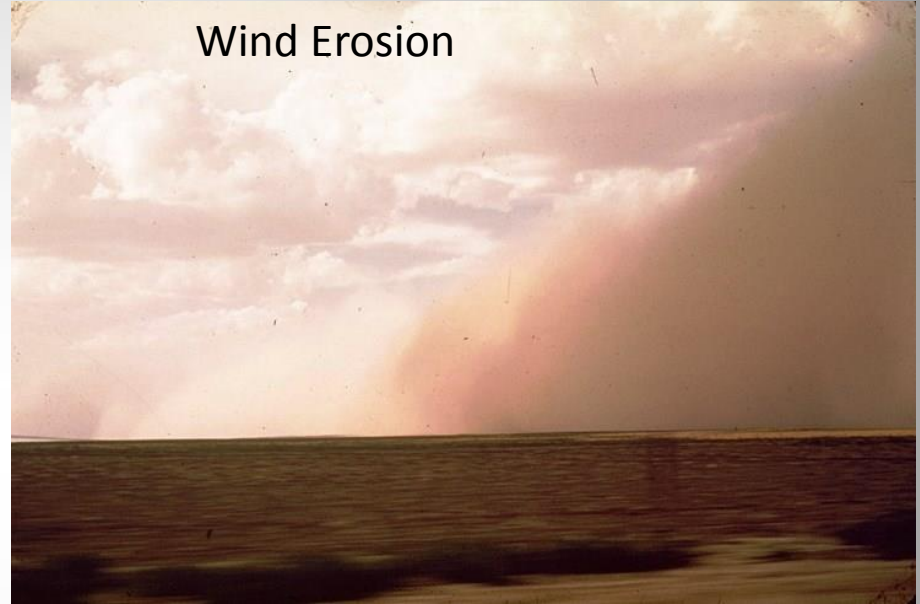


Soil Resources In Agricultural Areas

Water Erosion



Wind Erosion



Protecting the soil from eroding is the major concern in managing soil resources. Cropland has the greatest risk to loose excessive amounts of soil. Maintaining soil quality; its' tilth, fertility, organic matter, etc. is also important. This presentation is to introduce you to many of the conservation practices used to sustain soil resources.

Explosive Power



Upon impact with the soil, a rain drop throws small particles into the air. Flowing water then picks up these soil particles and carries them away.



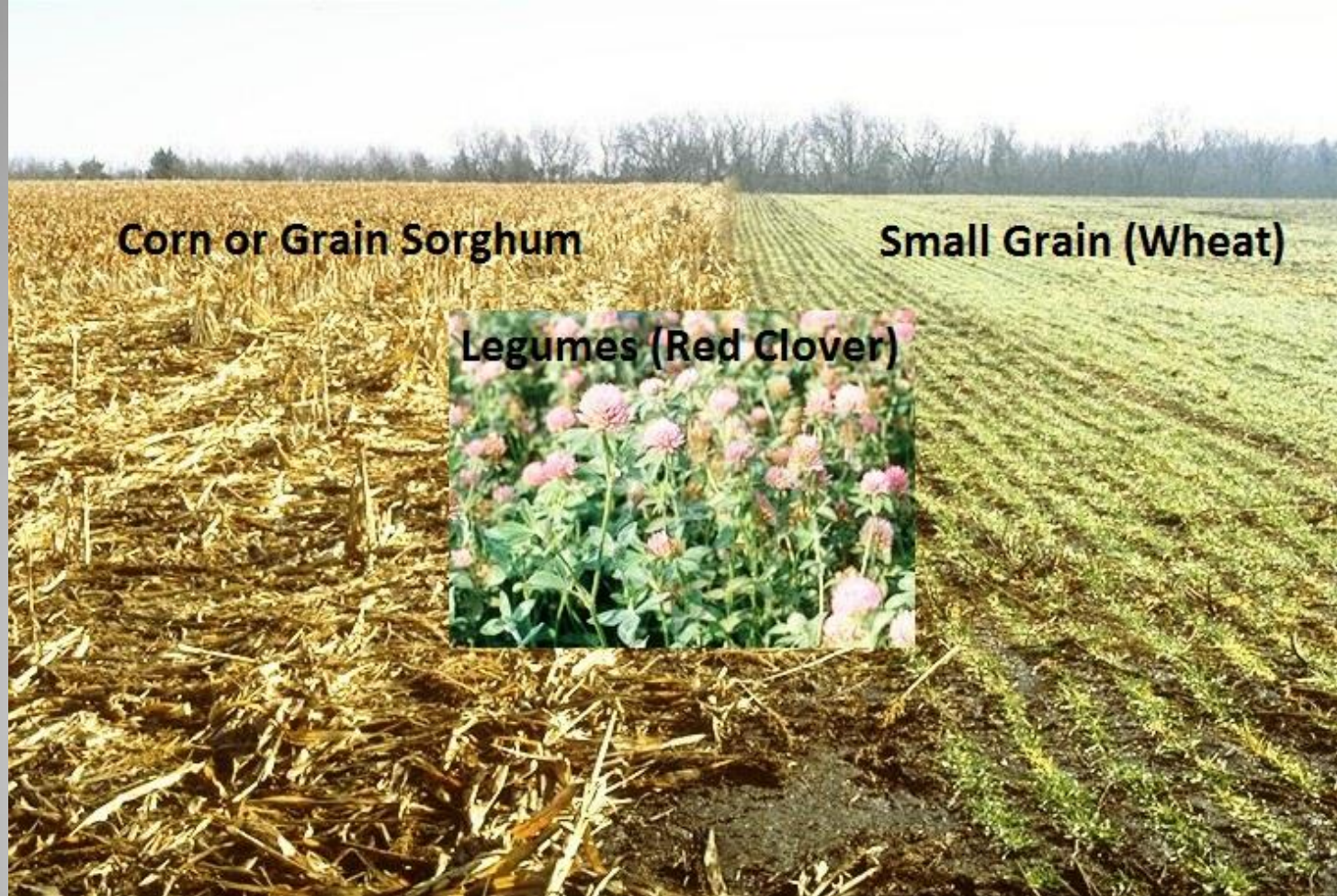
An unprotected crop field severely eroded after a rain storm. Much of the good top soil has washed to the bottom of the field. Other amounts have washed down into an adjacent stream.



