

swamps began in earnest. With the trade name of "Kiwi Peat" (derived from a rare moss called *Sphagnum cristatum*), this Southland peat is light and fibrous with an outstanding capacity for high air and moisture retention, and is ideally suited for horticultural use. "Kiwi Peat" is now being extensively used by leading nurseries throughout New Zealand with particular emphasis toward propagation use. Export potential of the peat is also realized and some export orders have also been filled.

At Ngatea, on the Hauraki Plains, peat is mined from the Porarua dome and is a sphagnum peat but of lower quality than the southland "Kiwi Peat". After the removal of the top cover of vegetation the peat is tined and tilled over the dry summer months and forage harvested and stockpiled for supply during the wet months when access onto the peatlands is impossible. Due to local body problems, mining is restricted but at present Smiths' have adequate resources for the immediate future and mining applications in hand to last some 20 years.

Further peat crown land available for horticulture industries and trade in general will probably come from Kopuatai dome, an area to the south of the present site; however, conservation and flooding studies have to be done to evaluate long term effect in this area.

Smith Soil Industries now employ some 21 people in the North Island and 30 in the South Island. Although still a relatively small company, we are very confident about the future of our industry within New Zealand today and look forward with enquiring minds to the future developments of horticulture in New Zealand.

## **THE USE OF BARK IN POTTING MIXES**

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Two years ago, due to the shortage of peat, we started to look for other materials that we could use as a substitute. Eighteen months ago we started supplementing the peat component in our mix with granulated pine bark. Initial trials were satisfactory and for the past nine months our container mix has been made up of 75% granulated pine bark, 25% pumice.

The mix that we pot our rooted cuttings and seedlings into has 25% peat, 25% bark, 50% pumice. This is because the particle size of the bark is too coarse for the young plants. The source of the bark is *Pinus radiata* from the Thames area and is

processed by Granulated Bark Supplies in Kumeu, Auckland. It is granulated by a hammer milling process and has not been composted or stored for any periods prior to being used in the potting mixes. The pH of the bark as it is delivered to us is 4.2 compared to Hauraki peat 3.75, and Kiwi peat 4.5. The bark and pumice is mixed in a paddle mixer and, during the mixing process, fertilizers are added. Water is also mixed in at this point, the bark being easier to wet while still being mixed.

## **PROPAGATION OF KOWHAI (*SOPHORA MICROPHYLLA*)**

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The reasons and methods of propagating *Sophora microphylla* 'Fulvida' from seed are discussed in this article.

The main use of this plant for me is as bonsai material. The growth appears naturally stunted and the leaf structure is very fine. It is endemic to the west coast of the Auckland district where it grows in great abundance. This plant does not grow through the normal juvenile stages and will flower after six years from seed planting. The flowers appear in mid-spring and the seed is ready to harvest in late summer. This kowhai has also proved to be very resistant to drought conditions.

**Seed Germination.** The secret of my quick and even germination of seed is the time of seed collection. The seed must not be allowed to harden at all, but at the same time must be allowed to develop fully. This is difficult to convey, but my simple test seems to be successful. I collect the seed at a time when I can, but with some difficulty, cleanly cut a seed in half with my thumb nail. If the seed squashes it is too soon; if the seed seems soft but you cannot quite cut it, you can still collect it but it will need to be soaked in water for a longer period than the seed that could be cleanly cut.

Having collected the seed pods I immediately remove the seed by hand and soak them in cold water for 12 hours. I have found that any other way of removing the seed from the pods, such as forcing them through a sieve is damaging to the soft seed. The seed is then sown in a 50/50 peat/sand mixture. The seed boxes are placed in a 30% shade house and the box is covered with a sheet of clear glass. Three to four weeks later the seed germinates with about a 90% success rate. In eight to ten weeks the seedlings are ready for tubing up.