

Examining the responses of Radiation Use Efficiency to CO₂: A new approach

Radiation use efficiency (RUE) has been a key parameter for developing simpler models of crop growth and yield. A great deal of effort has gone into measuring RUE in the field and in verifying its validity for predicting crop growth. However, a lack of data on responses of RUE to elevated CO₂ has resulted in the use of empirical relations that may lead to overestimates of crop yield to CO₂ enrichment. A new approach relating RUE to canopy quantum yield is presented that offers a more theoretical basis for estimating RUE responses to elevated CO₂.