

## SOIL LOSS FROM EROSION

### BACKGROUND

- Soil erosion is the removal of soil by water and wind. It is a natural process. Agriculture can accelerate soil erosion. Cropland is particularly vulnerable because the soil is disturbed (i.e., tilled) and exposed (i.e., not covered by vegetation).
- Soil erosion on cropland is a major environmental concern. Erosion removes the top layer of soil that has the highest concentration of organic matter and microorganisms. Eroded soils are less productive and require more inputs—fertilizers, pesticides and water—to maintain yields. They are less able to retain moisture and allow water infiltration making them less resilient to drought and flood events. Soil particles transported off site by erosion carry nutrients, chemicals and sediments that pollute our air and water, which affects the health of all species.

### ESTIMATED SOIL LOSS FROM EROSION

- The 2010 National Resources Inventory (NRI) tracks natural resource conditions and trends on non-federal lands including soil erosion on cropland. The USDA Natural Resources Conservation Service released the 2010 NRI in September 2013.
- According to the NRI, in 2010 every state lost soil on cropland due to erosion. Nationwide we lost 1.7 billion tons of soil in 2010.
  - If you spread this soil out to a depth of 1 inch, it would cover more than 11.4 million acres, which is equivalent to the states of Massachusetts and Vermont combined **OR** about half of the state of Indiana.
  - It would take more than 15.6 million railroad cars to haul 1.7 billion tons of soil.
  - If piled on the National Mall (which is 146 acres), it would reach a height of 1.3 miles—12.5 times the height of the Washington Monument.
- States experiencing the largest total losses in tons in 2010 were:
 

1. Texas	225,044,854
2. Iowa	146,768,998
3. Minnesota	140,241,850
4. North Dakota	132,950,209
5. Kansas	101,618,510
- Reducing soil erosion with conservation practices improves soil health. Healthy soils require fewer costly inputs of pesticides, fertilizers and water, and are more resilient to the effects of extreme climatic events like droughts and heavy rains. Reducing erosion keeps farms profitable, protects the environment and reduces costs to communities.

## FARMLAND INFORMATION CENTER

- According to the 2010 NRI, between 1982 and 2010, agricultural landowners working in partnership with conservation organizations have reduced soil erosion on cropland by 43.6 percent.
- States with the largest percentage improvement to the average annual soil loss rates due to **water** erosion were:
  1. Oregon 61.0%
  2. Kentucky 57.1%
  3. Tennessee 55.7%
  4. California 55.1%
  5. Missouri 54.7%
- States with the largest percentage improvement to the average annual soil loss rate due to **wind** erosion were:
  1. Iowa 85.0%
  2. Wisconsin 71.4%
  3. Oregon 58.6%
  4. Montana 58.1%
  5. Wyoming 56.8%

(Source: 2010 National Resources Inventory, Tables 2, 13 and 14)