

Agronomy Profile



CORTEVA™
agriscience

Flooding

Overview

Waterlogged and submerged soybean plants can significantly reduce yields. Flooding duration, water temperature and soil drying rate impact whether injury to soybean plants is minimal or extensive. It is important to scout soybean fields after flooding to diagnose the condition of the crop.

What you should know

- Soybean plants can tolerate being fully submerged for up to 96 hours. After that, stands and vigor are dramatically reduced, making it hard for the crop to fully recover.
- Waterlogged soybeans, in which only the roots are submerged, are less affected by flooding.
- Soybeans require ample soil oxygen to perform efficiently. Flooding limits the oxygen available. Without oxygen, soybeans are unable to perform important survival functions like respiration.
- Respiration is affected by the temperature of flooding water. Higher water temperatures increase respiration speed, which reduces the amount of oxygen in the soil available to the plant. With less oxygen, a plant can rot. Cooler water temperatures slow the rate of respiration and decrease the chance of yield loss.
- Soybeans that survive flooding are more likely to develop root diseases, nitrogen deficiency and other plant nutrient imbalances. Scout fields after flooding to prevent any of these conditions from worsening.

Action steps

1. **Know your soil type:** The faster the soil dries after flooding, the less likely soybeans will be damaged and yields affected. Flooded clay soils take longer to dry than silt loam soils, which can affect damage.
2. **Consider replanting:** Flooding is most harmful during early reproductive phases of soybean development. Consider replanting if your crop floods during this stage. Consult your crop insurance agent when making replant decisions.

For more information, contact:

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Temperature, timing and soil type can affect soybean loss after flooding.



30-Second Summary

- Soybean plants can survive being fully submerged for up to 96 hours. Waterlogged soybeans are less affected.
- Flooding limits soil oxygen, which can limit plant respiration.
- Consider replanting when damage is severe.

NOTES:
