr. Stuckey that they are both *H. nitida*. He finds that the upright form blooms earlier than the other.

Incidentally, during my visit to Mr. Stuckey's garden I saw 55 of his hakeas which is about two-thirds of the total he has growing. It was wonderful to see so many of them in various stages of growth, particularly *H. pandanica*, whose fruit assume different shapes and covering according to age and the distinctive corky look in text books comes after about three years. In earlier stages the plant looks very similar to *H. crassifolia*. There is an article on *Hakea* by Ken Stuckey in "Australian Plants", Vol. 7, p. 310 that is well worth reading.

There is news of a new species of hakea, *H. aculeata*. (rare and endangered) described by A. S. George, which I hope to have a description of in the next newsletter.

Correspondence. I was very grateful to receive letters from several other Study Group leaders with copies of the kind of questionnaires they were using and other helpful advice.

Unfortunately I was not able to relinquish the Vic. Region Newsletter until this week and this has limited my time but I am working towards preparation of a suitable questionnaire for this group.

Several members have forwarded lists of the hakeas in their gardens. This is very useful information for the group as a whole. Mrs. Jan Sked of Lawnton, Q'land, in her list mentions that she has two forms of *H. gibbosa*, one a mountain form which differs from the coastal form in shape of cotyledons and general growth habit. It is a tall slender shrub up to 15' (so far). She came across a grove of these plants on Mt. Byron about 10 years ago. At that time they were only about 6' high. Since then she has paid irregular visits to the spot and in that time the plants have increased in height to about 15'. She has not found any others in the area.

Brian Lacy of Dunkeld, Victoria, is growing seed supplied from a commercial nursery. They appear to be *H. elliptica*. although supplied as *H. loranthifolia*. I have never seen *H. loranthifolia*, so can anyone supply information about it please.

Propagation.

Tom Story of Pt. Lincoln S.A. writes: Re growing hakea seeds, I think nature provides the answer as the wing on seeds from hakeas, such as *H. laurina*, act as a stabilizer and the seed drops nose first to the ground and tends to plant itself this way. I plant my seed from thin types of hakea in pure sand, upright with just the tip of the wing showing. With seed from *H. platysperma*, etc., which have a wing, completely around the seed, I plant on the flat about ¼" below the surface. I have very few failures using this method.

Most people used washed sand or sand with a little peat moss added for seed raising and cuttings.

Mrs. Jan Sked of Lawnton, Queensland, however had a very different method. "My method of germinating seed in plastic bags is to put about 3 handfuls of peatmoss in a clear plastic bag, add about ½ cupful of water, then seed and shako them all together. Then I close the bag with a twist tie and hang it on the clothes line under the house. When the first leaves appear, the plants are potted up. This method has been quite successful with hakeas.

Max McDowall of Bulleen, Victoria, uses a mixture of 20% mountain soil, 20% sandy loam, 60% coarse propagating sand, for his potting on nix. 5% peat moss can be added if desired.

In view of the fact that some people like to add Osmocote or other fertilisers to their pots, inclusion of this article reprinted from the Foothills District (Vic) Newsletter is topical. The article is by D.G. Nichols and D.V. Beardsell, Horticultural Institute, Knoxfield, P.O. Box 174, Ferntree Gully, Vic. 3156.

Nurserymen who specialise in growing Australian native plant generally try to produce as wide a range of as they can. This often leads to difficulties in management. In nature the plants are found growing under widely different soil conditions. Some species have adapted to growth in low fertility heathlands while others have developed in nutritionally rich rain forests. In attempting to grow them all under the same conditions in a nursery is bound to create problems. Poor growth of native plants has often, in the past, been blamed on over fertilization, however, recent research at the H.R.I. at Knoxfield has shown that many species are susceptible specifically to phosphorus toxicity.

Species Affected: The plant usually affected by phosphorus toxicity are those belonging to the Proteaceae family. The common Australian genera in cultivation in nurseries are Grevillea, Banksia, Hakea, Isopogon and Adenanthos.

Not all species are affected, for instance Grevillea 'Poorinda Firebird' is very susceptible, G. rosmarinifolia only slightly and G. robusta not at all. Banksia ericifolia is susceptible but B. integrifolia is not. South African members of the family such as Protea, Leucadendron and Leucospermum are also variably affected.

