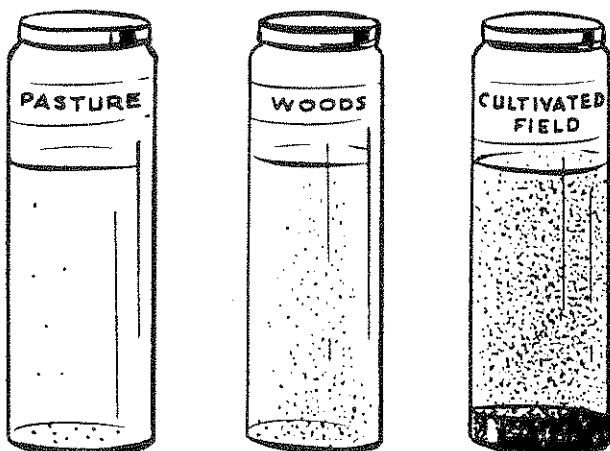


## VI. How Much Sediment Does a Stream Carry?

You will need three tall, narrow bottles, such as olive bottles, with tight stoppers for this experiment.



After a heavy rain, fill one of the bottles from a small stream that gets at least a part of its water from cultivated fields.

Then find one stream where all the water comes from woodland and one where the water comes from good pasture or meadow. Fill the other two bottles from these streams.

Allow all three of these samples to settle for a few days. Look at them daily and make notes on what you see.

### INTERPRETATION

There is an important story in these three bottles—the story of how sediment washed from farmland hurts the farmer and city dweller in many ways.

Sediment carried by streams hurts the farmer first because it is a part of his farm that is being carried away. Much of it is topsoil—the best soil he has. But a lot of it comes from gullies and roadside ditches, too.

After the sediment leaves the farm some of it gets into streams and begins to affect everyone. More than 3,200 water-supply reservoirs are losing water-storage capacity each year to sediment. Water bills are higher because the water must be filtered.

Seventeen percent of the electric power generated in the United States comes from hydroelectric plants. The storage reservoirs serving these plants are gradually filling with sediment.

Sediment fills road and railroad ditches, plugs culverts, and clogs stream channels so they must be cleared or the bridges raised. All this increases taxes.

Many harbors must be dredged annually to allow ships to enter.

Floods are more frequent and more serious, partly because the streams are choked with sediment, resulting in less capacity to carry floodwaters.

Silt harms fish by covering up their spawning grounds and shading out light. Many fish actually die during floods when their gills are clogged with silt.

Sediment is a national problem. The national sediment damage amounts to millions of dollars annually.

Soil and water conservation measures applied to farm and ranch land will greatly reduce sediment. Erosion that causes sediment deposition can be reduced up to 90 percent with soil- and water-conservation measures. Growing grass and trees will reduce erosion greatly. This is true because they give protective cover and add organic matter which helps the soil take in water more readily, as shown in Activity IV. Contour farming, contour stripcropping, and terracing also reduce erosion.



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Floodwaters affect everyone. They not only destroy homes and other property but often carry away good topsoil.