Frost tolerances #6 - Spring 2016
May 3, 2016

On May 3, buds from the following cultivars were examined at Rosebrook Bog in Wareham: Early Black (EB), Howes (H), Ben Lear (BL), and Stevens (ST). In addition, uprights from BL, ST, Mullica Queen (MQ), Crimson Queen (CQ), Demoranville (DE), and Grygleski #1 (GH) were observed at State Bog on May 2nd. Based on internal and external appearance, all buds are at least at cabbage head stage while many have reached elongation stage.

At the cabbage head stage, tolerance for EB and H is 25°F; tolerance for BL and ST is 27°F. At elongation stage, tolerance for EB and H is 27°F; tolerance for BL and ST is 29.5°F. Based on appearance, new hybrids should be assumed to have the same tolerance as BL; this appears to be confirmed by lab experiments this spring in which DE, MQ, and CQ are responding similarly to BL.

Please note that cabbage head stage represents a progression from the bud swell bud stage: now buds that had gotten larger and rounder have expanded further to take on the appearance of small cabbages; there is a lumpy appearance due to opening of the bud scales. When looking down at the bud, the bud completely covers the base and part-way up the surrounding leaves. At elongation stage, the bud begins to push upward - this is easily seen if looking at the upright from a side view. The elongation stage can also be considered 'bud break'.

Note that buds are progressing slowly due to the persistent cold weather. However, based on previous research, once a cultivar reaches the 25°F tolerance, it should be presumed to have moved to the 27°F tolerance after 5-7 days regardless of external appearance; once at 27°F, tolerance advances to 29.5°F in an additional 5-7 days.

ALWAYS CHECK THE TOLERANCE ON YOUR BOGS.
H early cabbage head stage, 25°F, Rosebrook 5/3 H have advanced very slowly.

H at Rosebrook 5/3 Shows how slowly the H are advancing - many still look red and fairly tight.

BL early elongation stage, 29.5°F, State Bog 5/2

BL early elongation stage, 29.5°F, Rosebrook 5/3
ST early elongation stage, 29.5°F, State Bog 5/2 Note that this stage was not yet found at Rosebrook.

DE early elongation stage, 29.5°F, State Bog 5/2

GH cabbage head stage, 27°F, State Bog 5/2

CQ early elongation stage, 29.5°F, State Bog 5/2

MQ elongation stage, 29.5°F, State Bog 5/2

GH late cabbage head stage, 27°F, State Bog 5/2