**Rule Proposal #17**

1. **PURPOSE OF PROPOSAL:**

The purpose of this proposal is to list organic growing media substrate in the appropriate locations within AOSA Rules Vol. 4, where sand, soil, and/or sand/soil are also listed. Organic growing media is considered equivalent to soil, sand, and a soil/sand as an approved substrate. This proposal seeks to harmonize the references and uses of organic growing media in AOSA Rules Vol. 4 with those currently listed in AOSA Rules Vol. 1 (e.g., 6.5.b.(1), 6.6.d., 6.8.l.(3)).

2. **PRESENT RULE/PROPOSED RULE:**

(*Proposed changes listed as “a – m”; Present Rule listed first with Proposed Rule listed underneath with proposed changes in red text.*)

**a)** 3.4 Causes of seedling abnormalities

“…it is advisable to retest the seed in sand, soil or a sand/soil mixture.”

3.4 Causes of seedling abnormalities

“…it is advisable to retest the seed in sand, soil, ~~or a~~ sand/soil mixture, or organic growing media.”

**b)** 3.4.6 Chemical treatment injury.

“Retesting in sand or soil is recommended when damage due to chemical exposure is suspected.”

3.4.6 Chemical treatment injury.

“Retesting in sand, ~~or~~ soil, or organic growing media is recommended when damage due to chemical exposure is suspected.”

**c)** 3.4.8 Pathogenic infections.

“Retests in sand or soil are recommended when evaluation of seedlings is difficult.”

3.4.8 Pathogenic infections.

“Retests in sand, ~~or~~ soil, or organic growing media are recommended when evaluation of seedlings is difficult.”

**d)** 3.5.2 Seedling response to moisture, temperature light

a. Moisture

…

“For information on preparation of sand and soil for use as germination substrates,…”

3.5.2 Seedling response to moisture, temperature light

a. Moisture

…

“For information on preparation of sand, ~~and~~ soil, and organic growing media for use as germination substrates,…”

**e)** 3.5.3 Counting seedlings of multiple seed units and coated seeds.

“…a retest should be conducted in sand or soil….”

3.5.3 Counting seedlings of multiple seed units and coated seeds.

“…a retest should be conducted in sand, ~~or~~ soil, or organic growing media….”

**f)** 3.5.5 Diseased and decayed seedlings.

“Retesting in sand or soil will usually reduce the level of secondary infection.”

3.5.5 Diseased and decayed seedlings.

“Retesting in sand, ~~or~~ soil, or organic growing media will usually reduce the level of secondary infection.”

**g)** 3.5.6 Negative geotropism.

“…the sample should be retested under favorable conditions, including retests made in sand or soil.”

3.5.6 Negative geotropism.

“…the sample should be retested under favorable conditions, including retests made in sand, ~~or~~ soil, or organic growing media.”

**h)** 3.5.7 “Use of sand or soil. Sand, soil or a sand/soil mixture should be used in a retest whenever difficulty is experienced in judging essential seedling structures…”

…

“b. Sand and soil are less favorable environments for the growth of saprophytic fungi…”

…

“d. The ability of roots to anchor seedlings in sand or soil makes it possible to grow…”

“Germination analysts should become familiar with the appearance of seedlings of all species when grown in sand or soil so they can evaluate seedlings correctly when they are grown on artificial substrata. Simultaneous tests on artificial substrata and in sand or soil are particularly helpful.”

3.5.7 “Use of sand, ~~or~~ soil, or organic growing media. Sand, soil, ~~or a~~ sand/soil mixture, or organic growing media should be used in a retest whenever difficulty is experienced in judging essential seedling structures…”

…

“b. Sand, ~~and~~ soil, and organic growing media are less favorable environments for the growth of saprophytic fungi…”

…

“d. The ability of roots to anchor seedlings in sand, ~~or~~ soil, or organic growing media makes it possible to grow…”

“Germination analysts should become familiar with the appearance of seedlings of all species when grown in sand, ~~or~~ soil, or organic growing media so they can evaluate seedlings correctly when they are grown on artificial substrata. Simultaneous tests on artificial substrata and in sand, ~~or~~ soil, or organic growing media are particularly helpful.”

