

'FALL TO FREEZE': SOIL CONSERVATION MEASURES TO REDUCE SOIL EROSION IN HILLY AREAS

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Introduction

Soil conservation refers to the act of minimizing soil degradation in soil ecosystem. In case of Hilly areas, there are many prones for eroding. As soil structure getting poorly aggregated, then in case of slopy area, it will slide over another lead to soil erosion. Many people across hilly area are belief in cultivating crops. Hence to cultivate crops, there are some practices which should be followed in order for stable production.

Vegetative practices

Contour

Contouring or contour farming, a soil conservation technique that involves building small barriers, or bunds, across sloping land to help control soil erosion and increase crop production



Fig. 1. Contour bunding across slopes

Strip-cropping

It is a best method among other vegetative practice, where it involves planting crops in alternating strips across a slope to prevent soil erosion.

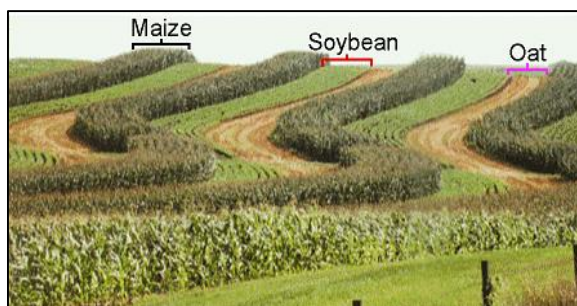


Fig. 2. Strip cropping

Tillage

Usually, the no till practice or zero tillage or less tillage is recommended in hilly areas as the disturbance of soil gets reduced.



Fig. 3. Zero tillage

Mulching

Mulching is generally consider for immediate effectiveness over the sloppy surface. In this practices, the polymer sheet is covered over the soil surface thereby preventing from erosion. The mulching can be practices in both organic and inorganically.



Fig. 4. Use of Mulch sheet on the surface of hilly portion

Mechanical practices

Mechanical soil conservation strategies are important management practices for crop production. These strategies use methodologies that include the use of bunds, terraces, waterways / drainage channels, and other structures, for example vegetative barriers, or stone / rock lines. The most important practices are listed below.

Terracing

Terracing or Terrace farming is mostly practiced in hilly portion where steeped areas are created on slopes or hilly areas in order to cultivate crops. It consists of ridges and channels which will construct across the slope.



Fig. 5. Terracing or Terrace farming in hilly areas

Bunding

It is an important mechanical measures to reduce soil erosion especially in hilly areas. As the water from the slopes runs faster entering into lower surface. This creation of bund system will prevent the flow speed of water by placing an

impediment in the layer of surface run-off to slow down the speed of water.



Fig. 6. Placement of Bunding in hilly areas to reduce water flow.

Conclusion

Hence, the soil should be monitored regularly especially in hilly areas as it was prone to erosion. These different practices can be followed in order to control or prevent soil erosion in hilly areas.

Reference

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