

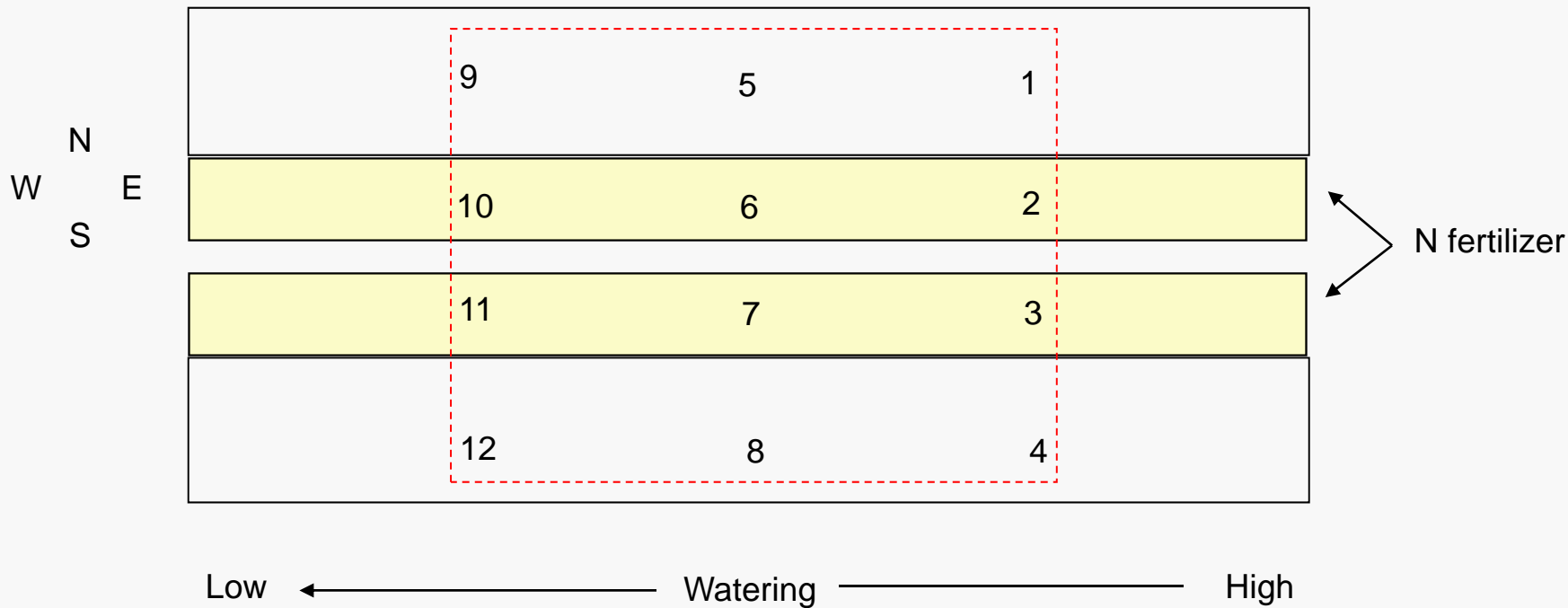
Effects of Abiotic Factors on Insect Populations in Riparian Restoration

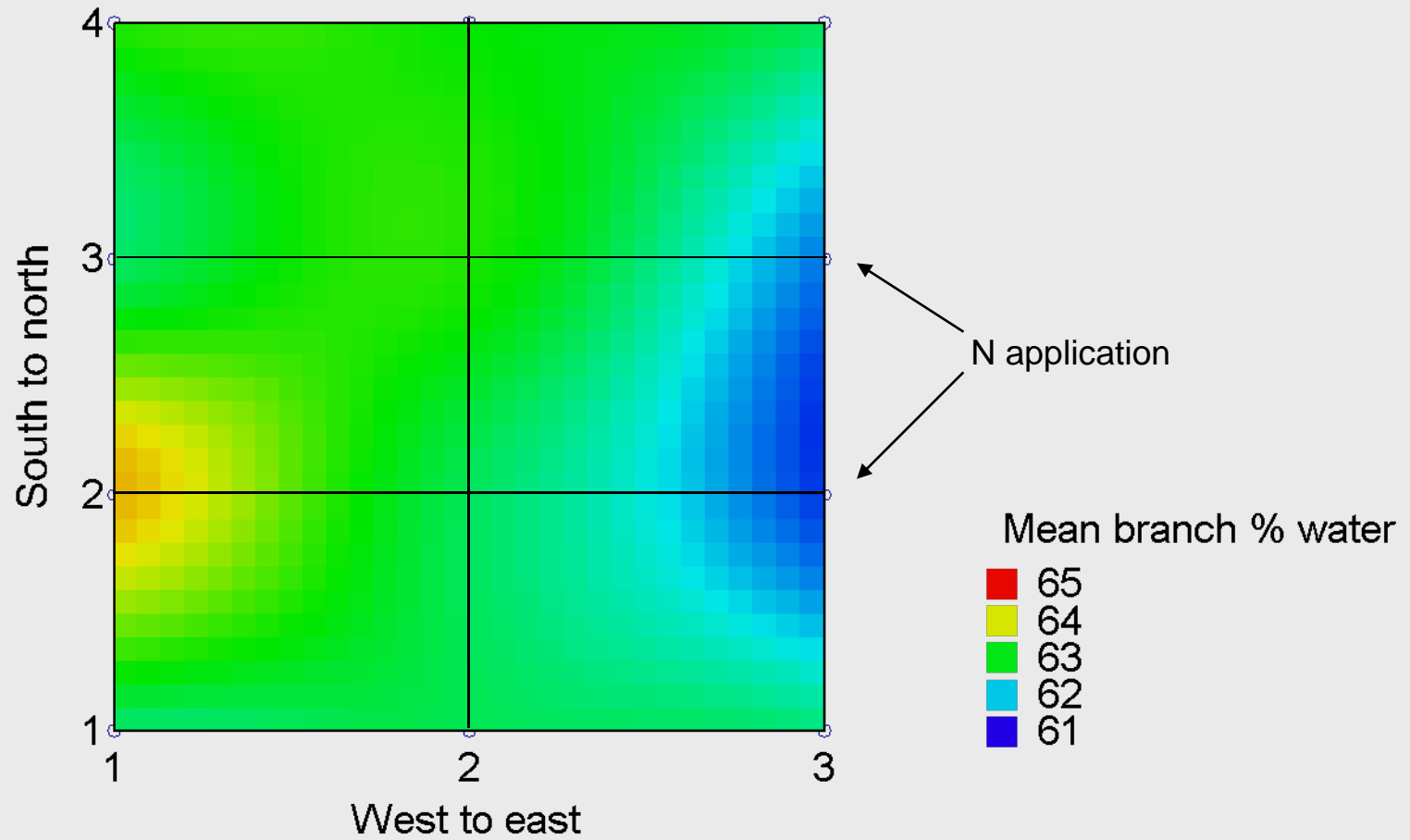
Bill Wiesenborn
MSCP
Reclamation
Boulder City NV

