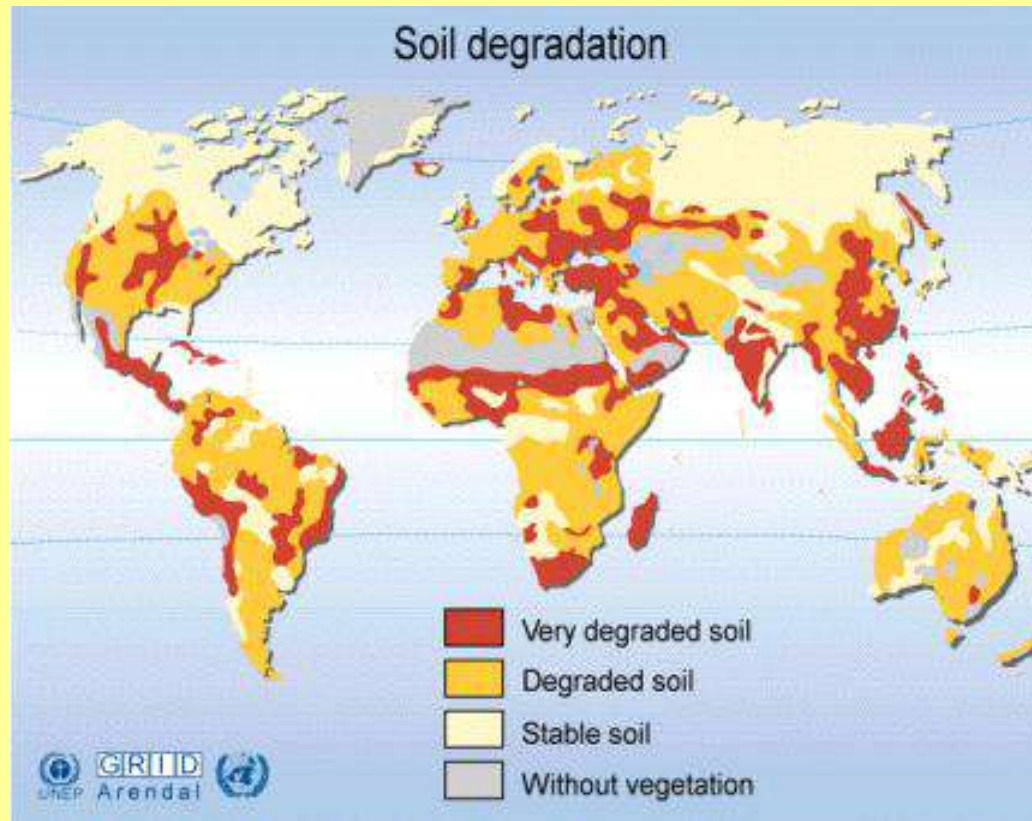


# Soil Erosion

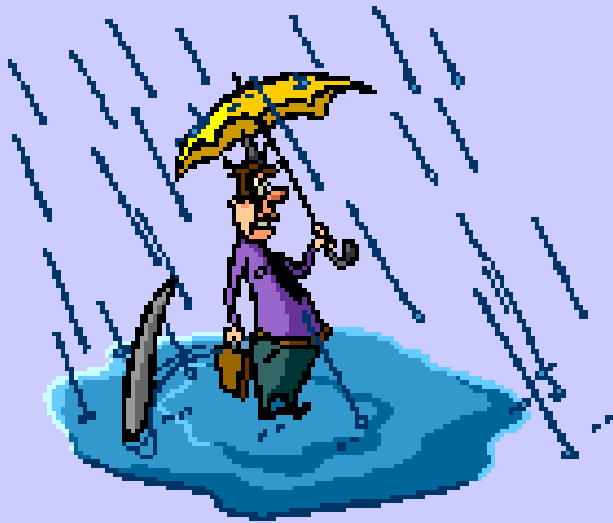
Soil erosion happens all over the world.



