

Foliar Abscisic Acid (ABA) Applications to Control Bitter Pit in Apples

Problem: Bitter pit is a localized calcium deficiency disorder in the fruit that causes substantial economic losses. Calcium movement follows water transport. Leaves have greater transpiration rates than fruit and therefore, receive more calcium leaving fruit vulnerable to disorders like bitter pit.

Project Goal: Determine if changes in transpiration via exogenous foliar applications of ABA will reduce bitter pit incidence in apple fruit

Treatments

ABA Treatment vs Control:

1. ProTone ABA was applied at 500 mg L^{-1} to trees starting 30 DAFB. Control treatment was left untreated.



Physiology Measurements

2. Transpiration, photosynthesis, stem water potential and stomatal conductance was monitored.



Mineral Content

3. Leaf, fruit and xylem sap samples were collected throughout the season to determine mineral content.



Fruit Quality Evaluations

4. Fruit was evaluated at harvest to determine quality, bitter pit incidence and mineral content.



Raquel Gomez, MS Student
raquel.gomez@wsu.edu

Lee Kalcsits, Assistant Professor
lee.kalcsits@wsu.edu