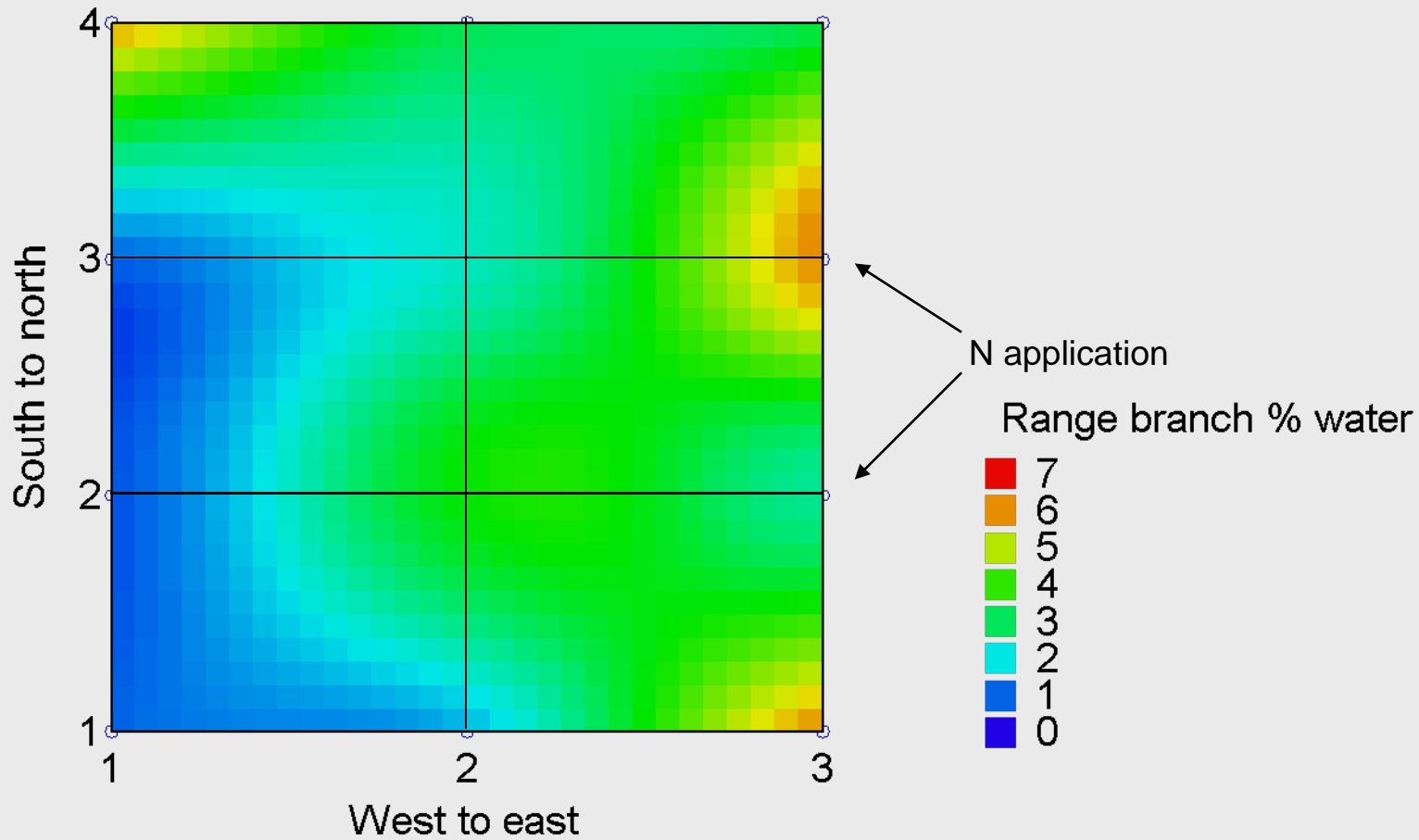
Importance of plant water and nitrogen

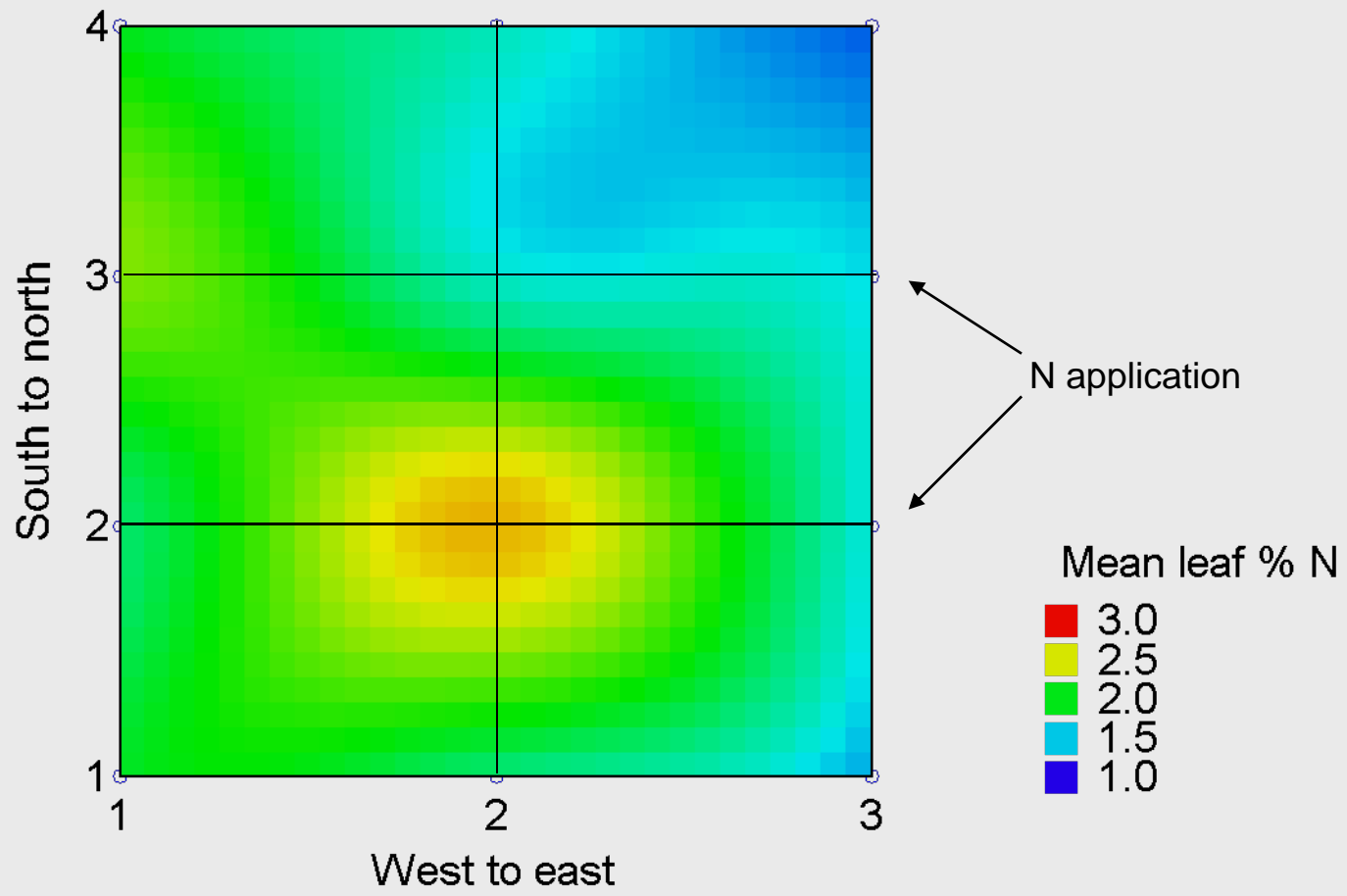
- 1) Insects obtain most of their water from their food
- 2) Plant-feeding insects are nitrogen-limited
 - plants are 1.5-5.0% N by dry weight
 - insects are 7-14% N by dry weight
- 3) Insect development and survival are affected by plant water and nitrogen concentrations

