

May 16, 2017

- ALWAYS check the tolerance at your bog [tolerance photos for all stages are shown at the end of this file]
- All cultivars at Rosebrook are at **late elongation** to **early roughneck** stage.
- Buds have advanced by growing outward (upward) with many reaching 1/8 to 1/4 inch or more. Based on previous research, once buds reach cabbage head stage (as they had by May 3), they advance in tolerance every 5-7 days until reaching 29.5°F, regardless of appearance.
- Roughneck tolerances are 29.5°F for Early Black, Howes, Stevens, Ben Lear and new hybrids
- Buds observed at State Bog on the 16th were a bit more advanced (longer new growth) compared to those observed at Rosebrook.
- Since for all spring stages from this point, tolerance will remain at 29.5°F, this was the last team visit to Rosebrook for the spring season. We will post additional growth stage photos from State Bog over the next few weeks.

Frost check at Rosebrook on May 16, 2017

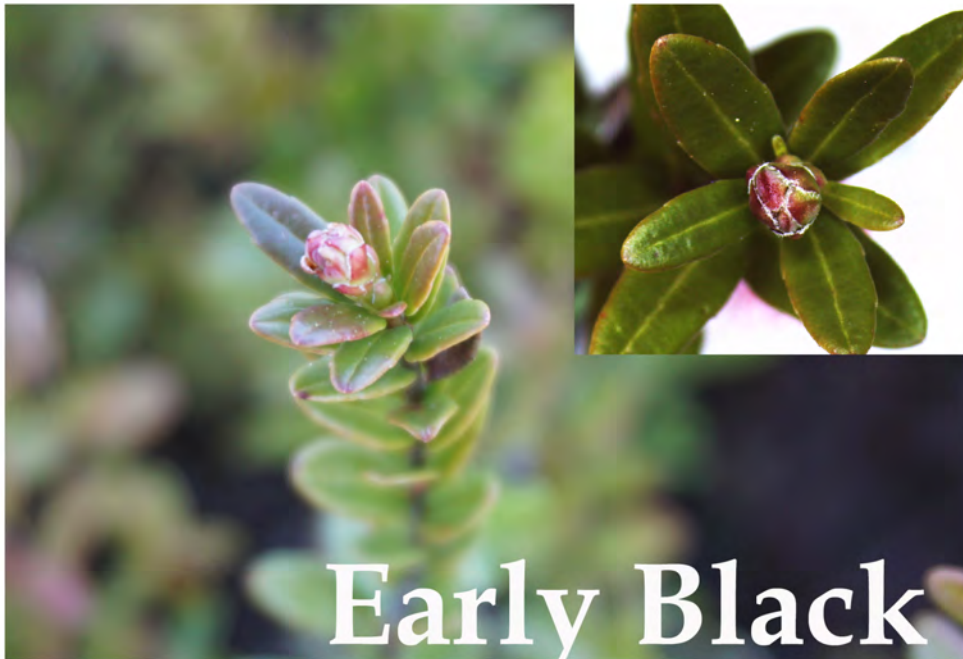
Ben Lear



Stevens



Early Black



Howes





Ben Lear



Demoranville

Buds at State Bog
May 16, 2017
Tolerance 29.5°F

Buds have grown
outward and are about
 $\frac{1}{4}$ inch in length.



Crimson Queen

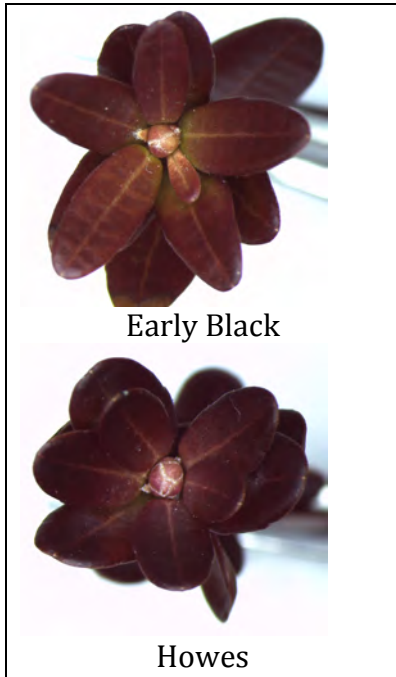


Mullica Queen

Frost tolerance check protocol 2017

- Tolerance check team:
Glenn Reid, Carolyn DeMoranville [CCCGA frost committee]
Anne Cote, Patti Silvia [CCCGA frost program]
Erika Saalau Rojas, Peter Jeranyama [UMass Cranberry Station]
Other growers attend from time to time
- Visit Rosebrook Bog in Wareham:
Observe buds of Early Black, Howes, Ben Lear, Stevens
Take in-field photographs, collect buds to bring to the lab
Agree on current frost tolerance
- In the lab at the Station:
Take close up photos of buds
Cut buds (at early stages) and photograph
Post photos and tolerance report to the UMass Cranberry Station web site

Spring Frost Tolerances - Early Black and Howes



Spring Dormant 18°F



White Bud Stage 20°F



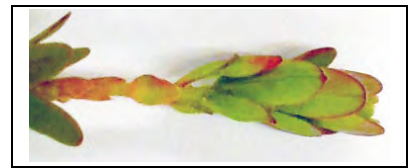
Bud Swell Stage 22°F



Cabbage Head Stage 25°F



Bud Elongation 27°F



Roughneck Stage 29.5°F



Hook Stage (L), Bloom (R)
29.5°F

Spring Frost Tolerances - Ben Lear and Stevens

Tolerances for large-budded hybrids are assumed to be similar to these. Crimson Queen, Mullica Queen, and Demoranville have been observed to develop in a similar timeline as Ben Lear.

