Growing *Chamaecrista fasciculata*

**Seed sources:**

Different accessions are available through USDA/GRIN free of charge: [http://www.ars-grin.gov/cgi-bin/npgs/swish/accboth?query=chamaecrista+fasciculata&submit=Submit+Text+Query&si=0](http://www.ars-grin.gov/cgi-bin/npgs/swish/accboth?query=chamaecrista+fasciculata&submit=Submit+Text+Query&si=0)

Susan Singer is also willing to share seeds from the MN, KS, and OK ecotypes. You can contact her at ssinger@carleton.edu.

Plants should be started about 4 months before the lab if you would like them to be flowering for students. You can also use younger plants. If students are interested in the transition to flowering, MN plants with 8 expanded leaves will be undergoing that transition. You can get plants to that stage in 8 weeks.

*Chamaecrista* is a perennial and will grow indefinitely in the greenhouse. We have four foot tall, year old plants that are still flowering.

**Starting *Chamaecrista fasciculata* seeds**

1. Treat seeds for 3 minutes in a 15% Bleach solution, followed by two three-minute rinses in distilled water. We use a mesh tea ball to keep the seeds together between transfers. Note: The bleach treatment is especially beneficial when working with field-collected seed to avoid a fungal infection.

2. After the second distilled water rinse, dry the seeds on paper toweling.

3. Rub each dry seed across fine sand paper on both sides to remove part of the seed coat. The seeds should look a bit lighter in color.

4. Germinate the seeds in Petri plates on filter paper moistened with distilled water. We germinate the seeds in a growth chamber with 20° C day/night temperatures under 16 hours of fluorescent lights. We do not parafilm the Petri plates as some air circulation is beneficial. Distilled water is added as needed. Germination can take from 2 to 5 days.

5. Transplant seeds to moist soil in two-inch pots when the radicle is about ¼ -inch long. We use Metro Mix 360 or ProMix PGX. Both are soil-less plug mixes.

6. Cover the seed very lightly with soil. Water in thoroughly but gently to settle the soil around the seed. Water until water runs out the bottom of the pot.

7. Let the soil surface dry out between subsequent watering.
8. Stake the plants when they are young and transplant as needed. We switch our plants to growth rooms that have high intensity lighting rather than fluorescent lighting for 8 h with an 8 h low intensity (incandescent bulbs) day extension. We have tried a range of day and night temperatures. A constant 20 C works, as does 22 C during the day and 18 C at night.

Some flowering time data that may be helpful:

Table 1. Node of first open flower and days after planting to first flower open from Minnesota, Oklahoma and Kansas ecotypes of *Chamaecrista fasciculata*. *Chamaecrista fasciculata* plants were grown in a Conviron growth chamber under 8 hours of high intensity light with another 8 hours of low intensity light and 22 C day temperatures and 18 C night temperatures. Plants grow faster when the night temperature is raised to 20 C. They also flower faster in 4 inch pots than 6 inch pots. Plants need to be fertilized weekly with a standard NPK fertilizer.

<table>
<thead>
<tr>
<th>ECOTYPE</th>
<th>Node of First Open Flower</th>
<th>Days from Planting to First open Flower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minnesota 87 (MN87)</td>
<td>7.7±0.3</td>
<td>53.9±1.7</td>
</tr>
<tr>
<td>Minnesota 98 (MN98)</td>
<td>9.1±0.7</td>
<td>60.7±3.2</td>
</tr>
<tr>
<td>Kansas 55 (KS55)</td>
<td>11.0±0.9</td>
<td>67.3±4.9</td>
</tr>
<tr>
<td>Kansas 52 (KS52)</td>
<td>10.9±0.4</td>
<td>74.3±2.0</td>
</tr>
<tr>
<td>Oklahoma 37 (OK37)</td>
<td>11.6±1.1</td>
<td>74.1±2.8</td>
</tr>
</tbody>
</table>