



# EROSION ON FARM

## Types of Erosion

### Sheet erosion

Sheet erosion is also caused by raindrops that remove thin layers of soil, or by shallow surface water flow. The removal of these layers contains most of the available nutrients and organic matter in the soil. The soil loss is often gradual and can go unnoticed, however it does account for a large soil loss over time.



### Rill erosion

Rill erosion is the intermediate stage being sheet and gully erosion. Rills are shallow drainage lines that are less than 30cm deep. When surface water concentrate in low points in the paddock it erodes the soil and causes these rills. Rills can often be removed at low cost by farm machinery.

### Gully erosion

Gullies are deeper than 30cm and cannot be removed by regular cultivation. As the rill or channel continues to erode, the sidewalls collapse and the gully grows. Gullies cause a large amount of soil loss. Extensive earthworks are often required to stabilize gully erosion.



### Streambank erosion

Streambank erosion can be caused by the force of stream flow which scours out the bank. Also streambanks can slump or collapse due to lack of vegetation to stabilize the bank, and from livestock trampling the bank.



### Mass movement (landslips)

Mass movement is when soil and rock move down slopes and often occurs on bare ground after heavy storms. The soil becomes too heavy and waterlogged and is influenced by gravity to move down. Mass movement is a major form of natural land degradation in some regions, especially those with high rainfall.

### Wind erosion

Wind erosion is the movement of soil particles by the air. Wind moves the soil leading to dust storms or sand drifts. Be ready for severe wind erosion seasons which tend to be the summers following dry autumns and winters.

## Indicators of Erosion

### Bare soil

If you have bare soil you will inevitably have erosion. Soil particles are easily carried away by the force of wind and water when there is no vegetation to protect these particles from moving.



### Exposed tree roots

Exposed tree roots mean that soil has eroded within the tree's lifetime. This is often due to excessive shade, removal of natural groundcover or fast flowing surface water underneath the tree.



### Cracks across the slope

As land begins to slip down a slope, small cracks will appear above the slip. This is the first sign that your land is at risk of mass movement (landslip).

### Silted dams

Silt in dams is soil that has eroded along the dam wall or from further up the catchment.

### Muddy water runoff

When it is raining it is a great time to get out and look at the water moving on your property. When there is muddy water then it is carrying sediment that has eroded from further up stream. It is a good idea to follow this water and identify if the issue is on your land.

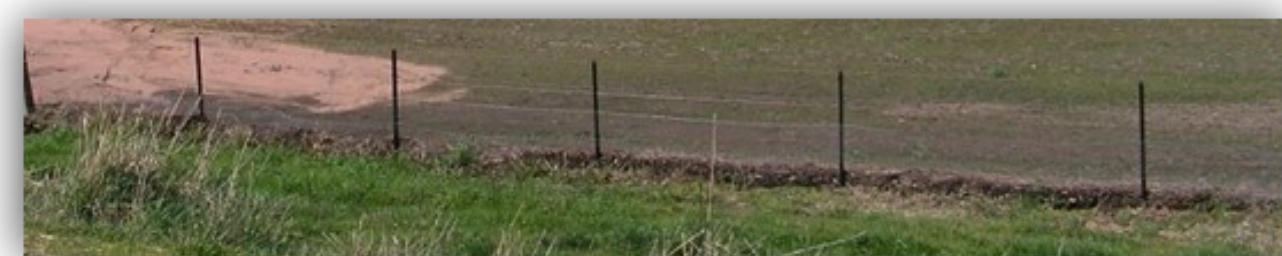


### Tunnels

Water can enter the subsoil through cracks and holes in the soil surface. If the subsoil is susceptible to erosion it will erode more readily than the surface soil which can form a tunnel. As the tunnel becomes larger the roof may collapse to form a pothole or gully.

### Soil build up along fences

Eroded soil can build up on the upslope side of structures such as fences and gates.



### Gravelly soil

As soil erodes the topsoil becomes thinner. Where all the topsoil has eroded the soil surface may appear hard and pavement-like or coarse and gravelly if finer materials has been removed. Underlying rock may also be exposed.