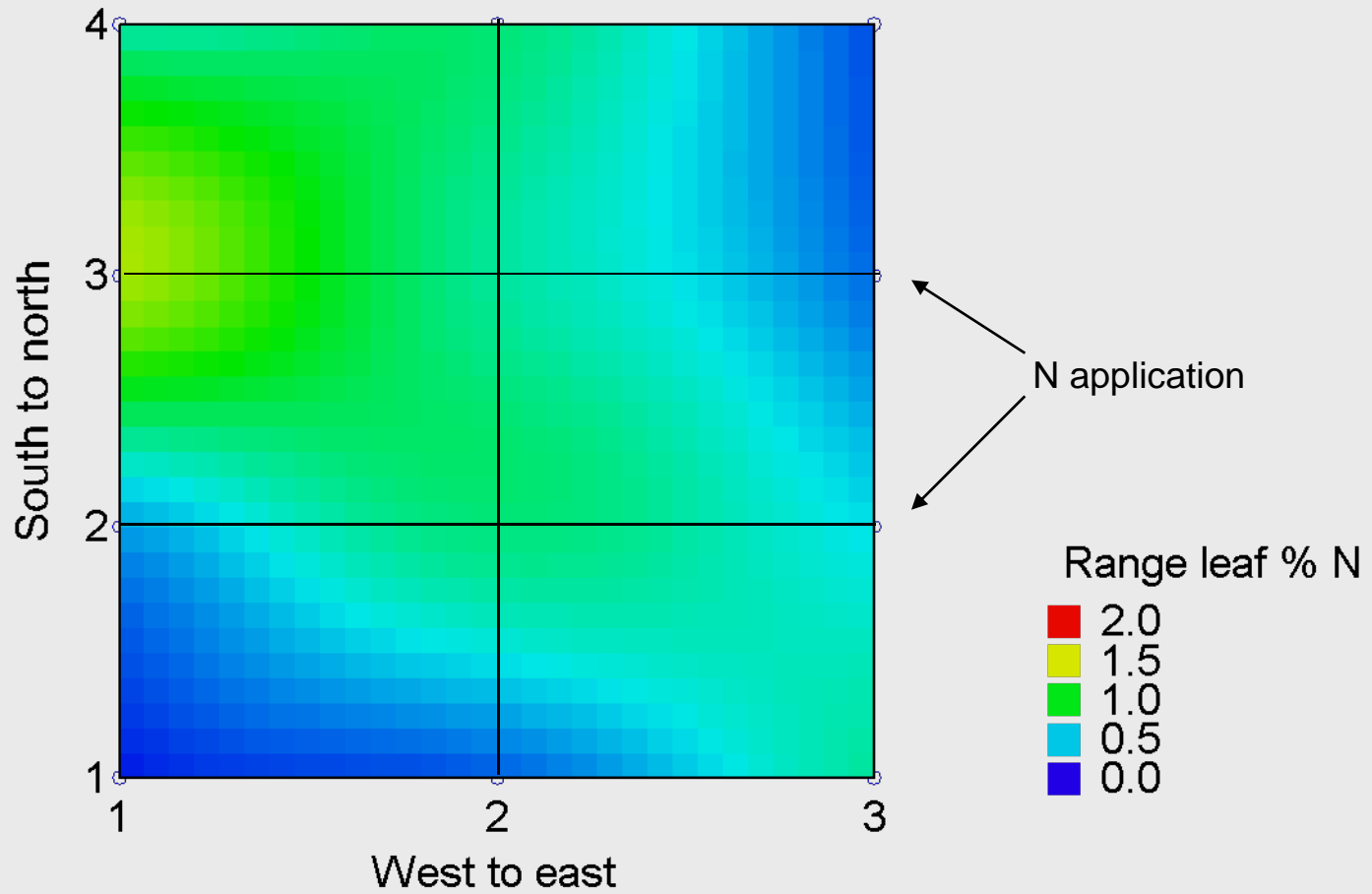


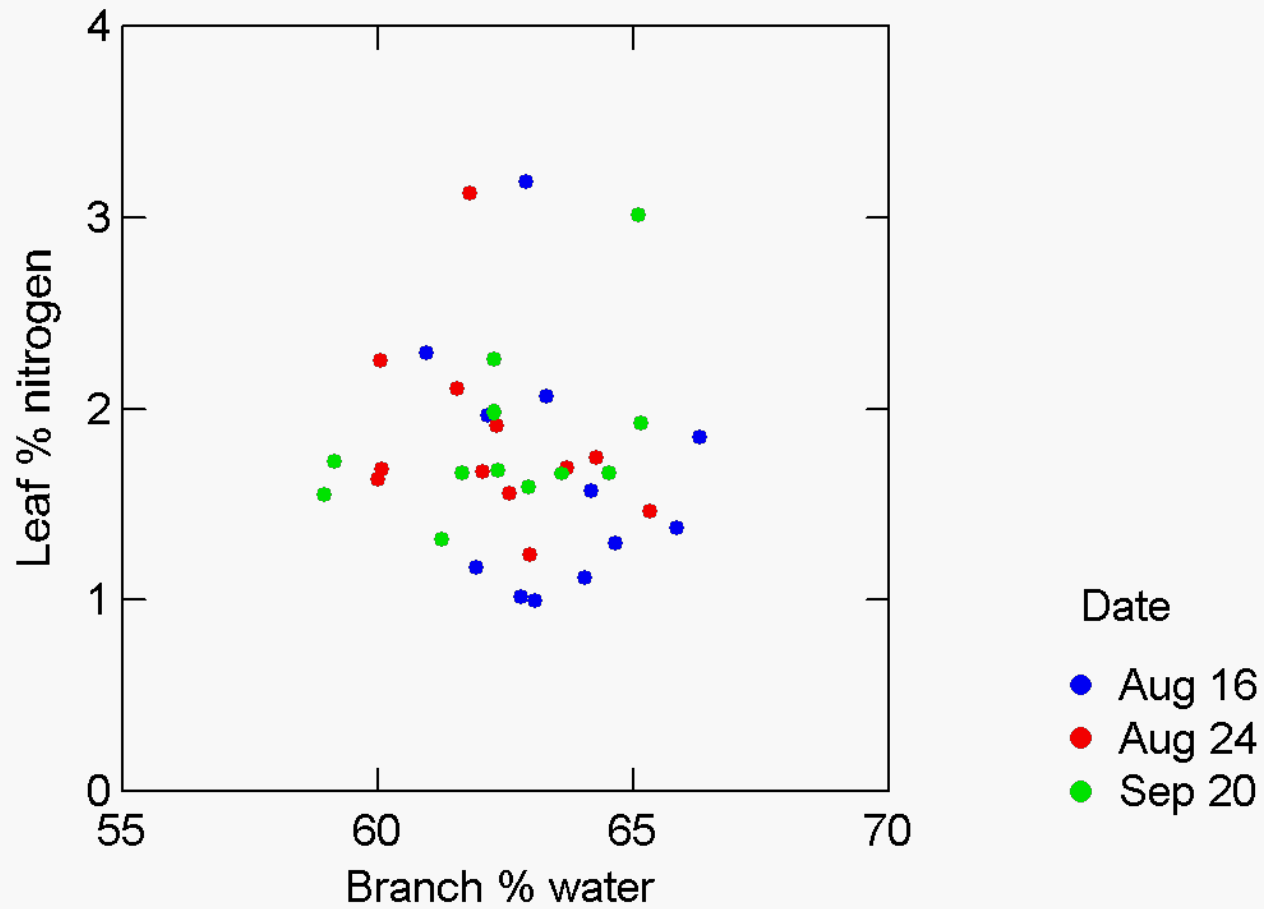