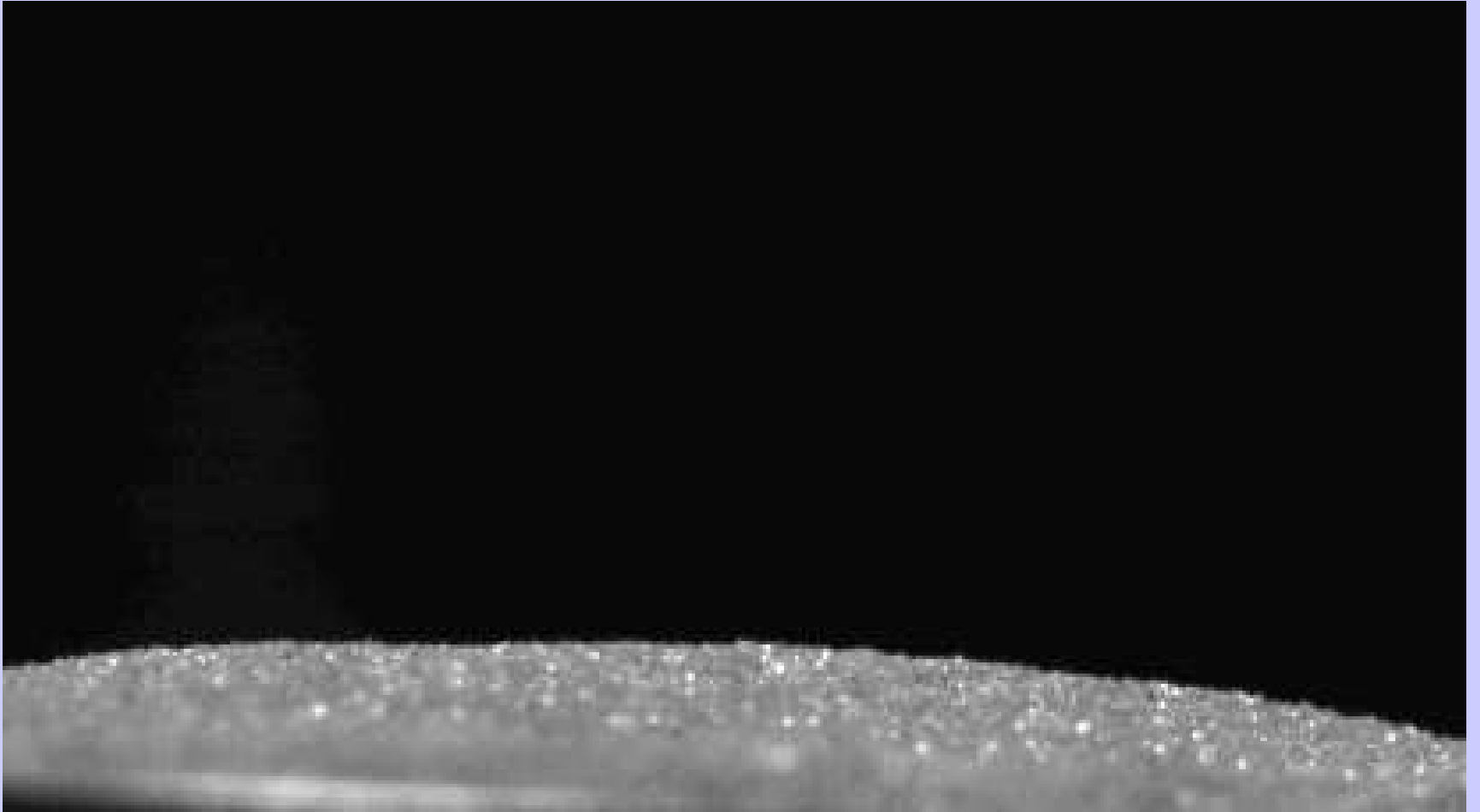
# What causes soil erosion??

