

## Rule Change Proposal No. 1

### PURPOSE OF PROPOSAL

To add drawings with captions that present a pictorial representation of the general seedling description under Family Caryophyllaceae, genus *Dianthus* sp., adopted by AOSA in 2001. *Seedling Evaluation Handbook*, Contribution No. 35 to the Handbook on Seed Testing, AOSA (1992, revised 2002).

### PRESENT RULE AND PROPOSED RULE

Seedling descriptions for Caryophyllaceae, Pink Family (present rule). The proposal is to insert drawings with captions for Caryophyllaceae, Pink Family, genus *Dianthus* sp.

See attached Seedling Evaluation Handbook excerpt.

### HARMONIZATION

No drawings in ISTA Rules. Please note that AOSA's written descriptions for Caryophyllaceae are in agreement with those of ISTA (Group A 2.1.1.1, Dicotyledons with epigeal germination). This family is not covered by the Canadian Rules or FSA.

### SUPPORTING EVIDENCE

A page as it would appear in the *Seedling Evaluation Handbook*, Family Caryophyllaceae, with photographs was circulated at the Joint AOSA, SCST Flower Seed Committee Meeting June 2002. The committee agreed on the photo representation and had no other additions. Drawings were done from these photos and live seedlings. It also agrees with a similar layout with photos of the genus *Dianthus* sp. developed by and for in-house training at Pan American Seed Co. presented by Jolan Mari at the same meeting. These documents are available on request in the format Pagemaker and Word.

### SUBMITTED BY

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## CARYOPHYLLACEAE, PINK FAMILY

*Cerastium tomentosum*, snow-in-summer  
*Dianthus x allwoodii*, sweet wivelsfield  
*Dianthus barbatus*, sweet-william  
*Dianthus caryophyllus*, carnation  
*Dianthus chinensis*, China pinks  
*Dianthus deltoides*, maiden pinks  
*Dianthus plumarius*, grass pinks  
*Gypsophila elegans*, long-petaled baby' s-breath  
*Gypsophila pacifica*, Pacific baby' s-breath

*Gypsophila paniculata*, perennial baby' s-breath  
*Gypsophila repens*, baby' s-breath  
*Lychnis chalcedonica*, Jerusalem-cross  
*Lychnis coronaria*, rose campion  
*Lychnis viscaria*, clammy campion  
*Sagina subulata*, pearlwort  
*Saponaria ocymoides*, rock saponaria  
*Silene armeria*, sweet-William catchfly  
*Vaccaria hispanica*, cow-cockle

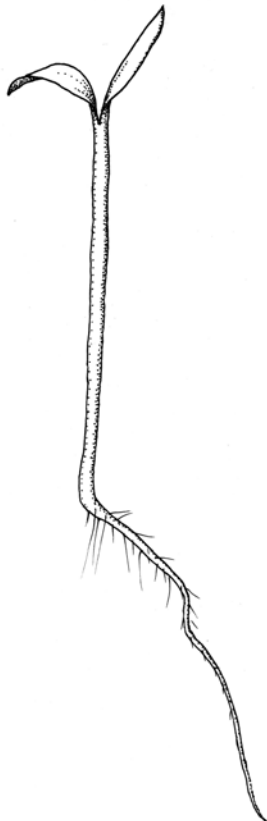
### GENERAL DESCRIPTION

**Seedling type:** Epigeal dicot.

**Food reserves:** Leaf-like cotyledons and perisperm.

**Shoot system:** The hypocotyl elongates and carries the cotyledons above the soil surface. The epicotyl usually does not show any development within the test period.

**Root system:** A primary root; root hairs may develop within the test period.



**Fig. 1 Dianthus.**

## ABNORMAL SEEDLING DESCRIPTION

### Cotyledons:

- Less than half of the original cotyledon tissue remaining attached (see note 1).
- less than half of the original cotyledon tissue free of necrosis or decay.

### Epicotyl:

- missing (may be assumed to be present if cotyledons are intact).

### Hypocotyl:

- deep open cracks extending into the conducting tissue.
- malformed, such as markedly shortened, curled or thickened (see note 2).
- watery (see note 5).

### Root:

- weak, stubby or missing primary root; secondary roots will not compensate for a defective primary root (see note 3).

### Seedling:

- one or more essential structures impaired as a result of decay from primary infection.
- albino.

## NOTES

1. In certain species (e.g. *Dianthus*), the seedling may produce three cotyledons instead of two. This should be considered normal as long as the seedling is otherwise normal.
2. The hypocotyl may show minor twisting due to processing damage. If not too severe, such a seedling would be considered to be normal.
3. For *Dianthus* spp., older seed lots may show declining vigor, which is indicated by shortened roots and/or hypocotyl. These seedlings would be considered normal as long as the growth is proportional and adequate to support the seedling.
4. In *Dianthus* spp., there may be a lot of mechanical damage, leading to abnormal seedlings. Cotyledons may become caught up in the seed coat; it is important to remove the seed coat for evaluation of the cotyledons, which may be broken due to the mechanical damage.
5. In some species (e.g. *Dianthus*), problems with watery hypocotyls may occur if test conditions are too wet.