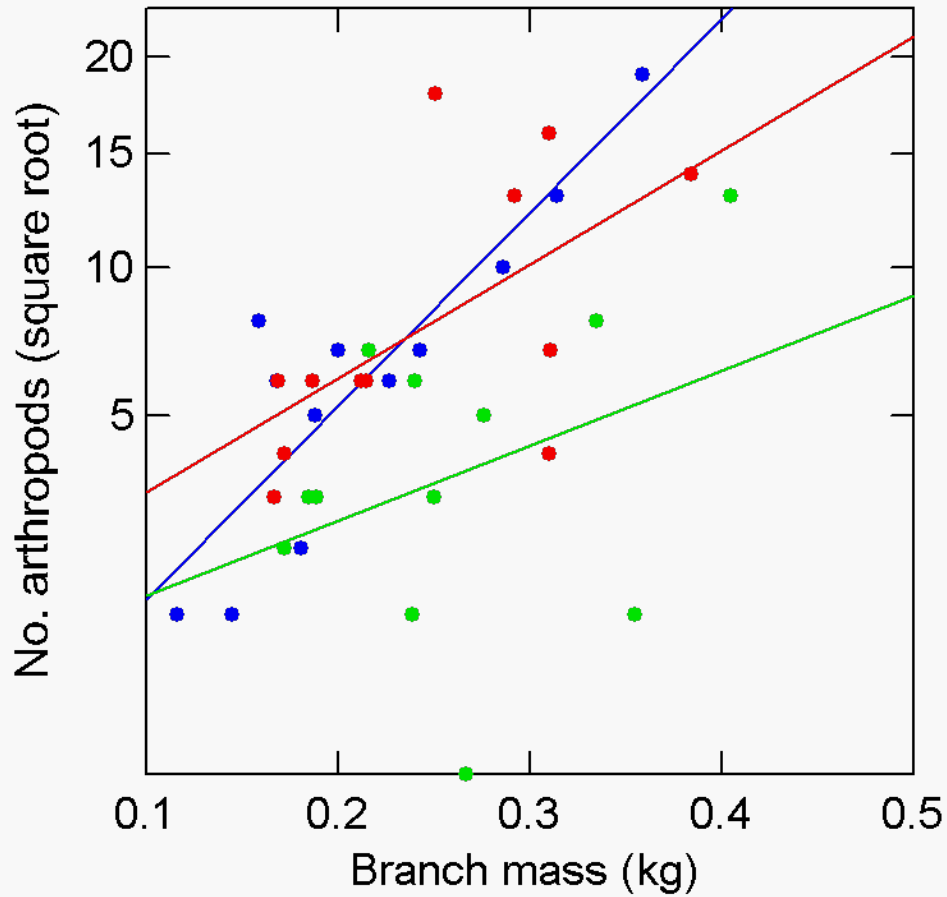










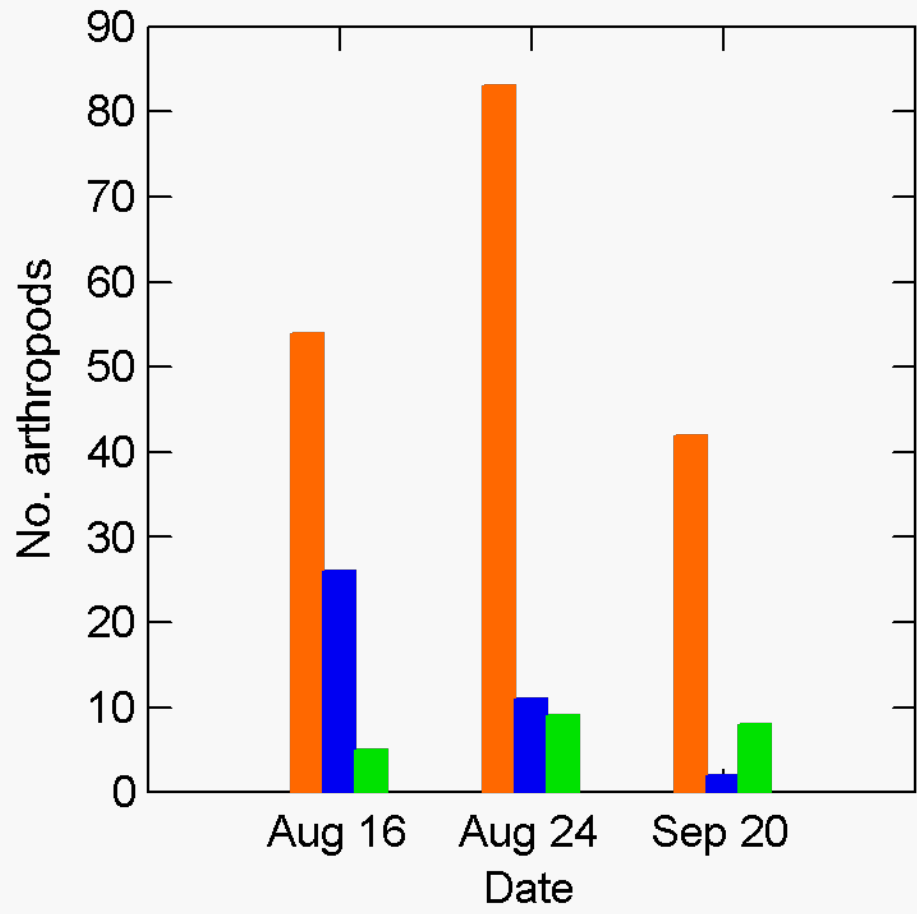


Date

● Aug 16

