

Planting/Growing *Brachypodium Distachyon*

1. Seed spikelets are collected when they are totally dry. This is important for an improved germination rate.
2. The Mockler lab typically uses 4x4 or 3x5 inch pots in flats for watering (www.hummert.com/).
3. Fill pots with soil. We use SunGro Sunshine Special Blend Professional Growing Mix (<http://sungro.com/>).
4. Lightly water the soil to make soil damp.
5. Pack the soil down firm enough to hold its shape when holes are made.
6. Create holes about 1-2 cm deep and 4-5 cm apart. Typically, for these pot sizes, we plant a 3x3 grid or 9 *Brachypodium* per pot
7. Place one *Brachypodium* seed (also called a floret) in each hole. Be certain to place them in the hole with the awn up (little hair-like structure; see figure).
8. Cover enough of the seed with dirt so that the tip of the seed awn (“hair”) lies just below the surface of the soil.
9. Cover the pots with a clear covering or plastic wrap.
10. Allow for a vernalization period by placing the plants in 4°C in the dark. Place additional ‘dark cover’ to insure that they are kept from light exposure.
11. After 4-6 days, remove flat from 4°C. Place under light or in a greenhouse under long-day (16 hours light/8 hours dark). Use a light intensity of 150-175 $\mu\text{mol m}^{-2} \text{sec}^{-1}$. For optimal growth use light intensity was 300-350 $\mu\text{mol m}^{-2} \text{sec}^{-1}$.
12. When germination is visible (~3 days), remove plastic covering and begin watering plants. Water frequently. We check on the plants daily and assess the water situation depending upon soil dryness.
13. *Optional*: Sprinkle Marathon insecticide (1% Granular; Cat. No. 01-1118-1; www.hummert.com) on the soil before dampening the soil and planting the *Brachypodium* seeds (keeps down fungus gnats).
14. *Optional*: When watering, supplement with Miracle-Gro® Water Soluble All Purpose Plant Food (Fertilizer analysis: 24-8-16; add 1 teaspoon per gallon of water every 7 to 14 days).

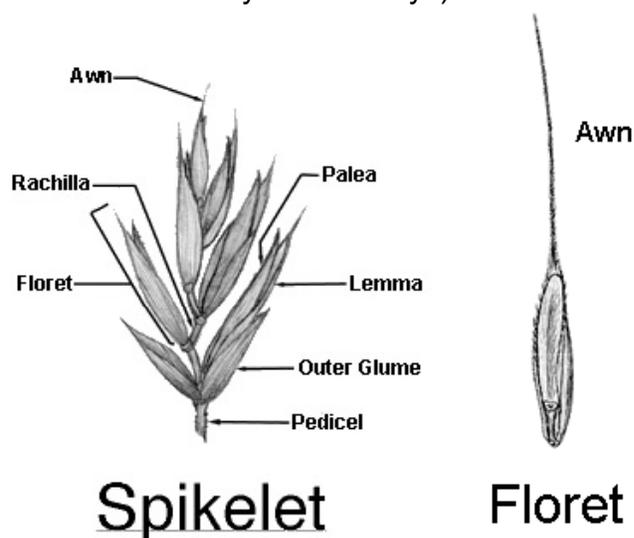


Figure: The spikelet shown on the left is collected after it is completely dried out. It must be completely dry prior to planting. The individual florets (the reproductive portion of the plant) are planted with the awn (hair-like structure) pointed upward.

Images from:

<http://www.csd.tamu.edu/FLORA/tas/tracy/610/brachypodium.html>

and

<http://forages.oregonstate.edu/projects/regrowth/main.cfm?PageID=11>