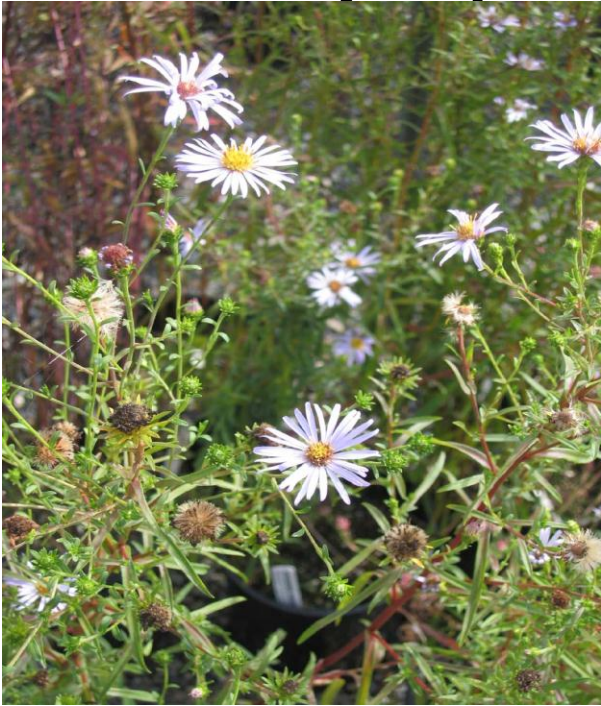
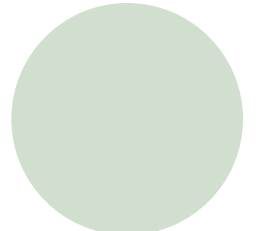
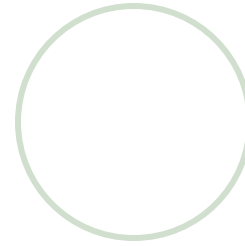
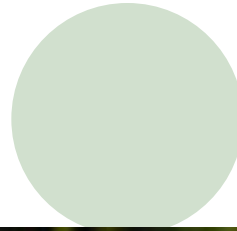
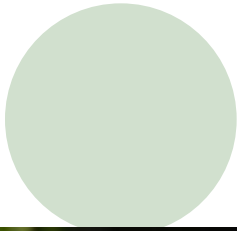


# Douglas Aster

*Symphotrichum subspicatum*





*Slichter 2006*

Paul Slichter  
<http://ghs.gresham.k12.or.us/science/ps/nature/basin/sun/day/aisy/aster/astersubspicatus.htm>

# Taxonomy



- Scientific Name: *Symphyotrichum subspicatus* (Nees) Nesom
- Family: *Asteraceae*
- Synonyms: *Aster subspicatus*, *Aster douglasii*
- Common Name: Douglas's Aster
- Often confused with *S. foliaceus* or the leafy aster

# Native habitat



- United States and Canada
- Washington, Oregon, Alaska, British Columbia
- Ecosystem known as the “coast forest” which ranges from the ocean coast to the subalpine areas of the mountains
- Most common aster in northern British Columbia and Alaska
- Roadsides, salt water, streams, open fir forests, forest edges

# Origin of name



- Named after David Douglas who made significant botanical contributions to the Northwest region of the United States
- Several plants found in the area, such as the Douglas fir, bear his name
- Was a native of Scotland and reached the NW US in 1845

# Indigenous people used aster species for

- Making a tea from the roots to treat fevers and diarrhea
- Placing burned or powdered preparations in or on wounds
- Making a tea made from the whole plant, dipping an absorbent material in the tea, and pushing the material into the wound such as those made by arrows



# Other

- Many pollinators are attracted to asters which are one of the most important crops for nectar feeding in the fall
- Easily naturalizes so it considered a weed in cranberry bogs where it competes for light. May cause 15 – 25% crop loss
- Europeans developed North American native asters into potted plants and cut flowers

# Native climate



- Average rainfall in Vancouver, BC and Seattle, WA are 46 and 33 inches, respectively
- Mean average temperatures in Seattle are 40.9F in January and 65.3F in July
- Seattle has 16 hours of daylight on June 21 and 8.5 hours on December 21
- Winter hardiness zone 8 with a minimum temp of 10 – 20F
- Heat zones 2 and 3 with 1 to 14 days above 86F



# Description

- 16 – 36” high
- 1 – 1-1/2” bright blue/purple ray flowers with yellow disks
- Rounded form created by stout, branching stems
- Colonizes in clumps
- Creeping, fibrous rhizome
- 1 – 4” long leaves, toothed, entire
- Blooms in August and September



# Propagation of aster species traditionally is accomplished by

- Plant division
- Vegetative basal cuttings
- Seed germination

So how could I get *S. subspicatus* to germinate??