Phosphorus toxicity may occur in species in other families and work is continuing to determine what those might be.

Symptoms:

The symptoms of phosphorus toxicity initially shows up as "necrosis" (burning or discolouration) of the tips and margins of older leaves. The discolouration varies from grey in G. 'Poorinda Firebird' to black in G. gaudichaudii. In Banksia spinulosa and B. collina it is usually a rust colour. As the condition develops the older leaves drop off giving a bare appearance to the base of the stems. Chloroses (yellowing) of younger foliage often occurs and in severe cases the plant dies.

The Effect of Soil:

Some nurserymen are often puzzled why they have failed to grow good grevilleas while others have little trouble. The reason is often due to the amount and type of soil used in the mixture. Heavy soils such as clay loams will strongly fix (tie up) phosphorus so that it is only partially available to the plant. The use of these soils in the mixture goes a long way to avoiding the effect of phosphorus toxicity. Completely soilless mixtures have fixing capacity and are most likely to give trouble.

The Effect of Fertilizers:

Clearly fertilizers containing phosphorus should be avoided for sensitive plants. Superphosphate should not be used at all. Blood and bone also contains large amounts of phosphorus. Slow release fertilizers such as Osmocote should be used sparingly and preferably only the material with a 7 - 9 month release rate. Liquid feeding with fertilizers containing phosphorus is also hazardous. The safest slow release fertilizers to use are I.B.D.U. and Ureaformaldehyde which contains no phosphorus, or hoof and horn which has only a small amount.

Management :

The easiest way to overcome the problem is to formulate two fertilizer mixtures, one for members of the Proteaceae family in which very low quantities of phosphorus are used and one for all other plants in which normal amounts of phosphorus are used. The control of phosphorus in the mixture is much less critical if a suitable soil is present than when there is no soil at all.

MEMBERSHIP

The following are the fully or partially financial members of the Hakea Study Group. Publication of this list will enable greater contact within the group with consequent spread of information.

If you think your name should be on this list and has been omitted, please contact me. I will not be sending out future newsletters to people who remain unfinancial.

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SEED BANK

I have supplies of the following species. Should any member have excess seed of a species not listed, I would be very glad to receive it. Some of the seed listed is in small quantities, so I will try to make it stretch as far as possible. I do have a few seeds of some species too little to be listed, so if you have a particular one you especially desire, I will make a note of it and forward if any seed becomes available.

H. arida (W.A.) 6-10' white fls.

baxteri (W.A.) 6-15' white fls.

bucculenta (W.A.) 6-10' scarlet fls.

circumulata (W.A.) 3-5' pinky fls.

corymbosa (W.A.) 3-6' yellow/green fls.

elliptica (W.A.) 6-10' white fls.

epiglottis (Tas) sm. yellow fls.

ferruginea (W.A.) 3-6' white fls.

gibbosa (N.S.W.) 5-15' white fls.

laurina (W.A.) 10' or more, red/white fls.

macreana (N.S.W.) Large bush white to red fls.

H. multilineata (W.A.) 10-20' pink fls.

nitida (W.A.) 3-10' white fls.

orthorrhyncha (W.A.) 4-6' red/white fls

petiolaris (W.A.) 15' mauve fls.

platysperma (W.A.) 3-8' cream fls.

propinqua (N.S.W.) white fls.

prostrata (W.A.) 3-10' red or yellow

purpurea (N.S.W. Q) 3-5' red fls.

sericea (Vic) pink fls. form. 6-12'

ulicina (S.A,Tas,V) 3-9' white fls.

PLEASE NOTE:

About the time you receive this, I expect to be in N.S.W, and away for a few weeks. My daughter will be taking care of things but will not be sending seed or able to attend to correspondence. So expect to hear from me early in September.

PLEASE SEND A STAMPED ADDRESSED ENVELOPE WITH REQUESTS FOR SEED PLEASE

ODDS & ENDS

I was told recently at a meeting that hakeas were very pretty but they had such a abort flowering season, the speaker preferred to put in Grevilleas etc. I know some flower for quite a while and others do not, so to get information on this point will you take a note of the flowering periods of your hakeas

I have boon asked if I mind members calling me by my Christian name, not at all, I much prefer this informal approach.

Till next time,
Hazel Blackney.