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Highlights

- Variable rate irrigation (VRI) strategies were field tested at two locations.
- One strategy utilized a remote-sensing-based spatial ET and soil water balance model (VRI-RS).
- The VRI-RS treatment resulted in more irrigation due to water balance drift.
- Available water capacity was the variable with the greatest spatial variability.

Abstract

Improvements in soil water balance modeling can be beneficial for optimizing irrigation management to account for spatial variability in soil properties and evapotranspiration (ET). A remote-sensing-based ET and water balance model was tested for irrigation management in an experiment at two University of Nebraska-Lincoln research sites located near Mead and Brule, Nebraska. Both fields included a center pivot equipped with variable rate irrigation