

## Collection and Cleaning of Seed in the Gisborne District, New Zealand<sup>©</sup>

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These are notes from a workshop presented at the Cromwell 2012 IPPS conference and are a compilation of the information from myself along with comments made from those attending the workshop.

### WETLAND SPECIES

Reeds, rushes, and other wetland species are collected from January through to April/May. The earliest of these are *Carex secta* and *Ficinia nodosa* (syn. *Isolepis nodosa*). Mid-season is *Plagianthus divaricatus* and *Apodasmia similis* plus the majority of *Juncus* spp., with the exception of *Juncus kraussii* subsp. *australiensis* which is collected in April/May. All require very little cleaning other than allowing drying out (stored in large paper sacks) and shaking to separate from the flower head. Widdling is helpful finally to reduce the chaff when sowing. *Plagianthus divaricatus* has a small light husk that will dry and rub off easily, however it is not totally necessary for successful germination. *Plagianthus* can be stored dry or stratified. We have sown stratified seed that started germinating in the bag and had a great strike rate.

Many of these seeds will germinate well in average conditions in the tunnel house but equally well, sown fresh and then in the cooler months left outside to germinate in the winter rain and cooler temperatures (based on conditions in Gisborne, New Zealand).

### PINGAO

Start checking at the beginning of December and monitor through to early January with *Desmoschoenus spiralis*. Seed can be ripe anytime. Try not to collect it too green as it is harder to clean seed from the seed head. Once collected, semi-ripe to ripe seed needs to be worked off the seed head as it does not tend to dry and fall off like other grass-like species. The seed will hold firm in the seed head until it ripens and falls out when left unpicked. This process of working the seed out is time consuming but necessary and will result in extra husks etc. in the mix but this does not seem to inhibit germination or health of the seed tray.

### STICKY SEEDS

This includes *Pittosporum* spp. (April - July). Various methods are used:

- Soak pods in a citrus type detergent (we use one containing natural orange extracts and detergent) diluted 1 part cleaner to 2 parts water (v/v) for 1-2 weeks. Don't leave any seed soaking too long as this can affect germination. Drain and sieve with a large metal sieve by rubbing to separate the pod from seed. Most of the seed drops through. Seed can then be mixed with sand to make handling easier. Sow fresh, direct sow.
- Mix pods and seeds with sand/pumice mix and rub to separate out. Direct sow.
- Don't do anything. Sow in pods and prick out while seedlings are small to avoid root tangling.

### COLLECTING SEED GREEN

This is a good method for many seeds, as long as the seed has formed and has signs of an embryo when snipped in half. Often the access to a tree for collection is time consuming and timing is always approximate, so it is better to collect seed slightly under ripe than risk returning later and missing the seed altogether.

Seeds that have worked well for us have been *Hoheria populnea*, *H. sexstylosa*, and *Dysoxylum spectabile*. *Hoheria* must be collected green (March) as an insect eats the seeds as soon as it ripens. Excellent germination from green seed, untreated, however you could apply some insecticide to the trays if you want to minimise any risk of bringing

pests into the greenhouse, although this has never been a problem for us. *Hoheria* seed can be separated; however, again, it is not necessary, depending on time constraints.

*Pseudopanax* is one seed that is difficult to clean when it is too green and because of the fleshy nature, cleaning is necessary. Slightly under ripe is okay but marginal. Seed does hold on the trees for some time though, so this can be helpful with timing.

### **TOETOE**

*Cortaderia toetoe* seed disperses quickly once ripe. Collect slightly under-ripe, check from early December onwards. Once the seed heads feel slightly “plump”, they are ready. Once the seed has ripened the heads become “fluffy” and the seed disperses very quickly from then on. Sow fresh with only a light cover.

### **CABBAGE TREE**

*Cordyline australis* seed must be cleaned within days after collection (February/March). The small berries need squashing to separate the many seeds inside and these berries dry quickly and harden, making squashing impossible. Squashing must be done gently as *Cordyline* seed splits and is damaged easily. “Squashing” can be done with a rolling pin (seed covered in paper first) or laid in a rubber mat and mat folded over with pressure applied on top. Mix seed with some sand afterwards to separate further and make handling easier if required. Sow fresh.

### **NIKAU**

*Rhopalystylis sapida* can be difficult to germinate, but the following method has proved successful for us. Put fresh seed in a plastic bag until the flesh rots off, clean and put back in a clean bag which has had holes poked in it (must be kept moist inside all the time) till germination happens. Pot into a 5-cm tube to continue growing (definitely not a larger pot, as they always like to be in as small a container as possible).

### **STRATIFICATION**

Soak clean seed for 24 h, drain well then mix seed with moist (damp but not dripping wet) sphagnum moss. Place in a plastic bag and leave at room temperature for 3 or 4 days, then refrigerate. Most seed keeps well for a long time like this. Check for mould and germination in cold storage and sow straight away if this occurs. Mould may indicate too much moisture in the bag.

### **SEED SOWING**

Using a sterilised hygiene tray, half fill the tray with potting mix containing 3-4 month Mini Osmocote™ and firm gently. Sow seed using a large envelope creased in half lengthways. Sow according to seed size/germination habits. Large seed needs to be pressed down gently.

Cover with Orchiata™ bark #8 (Besgrow, Christchurch, New Zealand) according to seed size and firm again – more firmly this time; label, and water.

The Orchiata™ bark #8 is precision graded 3-6 mm *Pinus radiata* bark chip which provides a light but robust layer that withstands watering while allowing penetration of water. It forms a rough surface and we have had no problems with lichen or moss growing since using this product. The trays stay neat and clean for months and the bark size is light enough for seedlings to push through. This keeps the tunnel house clean with minimal effort other than dealing with sciarid fly at certain times of the year.