Approach
We simulated yields for miscanthus, switchgrass, corn, and soybeans in the rain-fed region of the U.S. by using the DayCent model under 27 different weather conditions to examine the returns from producing different crops and the risk of loss/gain in income relative to a reference scenario in which the farmer only plants corn and soybeans or keeps land under pasture.

Results
- Loss aversion affects acreage and spatial pattern of economically viable energy crop production, particularly when farmers are credit-constrained and have a high discount rate (see figure).
- It also reduces incentives to grow miscanthus due to high upfront establishment costs and greater risk of loss of income.
- Conversely, loss aversion increases incentives to grow switchgrass, particularly in Northern Plains and Upper Midwest

Significance
- Policymakers should target biomass production to low-quality land where farmers are less sensitive to losses.
- With loss averse farmers, an establishment cost share subsidy would be more effective than annual payments to induce more miscanthus production.