

Frost tolerances #2 - Spring 2016  
April 8, 2016

On April 8, buds were examined from the following cultivars: Early Black (EB), Howes (H), Ben Lear (BL), and Stevens (ST). These buds were collected at Rosebrook Bog in Wareham. In addition uprights from EB, BL, and Demoranville (DE) were checked at State Bog on April 7th. Based on internal and external appearance, buds of BL, ST, and DE remained predominantly at the **spring dormant stage**. However, when compared to observations made on March 29th, some of the buds on EB and H have moved to the **white bud** stage. This was more obvious for EB compared to H. Magnified photos below show the progression from March 29 to April 8. On the last page are photos taken in the field at Rosebrook on March 29 and April 8.

At the **spring dormant** stage, tolerance for EB and H is 18°F; tolerance for BL and ST is 20°F. At the **white bud** stage, tolerance for EB and H is 20°F; tolerance for BL and ST is 22°F. Based on appearance, new hybrids should be assumed to have the same tolerance as BL.

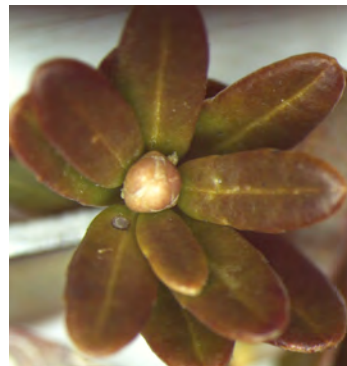
Please note that the white bud stage was named based on the appearance of EB and H buds that have lost their dormant red color: When looking down into the plants, the buds stand out as noticeably light/white. Other cultivars retain some degree of red coloration at this stage. In those, the change is recognized by observing the buds over time - as they leave the dormant stage, the buds become a bit less red with lightening on the edges of the bud scales and in some cases noticeably green.

On the night of April 5-6th, we experienced record cold temperatures across the region. Some bogs were under full or partial snow cover and at others, growers had applied a frost flood. Late in the week, we examined cut buds from several locations. At a location with little snow cover, the bog went to 12°F; of 25 buds from that location, only one had minor damage. State bog had a good cover of snow but we did have sensor readings as low as 10°F (the air temperature was 16°). An examination of 10 buds each from EB, BL, and DE found only one BL bud with damage in a single flower initial within the bud.

ALWAYS CHECK THE TOLERANCE ON YOUR BOGS.



EB spring dormant, 18°F, State Bog  
3/29



EB - Rosebrook, 20°F, 4/8



H spring dormant, 18°F, Rosebrook  
3/29



H barely at white bud stage, 20°F,  
Rosebrook 4/8



BL - Rosebrook (left) and State Bog  
(right), 3/29. Most BL buds had  
similar appearance on 4/8.



BL barely at white bud stage, 22°F,  
Rosebrook 4/8



ST spring dormant, 20°F, Rosebrook  
3/29



ST spring dormant, 20°F, Rosebrook  
4/8

Photos taken in the field at Rosebrook Bog in Wareham.



Howes, 3/29



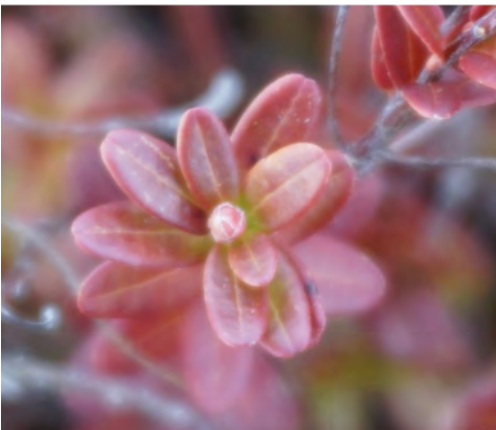
Howes, 4/8 Very little or no change.



Stevens, 3/29



Stevens, 4/8 Buds may be slightly larger.



Ben Lear, 3/29



Ben Lear, 4/8 Very little change in buds, leaves have greened.