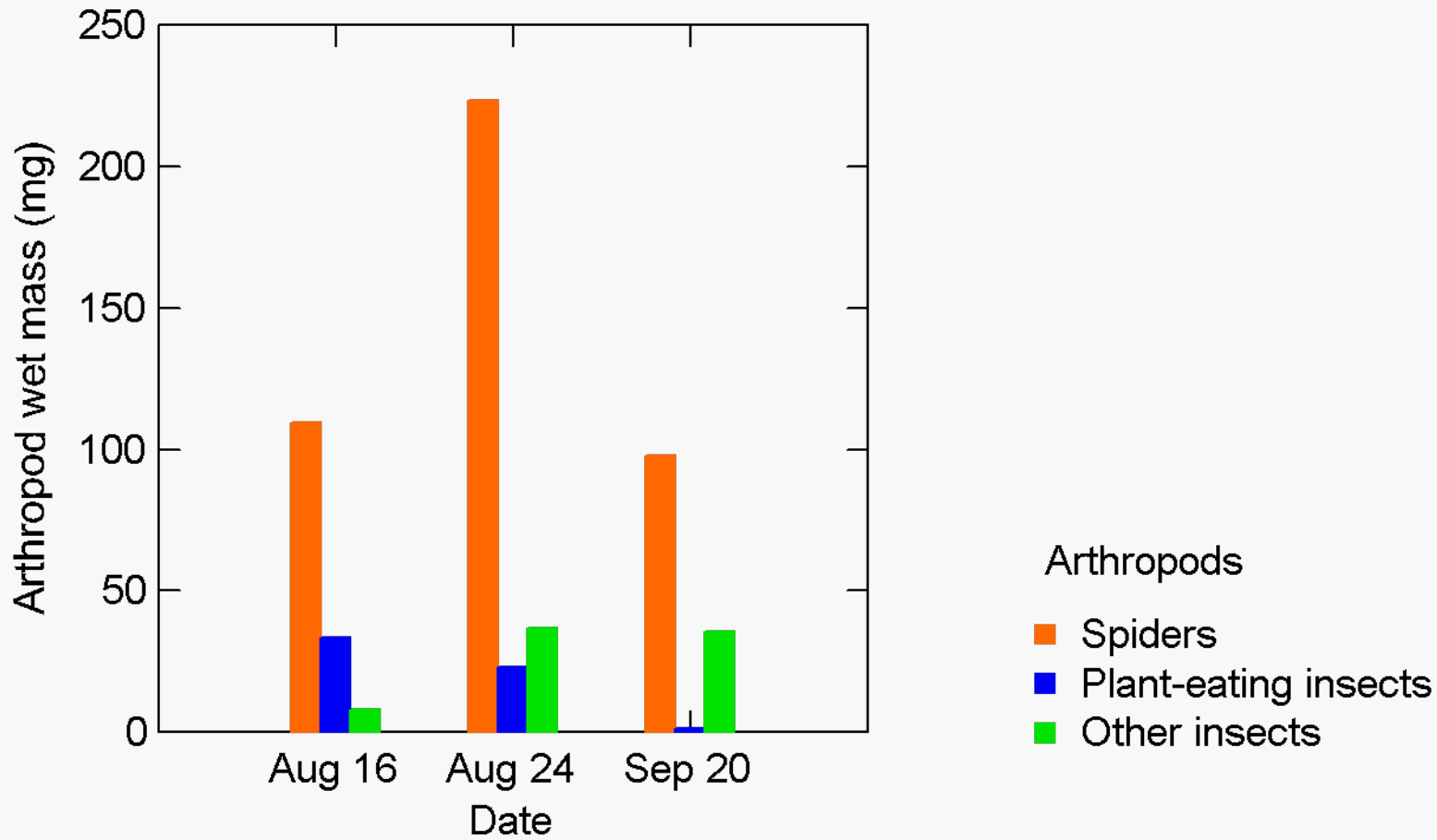
● Aug 24

● Sep 20

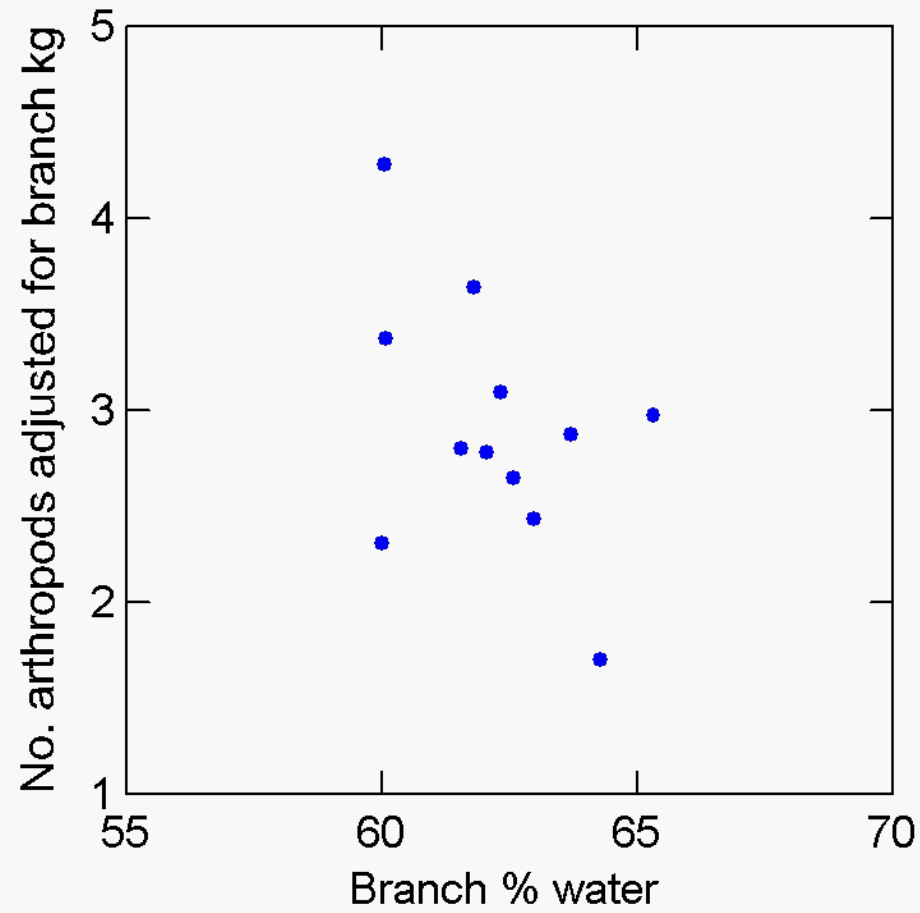