During wind erosion, dry soil particles are dislodged by other blowing soil particles. This 1930's photo depicts a town soon to be enveloped by a giant dust storm.



Severe soil erosion from wind in the 1930's was a result of drought coupled with unsound farming practices. Millions were impoverished. The photo on the right though, was taken at 10:00 AM, March 13, 1991 in downtown Topeka, Kansas, looking into the sun. There was so much soil in the air it darkened the sky. So the problem is not just something of the past.



Two of the best soil protection conservation practices are crop rotation and leaving crop residue on the soil after harvest. At least one legume (a nitrogen fixing plant) such as soybeans or red clover in a good crop rotation with other crops breaks weed, insect and disease cycles. A tremendous amount of tillage and chemicals are used each year trying to battle these problems which could simply be reduced through crop rotation. Less tillage would leave more crop residue. The rain drops hit plant material, not bare ground. The plant material also shields the ground from wind. The soil stays in place.



During heavy rain storms terraces catch water and lead it slowly off the field. Slowing down the speed of flowing water reduces soil erosion.



Grassed waterways are used to provide a place for large amounts of storm water to flow without causing erosion. Grassed waterways are also good at filtering nutrients and pesticides from the water.



Contour farming (planting crops along the slope of the land) and contour strip cropping (alternating different crops in the same field) reduces soil erosion by trapping soil on the field.



In areas prone to wind erosion, alternating strips of different crops are planted perpendicular to the prevailing wind to reduce soil from blowing away.



No-till, is high residue farming. The soil is not tilled between each year's crops. This keeps the soil covered all year round, protecting it from both wind and water erosion. No-till farming also improves soil physical condition and organic matter levels.

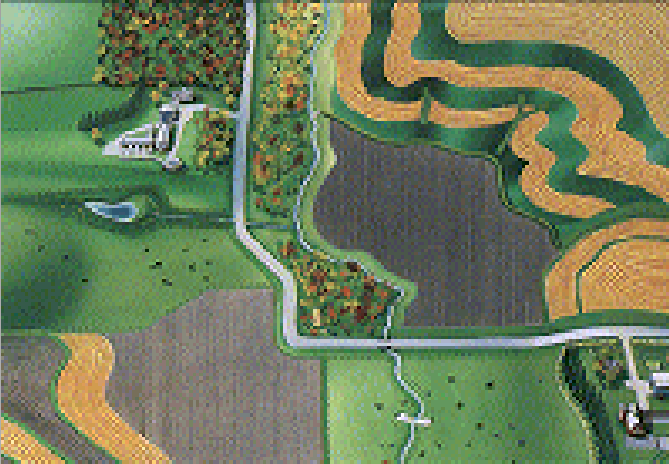


Trees planted in windbreaks protect homes from cold winds. When planted along crop fields, trees protect soil from being blown by the wind.

**Established
Native Grass**



Sometimes the best conservation alternative is to return cropland back to grass or trees.



It takes 100 years to produce 1 inch of top soil.
There are many choices to properly manage
soil resources for sustained use.

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