

**FAMILY: CACTACEAE****Genera:** *Carnegiea, Ferocactus, Lophocereus, Opuntia, Pachycereus***1. PRECONDITIONING:**

METHOD	TIME (hrs)	TEMP (°C)
imbibe on moist blotters	overnight	5

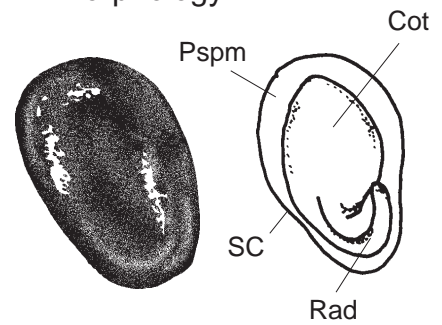
**Morphology**

Fig 1 External

Fig 2 Embryo

Notes: Hard seed may be present (see section 5.3). Seed may need scarification (see sections 6.4 and 8.3.5). Slippery seed coat may make cutting difficult.

**2. PREPARATION & STAINING:**

METHOD	TZ Conc(%)	TIME (hrs)	TEMP (°C)
1. cut longitudinally, bisecting half way through seed	0.1	6	30-35
2. cut longitudinally, a thin slice off edge of seed	1.0	overnight	30-35
3. cut laterally, and remove distal end of cotyledon	1.0	overnight	30-35

Notes:

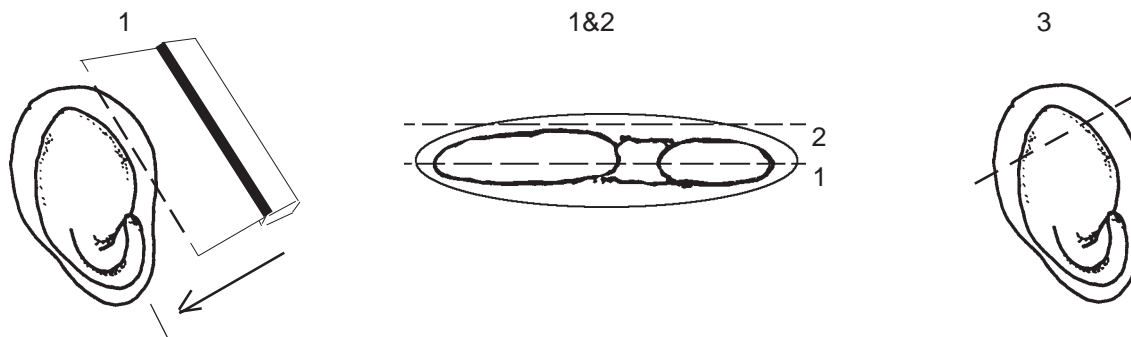


Fig 3 Preparation method

**FAMILY: CACTACEAE**

**Post Staining Notes:** Method 1: Bisect completely through seed.  
Method 2: Remove seed coat or bisect completely.

**3. EVALUATION:****VIABLE (NORMAL STAINING)**

- entire embryo evenly stained

**NON-VIABLE (ABNORMAL OR NO STAINING)**

- any essential part of embryo unstained

**OTHER TISSUE/NOTES**

A TZ test is generally not recommended for viability testing. A germination test is a more accurate method for testing for viability.

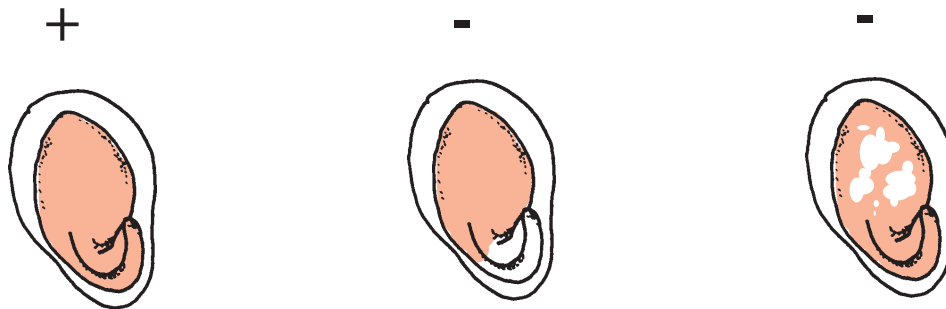


Fig 4 Seed stain evaluation

**REFERENCES:** 1, 4, 11