Arthropods

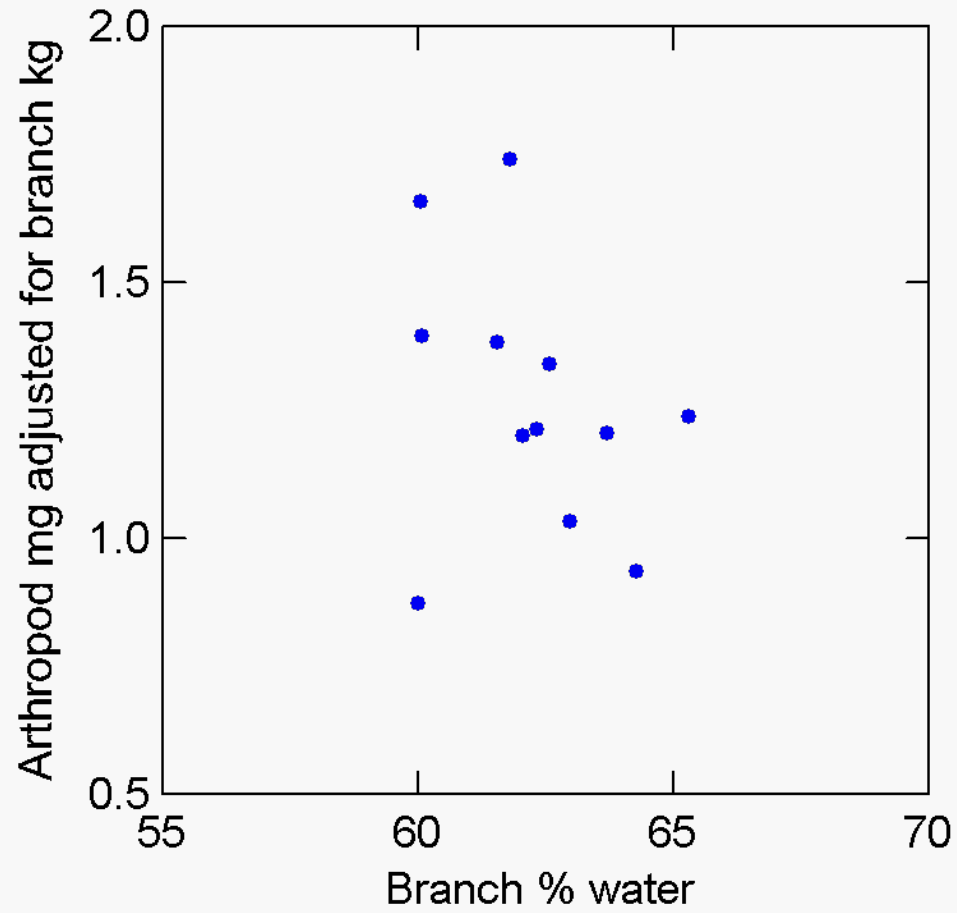
- Spiders
- Plant-eating insects
- Other insects



