

HINTS TO FARMERS

Beware of soil erosion.

The failure of crops is often attributed to the impoverishment of land brought in by continuous cropping or by precarious rainfall. But many of the cultivators are still not aware of the fact that soil erosion also plays a very important role in stealing the soil of the plant food, moisture, etc. The perpetual drain on soil by erosion depletes the land gradually of its soil fertility. When the soil erosion is long and continuous, even the skeleton of the soil-body is not left over in the land. When such a stage is reached, the soil completely loses its capacity to produce crops. The exact loss by soil erosion is beyond estimation. However according to estimate made in United States of America. *Erosion steals 21 times as much plantfood as the crops take out of the land!* The soil erosion not only steals the plantfood but also changes the physical condition. With changes in the physical condition, water holding capacity of the soil, under ground drainage and supply of under ground water also change. All these changes eventually bring down the crop yield and bring the soil to the starving condition.

When the soil in the field is lost by erosion, no amount of other improvements can really become effective. Improved farming which consists of the supply of improved crops, application of new fertilizers and manures and use of new implements cannot be much helpful if the soil is not retained permanently in its place and in sufficient depth.

Soil erosion is therefore one of the problems which seriously confronts the South Indian cultivator. He is not, as it appears at present, sufficiently conscious of the losses to the land and himself. By soil erosion millions of tons of soil are lost every year even with the average annual rainfall of 20-25 inches, rendering the land poorer and poorer. The agricultural wealth is thus drained unrestricted.

It is a wrong notion which many have that soil wash or erosion is restricted only to places of heavy rainfall or to hilly and forest areas. But soil erosion is also very common over flat and level lands where there are some small undulations and gentle slopes. When rains are received in storms and torrents, it has no time to soak into the soil even if the land is perfectly level and flat. Again a sharp intensive shower of less than an inch falling within a few moments, causes greater havoc than a soaking rain of several inches received in small drops over a long period.

The type of erosion which is generally met with in Southern India is field erosion which is very extensive and universal. This erosion should be prevented by adopting some of the following direct and indirect methods :—

- (1) Terracing and constructing small bunds across slopes.
- (2) Fallow cultivation of lands such as ploughing, harrowing and sowing crops along contour lines.
- (3) Opening furrows and forming ridges across slopes by ridges and scoopers.
- (4) Ploughing the sloping fields with a turnwrest-plough or the one-way-plough from the lower level to the higher level across the slopes.
- (5) Provision of spill-ways joining common drains and construction of weirs and aprons to allow excess storm water proving harmful to the crops.
- (6) Construction of small embankments and weirs across the nalas to break the force of water and to allow deposition of silt.
- (7) Provision of small tanks and ponds spread all over the country for the collection of the silt-laden water and for the stimulation of underground springs which supply water to wells.
- (8) Spreading crops like groundnut, horse-gram, lab-lab, cow-gram and dew-gram or a long duration crop like red-gram give resistance to the flowing sheet of water.
- (9) Turfing bunds and edges with grasses and dry rivetting with stones, wherever necessary for protection.
- (10) Application of silt and soil, cattle-manure, composts of organic matter ploughing in green manure crops and cultural operations tend to absorb and retain moisture thereby preventing soil erosion to some extent.
- (11) Allotting a portion of the cultivated area for pasture with trees planted here and there can also control the run-off water and save soil erosion. Such pastures can be broken and crops cultivated in rotation.

The methods to be adopted and their cost depend much on the locality and individual cases. A joint scheme of terracing and bunding of fields in a village can be achieved by the co-operation of the cultivators. Similarly construction of weirs, aprons, dry rivetments, digging of common drains, cross-bunding of nalas, provision of tanks and ponds for trapping water and silt are possible only by co-operation.

The experiments conducted for the past 4 or 5 years in the dry farming of the Bellary black soil go to show that an average extra annual net income of Rs. 6 per acre can be got by bunding.

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