# Anticipated cultural requirements

- Grow in sun to light shade
- Long day during vegetative phase followed by short days for flowering
- Balanced fertilizer. Avoid soluble salt build up by leaching
- Well-drained, moist soil
- Use B-Nine to control height
- Prone to a variety of diseases. In particular, monitor for aster yellows and powdery mildew

# Three germination seed experiments were performed

- Method 1. 12 seeds were sown in germination mix and placed directly in the mist house. Day/night temperature of 77F with a 16 hours of light
- Method 2. 12 seeds were sown in germination mix, watered, covered, and placed in the cooler for 6 weeks to break potential seed dormancy
- Method 3. Seeds were soaked in water and 200, 400, 800 ppm 4% GA for 24 hours, sown in germination mix, and placed in mist house

# Germination results

- Method 1—Direct sowing. On day 23, 1 of 12 seeds germinated
- Method 2—6 weeks in cooler. On day 54, 2 of 12 seeds germinated
- Method 3.—Water and GA soak

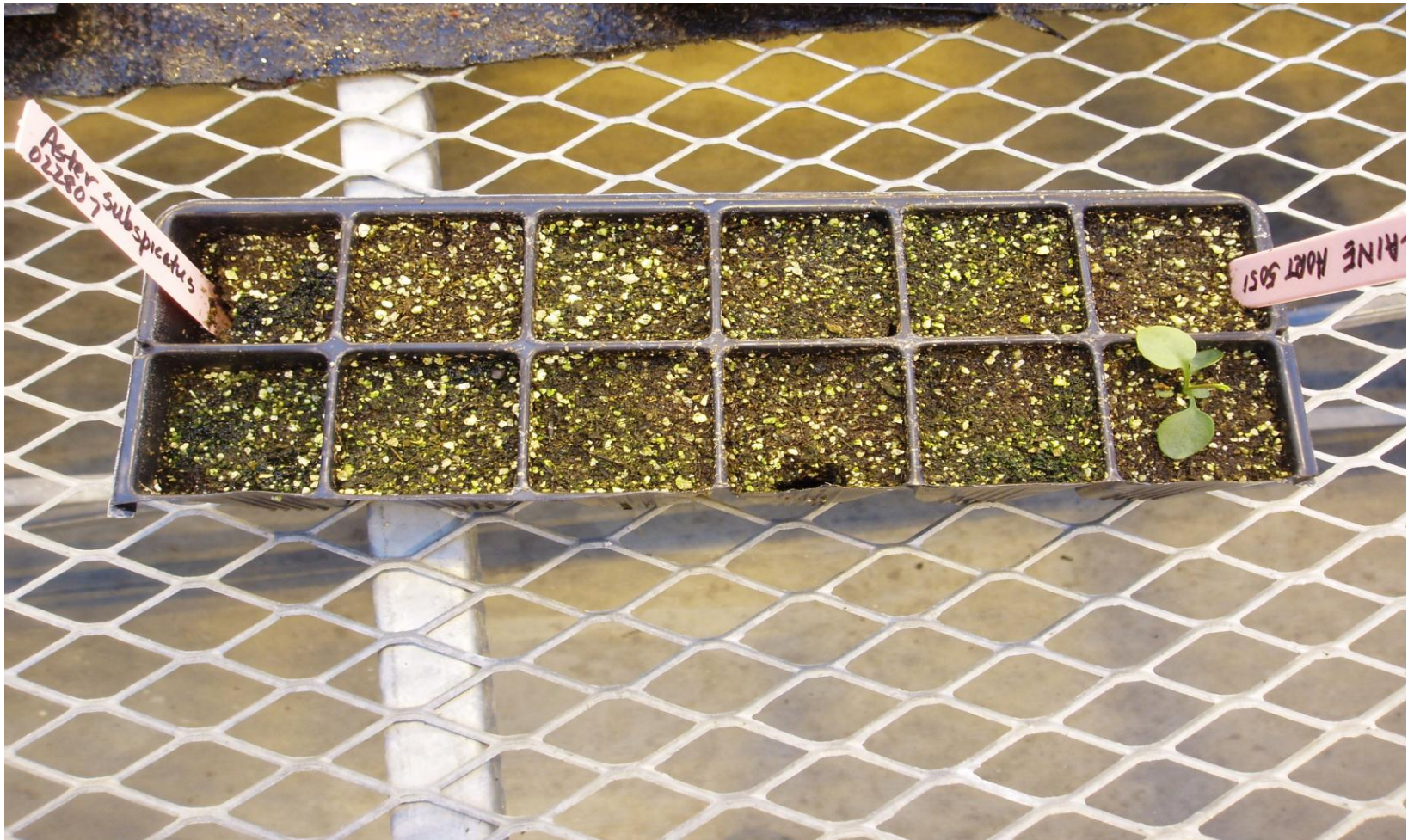
Day of Treatment	Number of Germinated Seeds by Treatment Type			
	Water	200 ppm	400 ppm	800 ppm
5	2/8	5/8	3/8	2/8
8	3/8	6/8	5/8	3/8
29	4/8	5/8	5/8	3/8

