

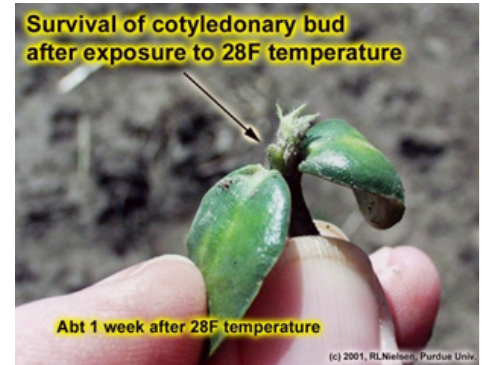
AGRONOMY PROFILE

Early Frost in Soybeans

OVERVIEW. Timely planting seasons, as well as ones that progress ahead of time, may create a scenario where the soybean crop is exposed to an early season frost. Soybeans that have emerged may experience some frost injury if temperatures drop into the low 30°s.

WHAT YOU SHOULD KNOW.

- Unlike corn, soybeans may be more at risk because the growing point of the soybean plant is above the soil surface and exposed once the cotyledons have opened. Temperatures usually need to be at or below 28°-30° F for several hours to kill soybean tissue. Damage may vary as low-lying areas, fields with heavy residue and drier soils are more prone to freeze injury.
- Growth stage is also a factor in survivability. Small, emerging and cotyledon-stage soybeans may tolerate freezing temperatures better than more mature ones.



ACTION STEPS.

- 1. Assess injury.** Frost injury appears as water-soaked lesions on the cotyledons, leaves or hypocotyl that dry and turn brown. Wait 3-5 days to allow the plants to show signs of growth. Look for healthy stems, cotyledons and growing points.
- 2. Scout and count.** After waiting several days for the plants to recover, determine the population by evaluating multiple areas of the field. Several methods are available to determine plants per acre.
- 3. Replanting.** Replanting may be necessary if the frost has significantly affected the stand. You may be able to “spike in” a full seeding rate if planting is still timely. Be sure to consider the potential of the replanted crop when making your decision.

Sources:

University of Minnesota Extension, Spring frost | UMN Extension.

Purdue University, Symptoms of Low Temperature Injury to Corn and Soybean - Images (Purdue Univ.).

NOTES:
