



# MAURITIUS SUGAR INDUSTRY RESEARCH INSTITUTE

## Recommendation Sheet

September 2004, No. 143

### GERMINATION OF PALM SEEDS AND PREPARATION OF SEEDLINGS FOR TRANSPLANTING

#### HOW TO GERMINATE PALM SEEDS ?

##### COLLECTION OF SEEDS

Harvest ripe fruits from the trees and do not collect those which have fallen to the ground, since palm seeds lose their viability very rapidly, even when dried and stored at low temperature.

##### PREPARATION OF SEEDS FOR SOWING

Harvested fruits should be prepared right away for sowing as indicated below:

- Soak the fruits in water for a 2 to 3 few days to soften the pulp which is then removed either
  - by rubbing the fruits vigorously in the case of species having very small fruits such as *palmiste piquant* and royal palm, or
  - by passing them in a machine working on the principle of abrasion, e.g. a potato peeler, in the case of larger fruits such as those of *palmiste blanc* and *palmier de pâques*
- Wash the seeds with a disinfectant such as 1% sodium hypochlorite (*eau de javel*), dry in the shade and treat with a fungicide powder such as Benlate 50 WP @ 1 g / kg of seeds.

##### SOWING AND CARE OF FLATS AND BEDS

- **Seeds collected locally**

The seeds treated as mentioned above can be sown directly in flats or seedbeds.

- **Seeds which are purchased**

Soak the seeds in water for 12 to 24 hours since they may have become desiccated, treat them with a fungicide powder as indicated above, and then sow in flats or seedbeds.

Direct sowing in plastic pots is not recommended because it requires a large amount of sowing medium, an irrigation system to keep the pots humid, and regular weeding. Furthermore, it is not possible to cover the pots to conserve heat.

- **Choice of sowing medium**

Since heat is essential for rapid germination in most palm species, in particular, *pejibaye*, a sowing medium which generates some heat is a definite advantage. Fresh pine sawdust gives excellent results and other light and well-aerated mixtures of soil and compost or factory filter muds may also be used. However, red eucalyptus sawdust should not be used since it emits substances that burn the roots and kill the seedlings.

- **Placement of seeds**

Place the seeds 3 cm x 3 cm apart on top of at least 7 cm of medium (1 m<sup>2</sup> of flat or bed area is needed for 1000 seeds), cover with 2 to 3 cm of material, and press lightly.

Published by the MAURITIUS SUGAR INDUSTRY RESEARCH INSTITUTE



454 1061, 466 8800, 250 1243 - Web Site: <http://webmsiri.intnet.mu>



- **Management of beds**

- Wet the medium thoroughly after sowing and keep it humid constantly. Ensure that excess water drains at the bottom of the flats or beds.
- In winter, cover the flats or beds with a sheet of thick plastic permanently, except when watering.
- If possible, keep the flats in a warm place, for instance, a glasshouse.

## HOW TO RAISE PALM SEEDLINGS ?

A large variability exists in germination and emergence rates. In the previous batch of imported *pejibaye* seeds, some had started to germinate in transit while others did not germinate until three months later. The radicle emerges first and the plumule follows one week later.

### APPROPRIATE POTTING STAGE

- The emerging plumule resembles a miniature palm sword. The first bifid leaf opens after two to three weeks. The seedling is ready to be potted when this first bifid leaf hardens after another two weeks.

### POTTING

- To avoid breaking the seed off, the seedling must be lifted very carefully by raising it from below with an appropriate instrument instead of pulling it. Since this disturbs the other seedlings, it is advisable to wait for most of the seeds, say 70%, to emerge before potting them. All those that have been so disturbed should be potted even if the leaf has not yet appeared.
- Size of pots can vary from a minimum of 12 to 15 cm diameter and 15 to 25 cm depth, depending on the size at which the seedlings are to be transplanted to the field. The plastic pots should have drainage holes.
- The potting mixture consists of soil and manure, compost or factory filter muds. Small amounts (3 to 6 g/pot) of *triple super phosphate* and 13:13:20:2 should be mixed with the soil before filling the pots.
- To ensure that the seeds are not broken off when placing the seedlings in the pots, press the soil on the side of the seedlings, or below, but never directly on the seeds.
- The pots should be kept in the shade in the case of *pejibaye*, royal palm and *palmiste piquant*. Sarlon 40 or 60 and palm leaves are suitable for shading.
- The seedlings should be watered and the pots weeded regularly.

### TRANSPLANTATION

The seedlings are ready for transplanting when they have grown to 20 to 30 cm. In the case of *pejibaye*, normally five to seven leaves will have emerged in the seven to nine months that they will have spent in the nursery and the roots will just have broken through the bottom of the pots.