

Pressure of population, in the old lands, is what led men to strip the uplands of their protecting forests and thus release the destructive power and wind to bear the soil down the hills and spread flood and ruin in the valleys. The Maya civilization apparently had to undertake its migrations because it was "choked to death by mud washed from its own hillside corn patches."

Our own erosion problem is a result of population pressure in a somewhat different phase. It was not a population expanding "in place," but a vast, horde-like rush over lands rich in virgin fertility. Knowing nothing and caring nothing about soil conservation, since the

problem simply did not occur to their age as a problem at all, the pioneers stripped the forests, grazed the prairies down to the roots, and plowed everything for get-rich-quick boom crops. They passed to their graves in the assured conviction that they were "building the country."

They did build an empire, but at the same time they planted the seeds of its destruction. And it is up to the present generation to find a way to avoid harvesting the crop of desolation which their grandsires unwittingly and for the most part innocently left in the birthright they bequeathed us.

*Science News Letter, August 3, 1935*

But the one common denominator of all the disasters, in terms of dollars, was unmentioned. It was soil destruction. And the economic loss from this cause may well have amounted to more dollars than the property damage. Certainly the damage to the soil incurred was the most permanent damage.

"Houses and other property destroyed by the raging waters can be replaced; crops swept by prairie winds can be replanted. But fertile soil blown high in the air or washed by the ton into streams and rivers is lost forever," points out H. H. Bennett, Chief, Soil Conservation Service in Washington.

Dust storms are the most spectacular means by which the average man receives a token of the hazards of soil erosion. Much more serious, because of its constancy and wide spread, is the gradual washing of topsoil—the farmer's stock in trade—into streams and rivers, Mr. Bennett adds.

It is not the dramatic cloudburst, and its floods, which worry the Conservation Service as much as it is the almost invisible erosion which constantly occurs.

In a radio address delivered for Science Service over a nationwide network of the Columbia Broadcasting System, Mr. Bennett told how topsoil washing over the years is a two-way menacing problem.

First the erosion takes away the farmer's "principal"—the soil on which his crops will grow. But more than that, when the soil is washed into streams and rivers it becomes an unwanted menace. The erosion washings make a river shallower, and hence broader, since it must carry about the same volume of water.

As a result the danger of floods becomes more prevalent and the farmers along the river valley are thus "caught" in a second way.

Even the city dwellers may soon notice the effects of the erosion. Giant reservoirs which represent millions of dollars investment of their money catch the washing and gradually fill up with silt. Their capacity is lowered and the investments endangered.

Controlling erosion, said Mr. Bennett, is a nation-wide long-range problem:

"If the Soil Conservation Service can initiate erosion-control measure on all seriously erosive lands within the next ten years, if it can secure reasonable control of erosion within the next twenty years, and if it can establish preventive measures on practically all the better lands of the country within the next generation, it will have gone a long way toward a solution of the problem."

*Science News Letter, August 3, 1935*

#### ANIMAL NUTRITION

## Cod Liver Oil Injures Heart And Muscle of Farm Animals

### Investigators Warn Against Feeding Large Doses To Grass-Eating Animals Pending Further Research

**A** DIET containing cod liver oil has been found to produce muscle and heart injuries in various grass-eating animals, according to studies covering a period of seven years recently reported by Prof. C. M. McCay, Dr. L. A. Maynard and L. L. Madsen, of the Laboratory of Animal Nutrition, Cornell University.

The injuries have been much more severe with a synthetic diet of purified food, but toxic symptoms have also been obtained with natural foods.

Rabbits, guinea pigs, sheep and goats have been found susceptible to these injuries. Sheep and goats on pasture, receiving a daily dose of 7/10 gram of cod liver oil per 1,000 grams of body weight, died within ninety-three days, showing the toxic symptoms. Animals receiving half this amount succumbed within 226 days, but an intake of 1/10 gram did not produce any observable harm over this period.

The writers point out that the levels of cod liver oil which have been found injurious are not in excess of the amounts sometimes recommended for various farm animals and for children. They suggest that the feeding of the oil to farm herbivora in any but the lowest amounts is open to question, pending further study. The writers recognize that their results have no direct bearing on the use of cod liver oil in human nutrition, but they feel that the

wisdom of the use of the large intakes which have been frequently recommended should receive careful reconsideration, particularly in view of the reports by certain European investigators of heart injuries in infants receiving this oil.

Cod liver oil is used in nutrition because of its content of vitamins A and D. The writers have found no evidence that the injuries obtained in the herbivora are due to the vitamins themselves. In fact, their results show that the harmful factor lies primarily in the part of the oil which does not contain the vitamins. This means that this harmful factor is at least largely gotten rid of in the manufacture of cod liver oil concentrates which are frequently used as sources of the vitamins in place of the oil itself.

*Science News Letter, August 3, 1935*

#### CONSERVATION

## Drought, Wind and Flood All Cause Soil Erosion

**T**HREE months ago dust storms rolled over the nation from the Mississippi River valley to the Atlantic Ocean. A month ago flood waters raged on the upper tributaries of the Mississippi. Recently Montana had a tornado and New York its cloudburst-caused flood. Property damage for these scattered tragedies ran into millions of dollars.