

(while half the teams are creating their logos to promote their pizzeria, the other teams can fill their soil boxes)

- **Prepare Your Experiment:** Place topsoil in one half of the Plant/root Observation Plexiglas box and subsoil or sand in the other half. The chamber is narrow (approx. 1/2" wide) so you can see the (roots and plant) when the seeds germinates. Compare growth and differences of plant and root formation of corn and soybeans in topsoil vs. subsoil or sand.

Team Answer-Will there be a difference in plant growth in two weeks and if so why?

Discover the Value of Protecting Topsoil

- Keep a journal, writing what you observe in the two boxes. Example ..note growth of roots & plants.
- Plant (2 kernels of sweet corn & 2 soybean seeds) in the topsoil side and repeat in the subsoil or sand side.
- Place the observation box where it can have sunlight and temperatures above 60 degrees F.
- Water each side the same, (a couple tablespoons each day over the seeds).
- Compare the growth in the topsoil and subsoil or sand over a 1, 2 and 3 week period.
- At the end of the each of the three periods, describe what you have demonstrated and why it is important to protect our food producing soils from washing away!

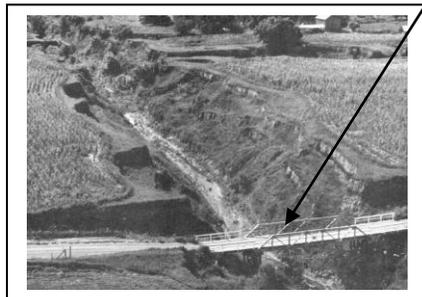
*Soil Conservation Service (SCS) is now the Natural Resource Conservation Service (NRCS).

In 1950s the *Soil Conservation Service working with farmers, transformed gullies to productive land.

Below: Eldon Weber's firsthand knowledge of why soil and water conservation is important!

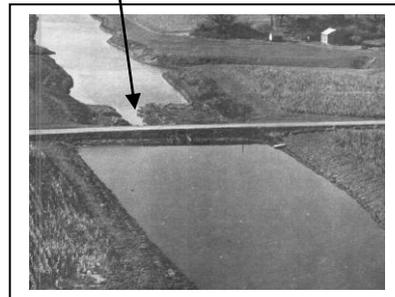
Weber Farm Woodbury Co. Iowa 1950. Same site 1960 with terraces, contouring & dams/ponds

120' wide, 45' deep gully **before** conservation



By SCS photographer 1950

Ponds & grass banks **after** watershed work completed



Taken from air by Eldon *1960 & *picture taken 7-1-11, (51 years later)



Subsoil Top Soil



Importance of soil and water conservation!

The force of the raindrop as it hits an unprotected soil surface starts the erosion process.

With all the severe erosion and flooding, it is important to give children a general understanding of the importance of conservation. The uncontrolled raindrop erodes topsoil. As topsoil is washed off it takes nutrients and fertilizer with it causing flooding, pollution, channel, river and canal sediment cleanout...

costing taxpayers billions of dollars.

APPENDIX

Jelly Bean Version of “Value Earth’s Topsoil” Supplement for Day 3 Activity.



Jelly Bean Version of “Value Earth’s Topsoil”
Total of 100 Jelly Beans....how many should be in each glass?

% of Earth’s surface of Water

How many of the 100 beans should be in this glass representing the % of the Earth’s surface that is water?

% of Earth’s surface of Land

How many beans should be in this glass representing the % of the Earth’s surface that is land (including mountains, deserts, swamps,)

% of Earth’s surface-Good Soil

How many beans should be in this glass, representing the % of the Earth’s surface with good soil to grow our food?

Labels for glasses one bean=1%

% of Earth’s Surface – Water
How many beans in this glass?

% of Earth’s Surface – Land
How many beans in this glass?

% of Earth’s Surface-Good Soil
How many beans in this glass?

Answers: 75%-75 beans

25%-25 beans

3% 3 beans

The 3 bean glass represents the small amount of the Earth that will grow food. We live in a part of the world sometimes referred to as the “bread basket of the world”, with a high percent of the valuable topsoil in the world, essential for our food production and economy. We take this for granted and don’t realize how important it is to protect our topsoil from erosion!