

Experiment Breakdown

Experiment Part 1 - Received bare root seedlings from Cold Stream Farm. Potted on Monday, 26 November 2018. Three cohorts for chilling lengths. I have two growth chambers, both at 4°C. I will rotate seedlings every two weeks. After 4 weeks, I will remove the first cohort and move into the greenhouse. I will remove the second cohort at 6 weeks and final cohort at 8 weeks. Experiment Part 2 - I will monitor the phenology for the each plant. I will observe budburst (BBCH 09) until leafout (BBCH 15) for each plant and note floral development. Experiment Part 3 - once at least 50% of the buds have reached BBCH 9, I will put the seedling in a growth chamber and ramp the temperature from the greenhouse temperature down to -3°C and then ramp up again after 2 hours at -3 for a 24 hour cycle. I will then move the seedlings back into the greenhouse to monitor percent budburst and record damage.

Finer details

- Chilling conditions: 8 hour photoperiod and constant 4C
- Greenhouse conditions: 12 hour photoperiod, 15C during the day and 10C at night, ambient humidity
- Growth Chamber: Ramp down temperature starting at 6pm to 10C, 8pm to 5C, 10pm to 0C, 12am to -3C, 3am to 0C, 4am to 5C, 6am to 10C and 8am to 15C. 12 hour photoperiod (6-6)

Table 1: List of species being used in experiment. 10 species, 16 per chilling treatment and 8 per false spring treatment per chilling treatment.

Species	No. of Individs
FAGGRA	48
BETPAP	48
BETPOP	48
SORAME	48
ALNRUG	48
NYSSYL	48
ACESAC	48
VIBDEN	48
SALPUR	48
CORRAC	48