**Plant from 1 of 12 seeds that  
germinated when placed immediately  
in mist house**



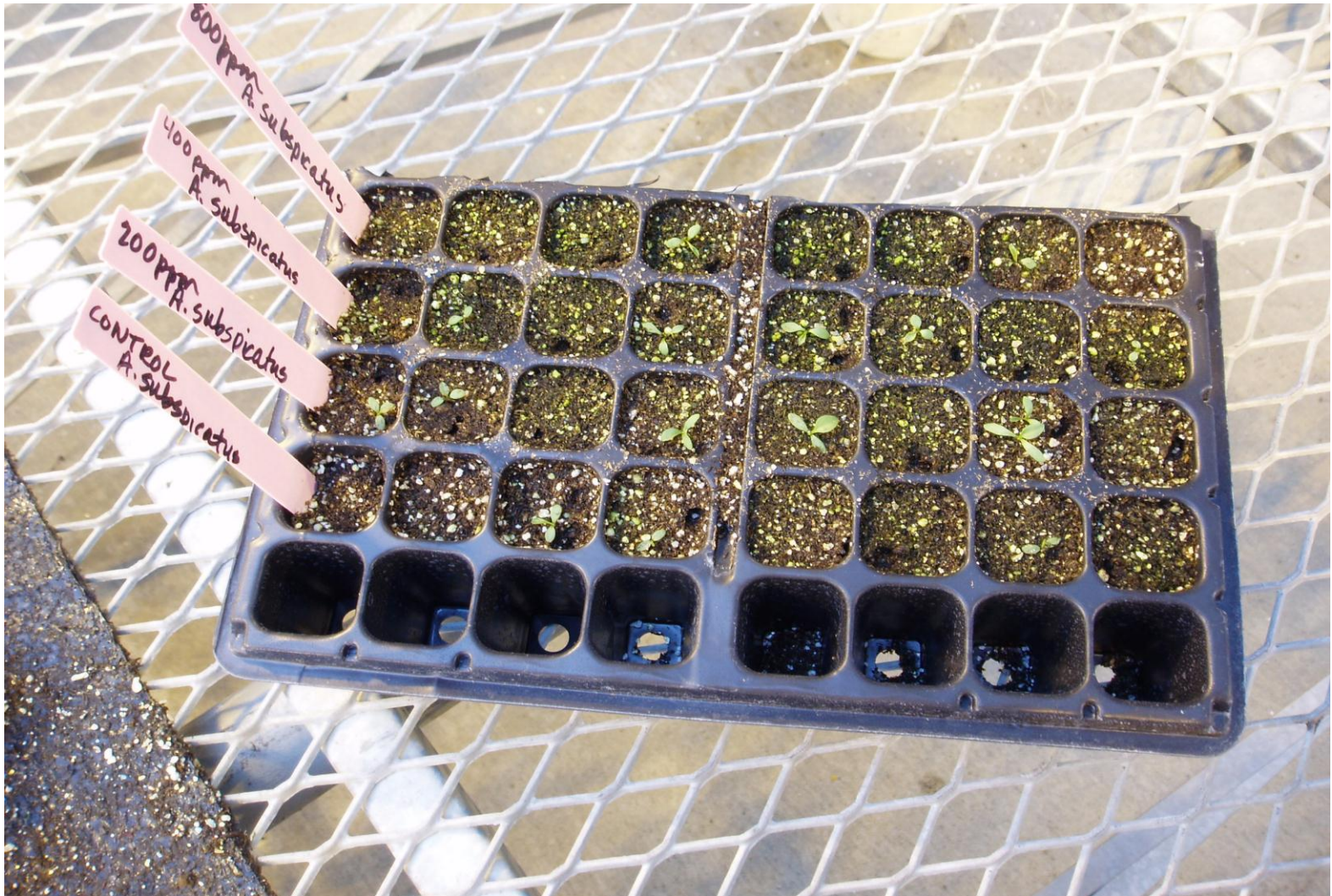


# Seed germination following 6 weeks in cooler and then placed in mist house





# Seed germination following water and GA treatment





# Proposed production schedule

- Stage 1. Soak the seeds in water for 24 hours prior to sowing. Day/night temp of 70F, 150 umol of light, long photoperiod of 0600 to 2200. About 7 days.
- Stage 2. Day/night temp of 65F with a 2 - 3 hour temp dip to 50F, 150 umol of lighting, long photoperiod of 0600 to 2200.
- Stage 3 and 4. Maintain conditions in stage 2.

# Proposed production schedule (cont)

- About 5 – 6 weeks from sowing to transplant
- Pinch when roots reach bottom of pot. Leave 4 – 6 leaves
- Apply B-9 3750 – 5000 ppm when 1.5” of new growth
- Pinch again when plants have grow 2”. Leave 3 - 4 leaves
- Short days about 1 week after second pinch
- Flowering 5 – 6 weeks later
- Best guess! Sowing to flowering 12 – 15 weeks



- Use for wildflower gardens, restoration projects, and to attract butterflies
- Improve by developing a plant with more branches, has a longer season of bloom, and that produces less seed to control naturalization

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