

**FAMILY: LAMIACEAE**

**Genera:** *Agastache, Calamintha, Clinopodium, Coleus, Hyssopus, Melissa, Mentha, Monarda, Nepeta, Ocimum, Origanum, Rosmarinus, Salvia, Satureja, Thymus*

**1. PRECONDITIONING:**

METHOD	TIME (hrs)	TEMP (°C)
1. (if hard seed coat) soak scarified seed in beaker of water	overnight	20-25
2. (if mucilaginous seed coat) imbibe on moist blotters, filter paper or paper towels	2-4	20-25

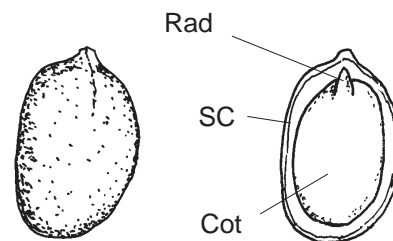
**Morphology**

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). Mucilaginous seed coats may interfere with staining (see section 8.3.4).

**2. PREPARATION & STAINING:**

METHOD	TZ Conc(%)	TIME (hrs)	TEMP (°C)
1. cut laterally and remove distal end of cotyledons	1.0	overnight	30-35
2. cut longitudinally, leaving seed intact at top of cotyledons	1.0	overnight	30-35

**Notes:**

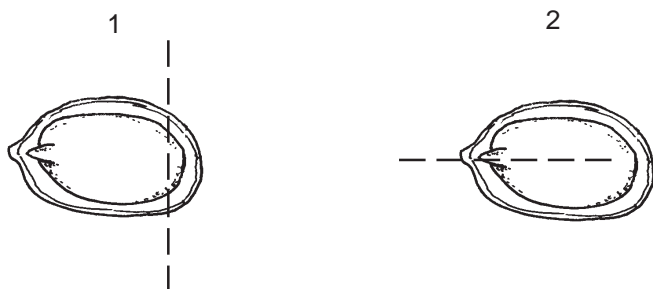


Fig 3 Preparation method

## FAMILY: LAMIACEAE

**Post Staining Notes:** Remove embryo from seed coat.



### 3. EVALUATION:

#### VIABLE (NORMAL STAINING)

- entire embryo evenly stained
- in *Nepeta*, artifact damage from cutting through hard seed (see sections 14.2 and 15.1.3)
- slight damage to cotyledons

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

- any damage to root tip
- any damage to hypocotyl
- excessive damage to cotyledons
- partial embryo or no embryo present

#### OTHER TISSUE/NOTES

Lamiaceae may have empty or partially developed endosperm or embryos present. (see sections 15.1.3.2 and 15.1.3.4).

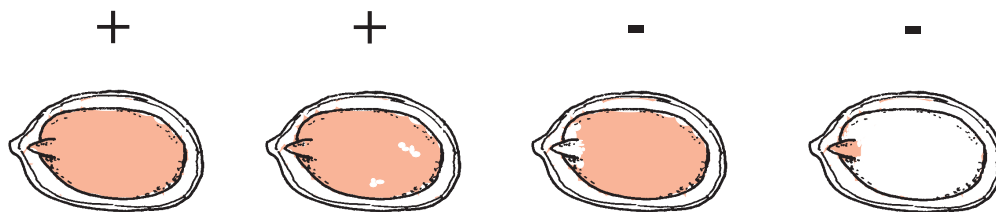


Fig 4 Seed stain evaluation

**REFERENCES:** 1, 7, 11