

## STORIES of New Jersey

This valuable earth is filling streams, ditches, ponds and costly reservoirs. The silting up of streams forces the community to spend large sums of money in keeping channels clear. In the last two years Carnegie Lake at Princeton has required extensive dredging; the channels of both the Delaware and Raritan Rivers have had to be cleared at heavy cost. The Mullica, Cohansey and other rivers of South Jersey, which were navigable for large vessels only a century ago, have become so clogged with silt that they cannot carry any but the lightest craft. Reservoirs and mill ponds studied by the Soil Conservation Service have an average life of approximately 20 years unless they are cleared periodically. Streams muddied with silt and clay are being deserted by valuable fish.

Land that is continuously cultivated or left to pasture loses some of its chemical elements, but six times as much nitrogen, phosphorus, potassium, calcium, magnesium and sulphur is lost as a direct result of erosion. Farmers have made a practice of restoring fertility to the land by using fertilizers. Originally fertilizers paid for themselves in higher yields, but as soil erosion continues the quantity of fertilizer required has increased tremendously. In 1935 a thousand crop-specialty farms, most of which were in Mercer, Middlesex and Monmouth Counties, spent over a million dollars for fertilizer--as much as they spent for labor. But commercial fertilizers in themselves are not enough. They cannot restore to the soil the necessary organic matter lost because of erosion. Nor can they restore the soil body itself, after it has been washed or blown away.

### ANCHORING THE SOIL

Three principal methods of combating erosion have been recommended for New Jersey: keeping the soil covered, contour farming and mechanical control measures. The first of these is Nature's own method of anchoring the soil.

Vegetative cover acts as a powerful obstruction to the surface run-off of water and soil particles. Fibrous, close-growing roots lash the soil in place, and decaying plant materials act as sponges to hold the water. A thick stand of grass or a layer of forest litter makes the surface run-off move so slowly that only a very small amount of soil is washed off the field. Vegetation also keeps the pores of the soil open, thus permitting it to absorb water.

Cover crops such as crimson clover, hairy vetch, timothy and alfalfa form a thick sod that makes the soil almost impregnable to sheet or wind erosion. In the dairy regions of New Jersey grasses and close-growing crops treated with molasses and other materials make an excellent winter feed for the cattle. The dairy farmers of the State, who now plant more than 30,000 acres of corn for silage, can help to protect this land by substituting these close-growing crops for the corn. If they want to grow corn, they can help to control erosion in their cornfields by sowing close-growing crops in the late summer or early fall to protect the soil during the winter. Such crops are known as winter cover crops.

Continuous pasturing destroys the grass sod of fields and subjects them to erosion. When pasturing is regulated by using the fields in rotation and the land itself is treated with lime and fertilizer, close-growing hay crops form a dense sod that protects the soil and makes the pasture more productive.