

# Low cost igloo for seed drying

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This fact sheet describes the set-up and use of a propagation igloo as a low cost seed drying method that will work anywhere in Australia. Such igloos are already used by some seedbanks and others use greenhouses and similar structures for the purpose.

A propagation igloo unit should be available new for around \$1,000 and fully set up will probably cost about \$1500. It should be capable of drying as much plant material as most community seedbanks would collect, but you can build onto the Igloo or build more than one unit if you wish.

An added advantage of this system is that when not in use for drying seed, the igloo may also be used for propagation or to raise seedlings.

## ***Buying a kit***

Nursery suppliers in your region should be able to supply you with an Igloo: otherwise known as a propagation igloo or greenhouse kit. These are usually a series of half circular metal framework ribs (with end walls) covered in a clear plastic skin.

A good size is according to Neville Bonney in South Australia is about 9 metres (30 feet) long and 4.5 metres (15 feet) wide and high enough to walk in comfortably (2.2 metres or 7 foot). This is approximately the size of a number of igloos seen in operation around Australia. You might want a shorter unit but it will be cramped to work in if it is any narrower. Make sure that there is provision for a door at either end so that the unit can be well ventilated.

The kit will probably cost about \$850. You will need some concrete, basic tools and garden tools to erect the Igloo, and you will almost certainly get instructions with the kit.

## ***Location***

The location you choose is important. If you face the long side of the igloo to the north, you will probably get maximum exposure to the sun. Aligning the end to the north is likely to provide the least exposure to the sun. You may not need a position in full sun. Indeed, full sun may make temperatures in the igloo too high. In some seedbanks, igloos set up in partial shade function very effectively.

The drier it is in the igloo, the drier you will get your seed. If you can locate the igloo on a bitupave or paved area or on a concrete slab, do so. If not, choose a level space preferably on hard packed bare ground or fine gravel base. Remove any grass and prepare a slightly raised floor with fine gravel or aggregate. The site should be well drained - you don't want runoff collecting in the igloo.

Place a concrete footing around each of the feet of the rib frames to secure them and stop them blowing out in the wind (use rapid drying concrete). Also, place a piece of board (75 X 25 mm) between the frame ribs at their base to secure the plastic to.

### ***Drying tables***

A simple method for drying in an igloo is to place a tarpaulin on the floor and thinly spread your plant material out on it. However, to improve air circulation and reduce drying times, you can also build simple drying tables, or place a drying box in the igloo. Wooden pallets and upended wooden crates may be used as a basic drying tables. Better again is to use sheets of steel reinforcing mesh (with the ends bent down at right angles to form legs) as tables. Smaller seedlots may be dried in stackable plastic crates such as those used for bread.

### ***Keeping the heat down***

The temperature must not exceed 35°-38°C and must be combined with good air circulation to quickly reduce humidity as the fruit dries. With immature and very moist material, it is wise to initially dry the material for 1 to 2 days at a lower temperate (20°C), then gradually increase the temperature to 35°C.

Install a simple digital thermometer in the drying area to keep a check on temperature. These are typically battery operated and display temperature (0° to 60°C) and the maxima and minima for each day. It is important to monitor the extremes in temperature as too high a temperature may result in rapid decline in viability.

Opening the ends of the igloo to promote air circulation may be required on most summer days. If temperatures run too high, experiment by partially covering the igloo with shade cloth or other materials.

Mend tears in the plastic with gaffer tape. Keep a tarpaulin handy for protection during freak storms.