

# Ecosystem benefits of perennial grasslands

Row crops like corn and soybeans are typically managed to maximize yields. But some agricultural systems, such as perennial grasslands for grazing, offer more than a harvest—they support soil health, healthy ecosystems and stronger communities. When these added benefits are valued alongside farm income, grasslands can deliver more total value per acre than row crops.

Each year, perennial grasslands produce at least **\$143 per acre** more value than row crops.

## HOW WE ESTIMATED DOLLAR VALUES

Estimates include costs related to:

- Mortality risk
- Consumer behaviors
- Property value change
- Clean-up costs

By nature, **these estimates are conservative** because they cannot include all environmental and health effects of agriculture.

### AIR POLLUTION

Row crops **cost \$235/acre** more in air pollution each year than perennial grasslands.

! *Livestock waste, fertilizers, and diesel equipment all contribute to air pollution, a leading risk factor for disease.*

### NITROUS OXIDE EMISSION

Row crops **cost \$13/acre** more in nitrous oxide emissions each year than perennial grasslands.

! *Nitrogen fertilizer emits nitrous oxide, which contributes to greenhouse gases that trap excessive heat on Earth.*

### NITRATE LOSS TO WELL WATER

Row crops **cost \$12/acre** more in nitrate loss to well water each year than perennial grasslands.

! *Nitrates from fertilizers can spread through soil to private wells, contaminating drinking water and creating health risks.*

### SOIL EROSION

Row crops **cost \$30/acre** more in soil erosion each year than perennial grasslands.

! *Wind and water carry farmers' topsoil elsewhere, impeding irrigation and increasing the risk of flooding.*

### PHOSPHORUS LOADING

Row crops **cost \$50/acre** more in phosphorus loading each year than perennial grasslands.

! *In non-arid environments, phosphate is the leading cause of algal blooms that produce harmful chemicals and damage ecosystems.*

### AGRICULTURAL PRODUCTION

Row crops **make \$433/acre** more in agricultural production each year than perennial grasslands.

! *The market values of corn and soybeans are inflated by government support programs.*

### NITRATE LOSS TO LAKES & RIVERS

Row crops **cost \$236/acre** more in nitrate loss to lakes and rivers each year than perennial grasslands.

! *Nitrates dissolve in rainwater and move downstream, harming aquatic ecosystems and preventing human recreation.*