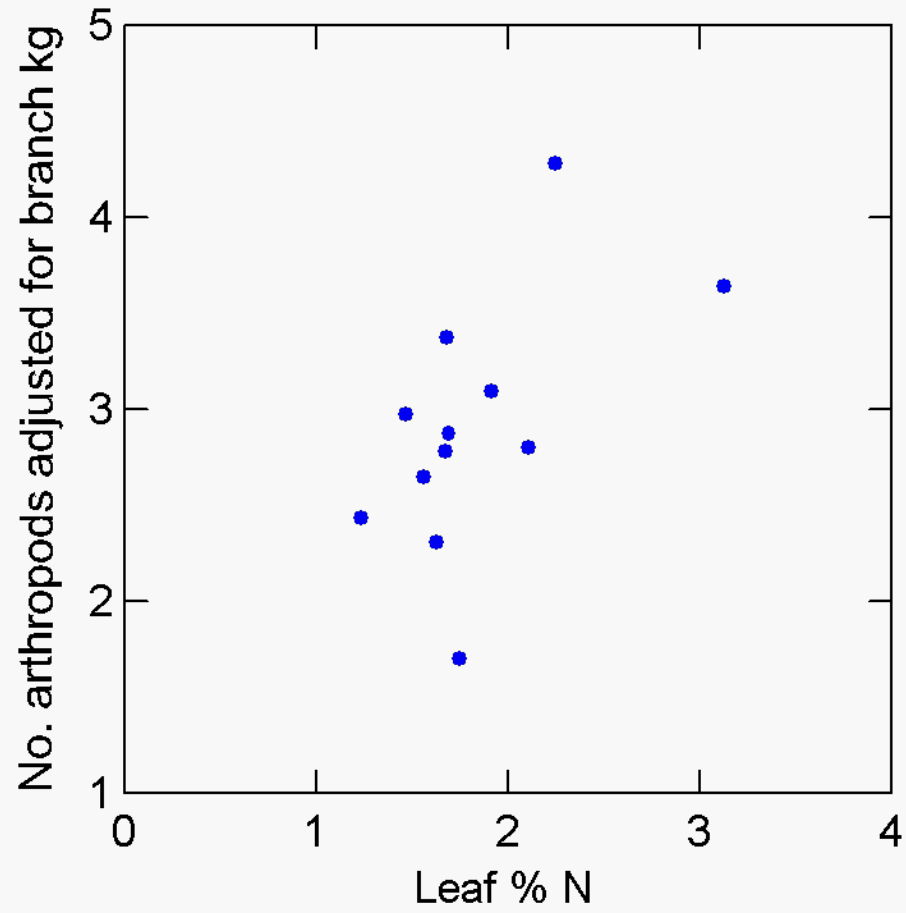
Aug 24



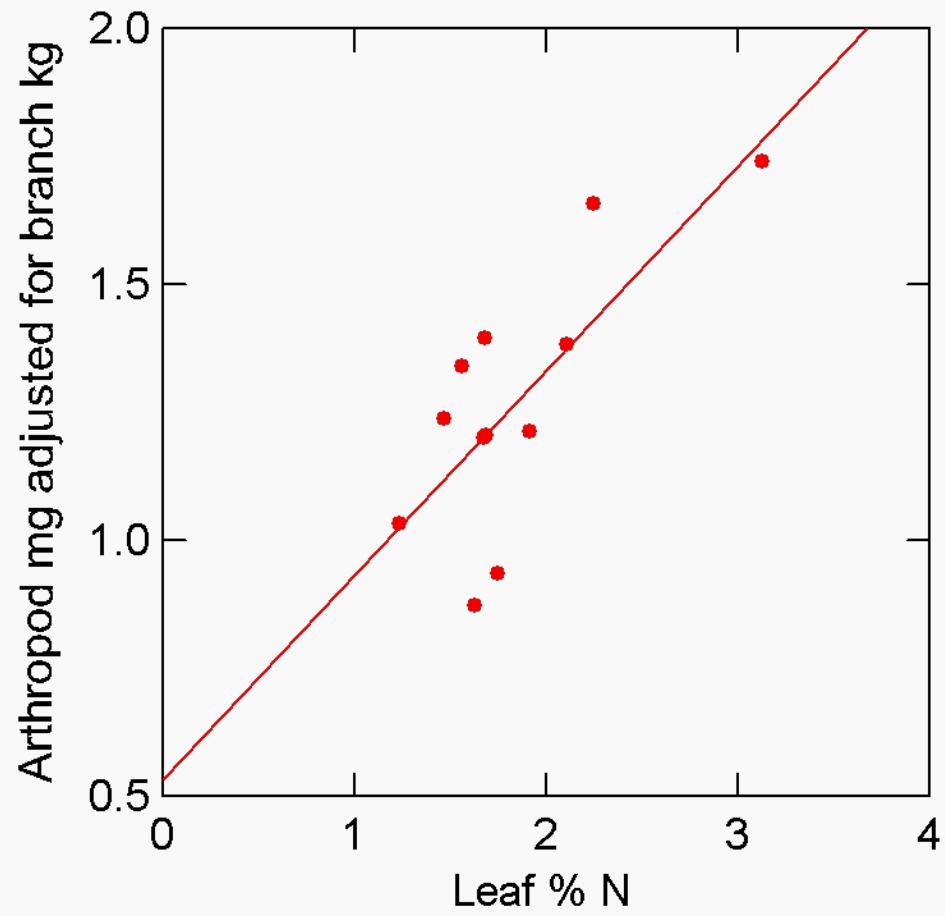
Aug 24



Aug 24



Aug 24



Summary

- 1) leaf nitrogen content influences spider and insect mass on branches when populations are high
 - leaf nitrogen concentration may need to be monitored
 - what is the optimum concentration for arthropods ?
- 2) effects of plant water content on arthropod abundance and mass not determined