Sukhwinder Kaur & Lynn Epstein, 24 May 2020

Seed germination of celery *in vitro* and then prep of seedlings in flats

Seed were stored at 10C at 30% RH.

In an effort to develop a rapid assay for germinating celery cultivars and testing FOA isolates, seeds of all cultivars to be tested against FOA races were obtained from commercial sources. Challenger (UCD code A0321) and Sonora (UCD code A0312) coated seed were obtained from Syngenta in 2018, Tall Utah 52-70 R Improved and Golden Self Blanching were obtained from Burpee Seed Company.

Uncoated seeds were surface disinfected with 5% commercial bleach (0.307% Sodium hypochloride) for 2 min, rinsed once with sdi water and pat-dried in folds of sterilized paper towels. Coated seeds were not disinfected and plated directly.
In preparation for germination dishes, white germination paper was autoclaved on the dry cycle two different days. , One piece of the germination paper was placed in a 100mm diam petri dishes& moistened with 3 or 5 ml sdi water. Germination paper should moist, but with no free floating water in the petri dish. Put 25-30 seeds per dish for a total of 100 seeds per cultivar.

The petri dishes with seeds were incubated in the dark at 23-24C for five days and then transferred to lights at 23-24C for 9 days. After 14 days of TOTAL incubation, these germlings were transplanted in 72 cell trays (each cell is 3.5cm wide on top and 5.0 cm) deep in sterilized seeding soil-HP promix for seedlings, soil used for seeding flats; it is not the perlite GH mix used as transplanting and FOA screening-infested soil.

All the trays were kept in gh with temperature around 70-75F in liners. For 2 weeks until true leaves appeared, the trays were covered with clear plastic tray covers and watered by filling the liners ca. 2" deep (i.e., from the bottom); water levels were checked every 3rd day and replenished as necessary. After the true leaves appeared, the plants were sprinkler irrigated 3X/day for 3 min and later for 5 min for 6 weeks until transplanting.