- removing plant cover by burning pasture or felling trees
- having too many animals on the land
- bad cultivation practices
- wind
- frost
- rain and water runoff
- extreme climatic effects

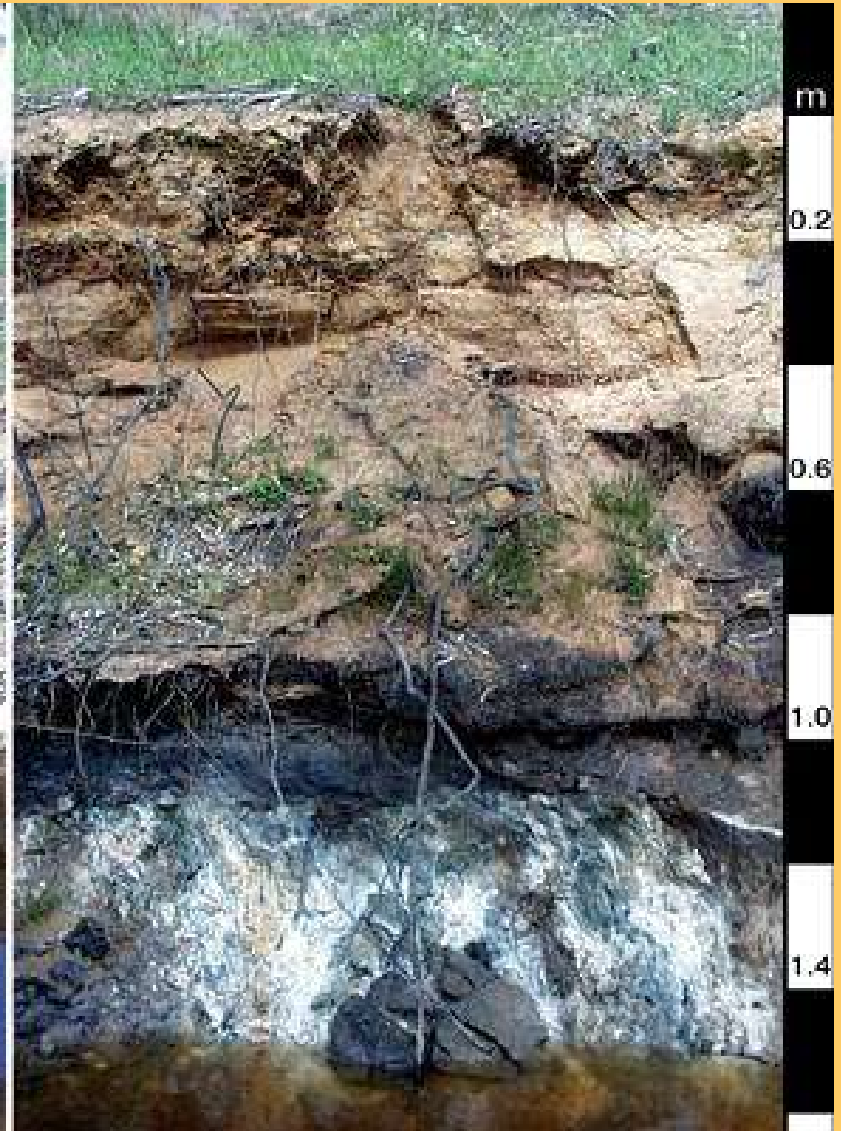
Lets start with water...



Even a single rain drop can dislodge soil, and start erosion



# Example of gullies formed by erosion



As gullies increase, more erosion takes place by collapsing of the walls, and sediment can be carried far away.