**i)** CUCURBITACEAE, CUCURBIT FAMILY (page 42)

…

NOTES

…

2. “Samples should be retested in sand or soil if there is evidence of chemical injury…”

CUCURBITACEAE, CUCURBIT FAMILY (page 42)

…

NOTES

…

2. “Samples should be retested in sand, ~~or~~ soil, or organic growing media if there is evidence of chemical injury…”

**j)** FABACEAE, LEGUME FAMILY I – (page 47)

…

NOTES

…

8. “…Retests, preferably in soil or sand, will aid in interpretation of such seedlings.”

FABACEAE, LEGUME FAMILY I – (page 47)

…

NOTES

…

8. “…Retests, preferably in soil, ~~or~~ sand, or organic growing media, will aid in interpretation of such seedlings.”

**k)** FABACEAE, LEGUME FAMILY II – (page 53-54)

…

NOTES

…

3. “Secondary infection is common in towel and blotter tests. “…A retest in sand or soil may be advisable.”

4. “If a few seedlings with a partial decay of the epicotyl are found, …A retest, preferably in soil or sand, will aid in interpretation of such seedlings.”

5. “Hypocotyl development is slow until the roots start functioning and reach sufficient size; …A retest, preferably in soil or sand, will aid in interpretation of such seedlings.”

FABACEAE, LEGUME FAMILY II – (page 53-54)

…

NOTES

…

3. “Secondary infection is common in towel and blotter tests. “…A retest in sand, ~~or~~ soil, or organic growing media may be advisable.”

4. “If a few seedlings with a partial decay of the epicotyl are found, …A retest, preferably in soil, ~~or~~ sand, or organic growing media, will aid in interpretation of such seedlings.”

5. “Hypocotyl development is slow until the roots start functioning and reach sufficient size;…A retest, preferably in soil, ~~or~~ sand, or organic growing media, will aid in interpretation of such seedlings.”

**l)** POACEAE, GRASS FAMILY I – Cereals (page 86)

…

NOTES

…

3. “Seedlings with badly thickened and shortened roots and shoots due to injury from chemical treatment are to be classified as abnormal. If such seedlings are difficult to evaluate on paper substrata, the interpretation should be based on the seedling performance in sand or soil.”

POACEAE, GRASS FAMILY I – Cereals (page 86)

…

NOTES

…

3. “Seedlings with badly thickened and shortened roots and shoots due to injury from chemical treatment are to be classified as abnormal. If such seedlings are difficult to evaluate on paper substrata, the interpretation should be based on the seedling performance in sand, ~~or~~ soil, or organic growing media.”

**m)** POACEAE, GRASS FAMILY II – Rice (page 91)

…

NOTES

1. “Fungal development may cause variation in test results; more uniform results will be obtained if seeds are well spaced or grown in sand or soil….”

POACEAE, GRASS FAMILY II – Rice (page 91)

…

NOTES

1. “Fungal development may cause variation in test results; more uniform results will be obtained if seeds are well spaced or grown in sand, ~~or~~ soil, or organic growing media….”

**4. HARMONIZATION AND IMPACT STATEMENT:** (ISTA/FSA/Canadian Methods & Procedures)

N/A

**5. SUPPORTING EVIDENCE:**

Since organic growing media is already listed in AOSA Rules Vol. 1 as an approved substrate and guide for classifying questionable seedlings [sec. 6.5.b(1)], it must also be referenced in AOSA Rules Vol. 4 to harmonize with Vol. 1.

**6.** **SUBMITTED BY:**

David M. Johnston – RST/CSA Germination and Purity

Program Coordinator Seed Programs

Louisiana Dept. of Agriculture and Forestry

5825 Florida Blvd. – Suite 3004

Baton Rouge, LA 70806

Phone: (225) 952-8059

Email: [djohnston@ldaf.state.la.us](mailto:djohnston@ldaf.state.la.us)

Riad Baalbaki, PhD – CSA Germination

Senior Seed Botanist

California Department of Food & Agriculture

Plant Pest Diagnostics Branch

3294 Meadowview Road

Sacramento, CA 95832-1448

Phone: (916) 262-3292

Email: [riad.baalbaki@cdfa.ca.gov](mailto:riad.baalbaki@cdfa.ca.gov)

7. **DATE SUBMITTED:**

July 12, 2022