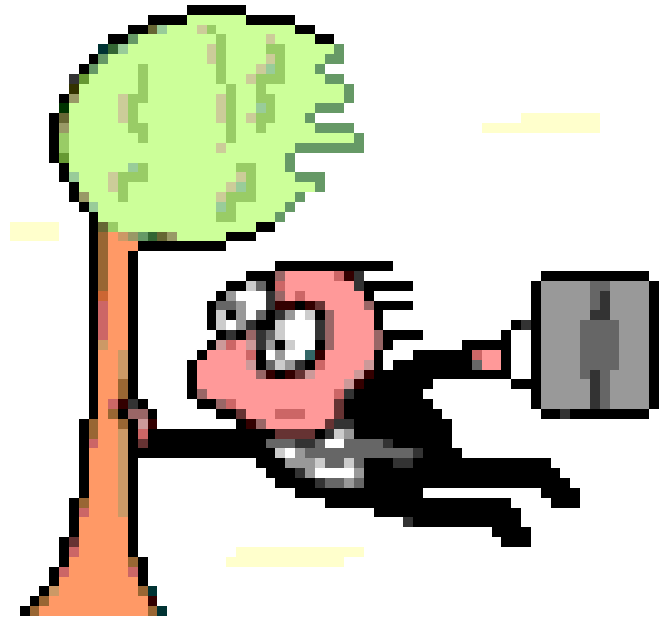


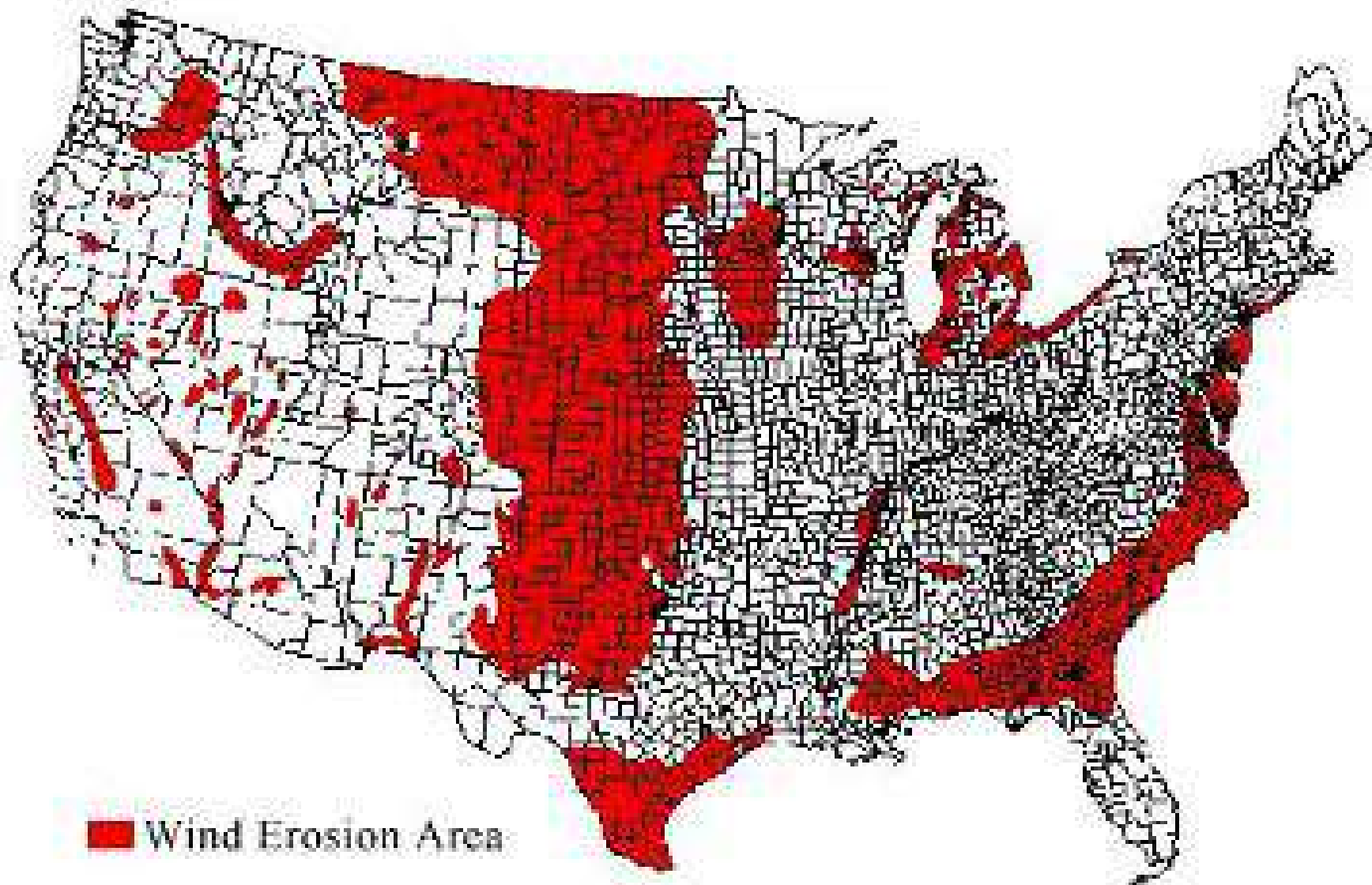


Note the color of the river water....Why?



Now lets talk about wind





■ Wind Erosion Area

**Severe dust storm. An example erosion by wind.**





Dust storm approaching Stratford, Texas,  
on April 18, 1935

Credit: NOAA George E. Marsh Album

Dust storms can carry loose unprotected soil into cities, too.



# Results of both wind and water erosion





# What about animals?





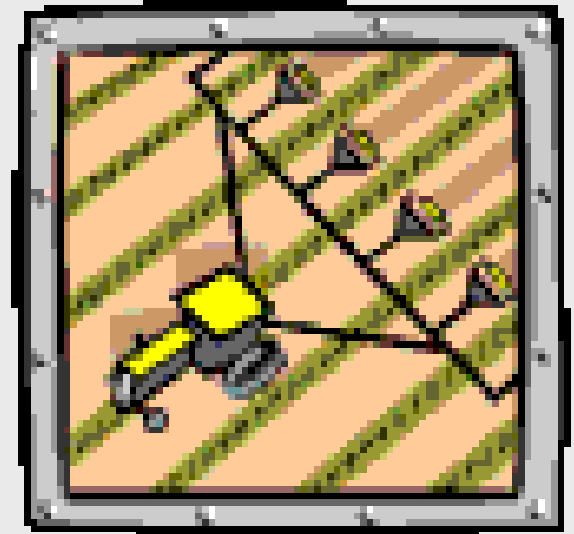
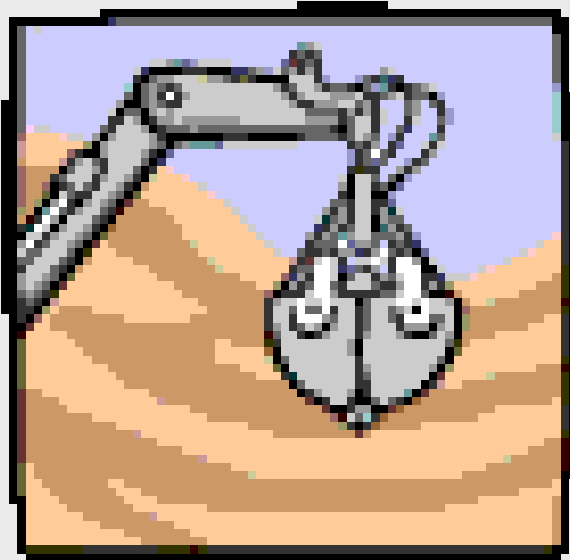
Many animals graze....is this good or bad for the soil??





**Overgrazing leads to the extinction of indigenous plant and animal species, soil erosion, and eventual desertification that renders once-fertile land barren.**

# How do people effect soil erosion?





# CONSTRUCTION SITES

# Residential construction effects on soil



# Commercial construction



# Traditional Plowing





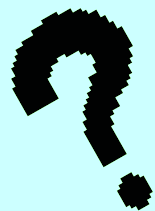


# Deforestation

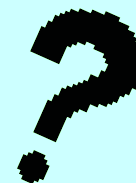








So what can we do?

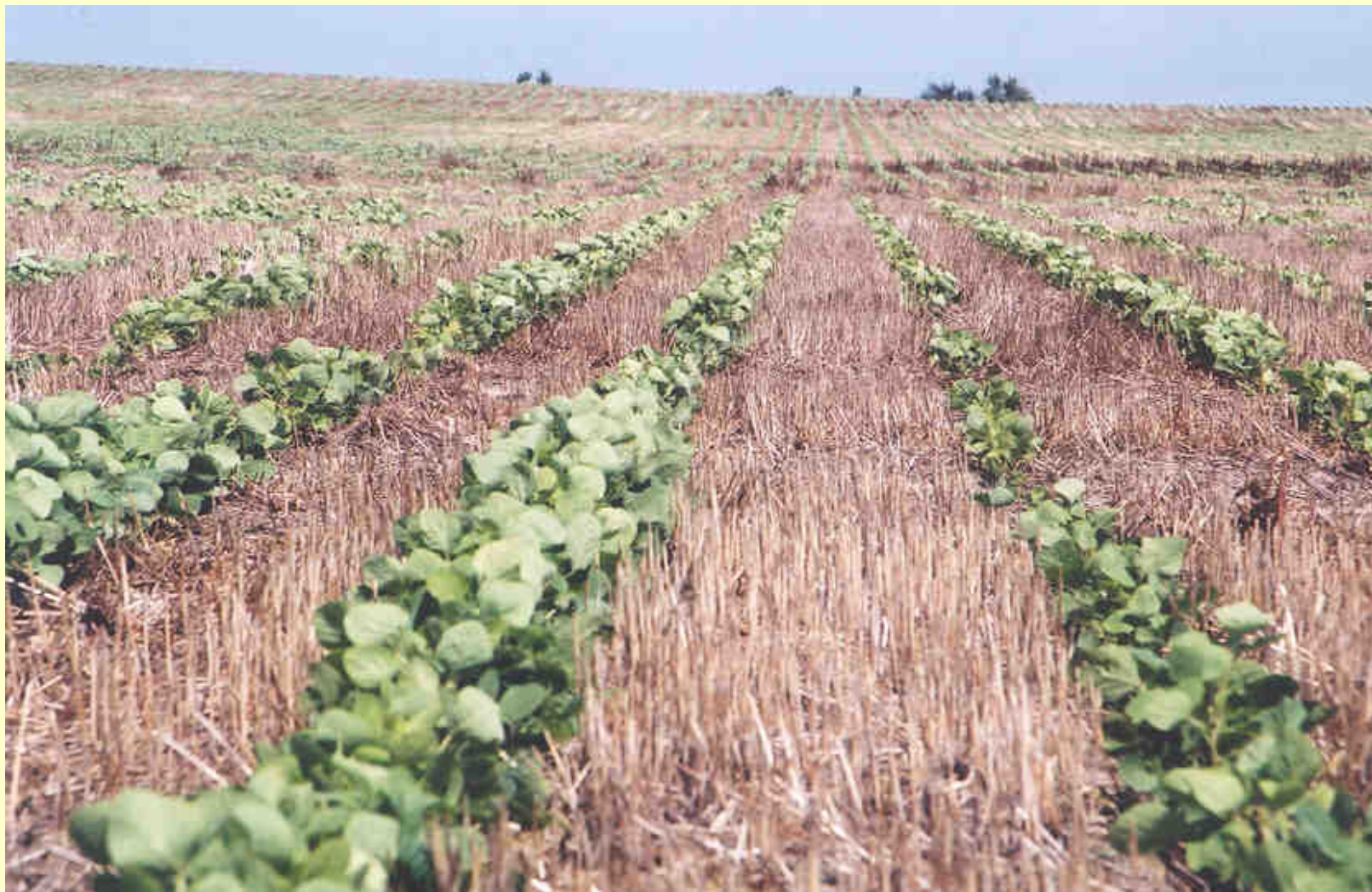


# Contour Farming





# No-till Farming





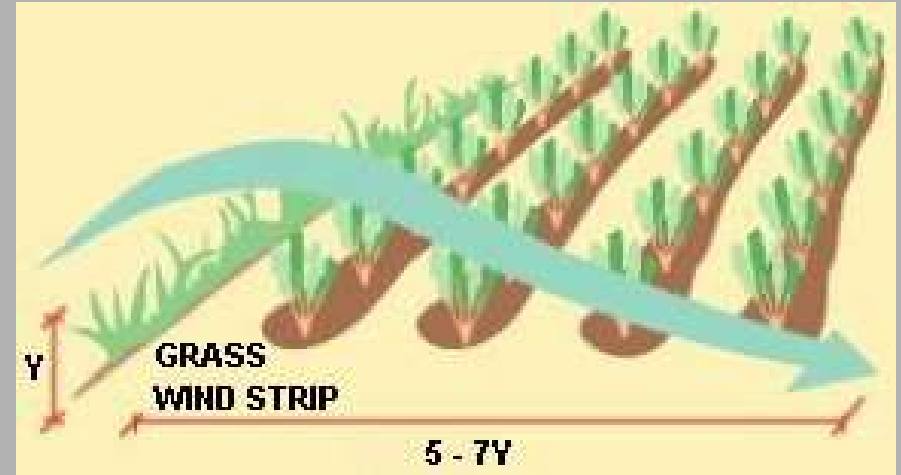
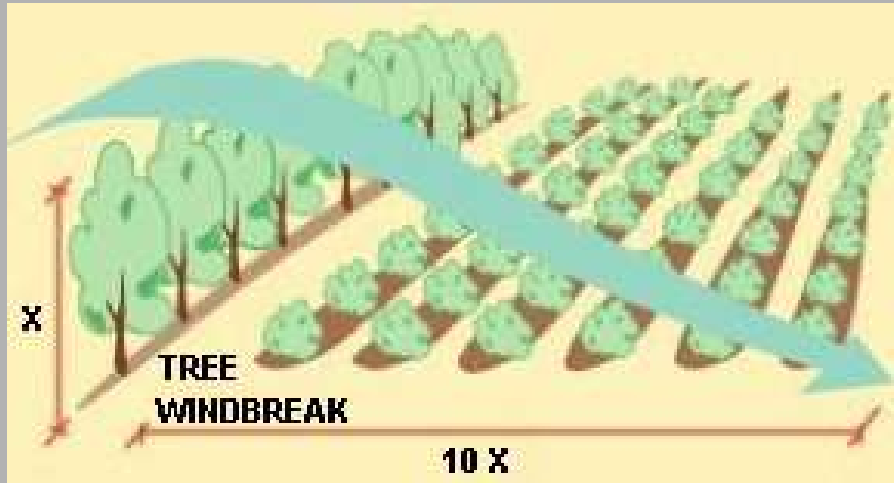
*In no-till farming, the root structure of the previous years' crop helps hold the soil together and prevent erosion.*



# Terracing



# Wind breaks and Wind barriers



**Wind barriers reduce the speed and soil carrying ability of the wind. Tree windbreaks protect an area about ten times their height. Grass wind barriers are more flexible and can be pushed down by high winds, reducing the protected distance to five to seven times the barrier height.**

# Wind break



# Wind barrier



**Grassed waterways** protect soil against the erosive forces of concentrated runoff from sloping lands. By collecting and concentrating overland flow, waterways absorb the destructive energy that would otherwise cause channel erosion and gully formation.



# Soil mats during construction



# Re-seeding and planting trees



Chronicle / Michael Macor

# Covering with mulch





# Spraying water to prevent wind erosion



# Retaining walls





Questions ?