

Prepare for the Rainy Season – Simple Steps to Reduce the Risk of Soil Erosion

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Wild weather has been in the news all year, and who can guess what the upcoming rainy season will bring. Winter storms often bring heavy rainfall that creates runoff, damaging production areas by causing erosion and polluting streams. Farmers and land managers can minimize risks of erosion by taking precautions now. The following checklist is a good place to start.

- 1. Reduce the amount of bare soil.** Bare soil results in increased runoff, and is most susceptible to raindrop impact and erosion. Now is the time to identify any fields that will remain fallow during the winter months, and consider getting a cover crop of oats (70 lbs/ac), buckwheat (60 lbs/ac), ryegrass (40 lbs/ac), or sunn hemp (40-60 lbs/ac) on them before the rains begin. Where possible, avoid or delay plowing-in residue or weeds, as they will help to protect the soil. Spray or trim them if necessary, but if you can help it, suspend soil disturbing operations. Applying mulch to the soil surface reduces erosion, and it has the added benefit of suppressing weeds.
- 2. Establish field borders to capture runoff.** Temporary field borders can be planted to slow and filter runoff, keeping soil in your fields and out of your waterways. The above listed cover crops can be planted as field borders, or you can simply allow natural vegetation to grow at the down-slope edges of fields. Any width of field border is better than no field border, but usually a width of 30 feet is needed for a field border to be effective.



Erosion and runoff from fields and construction sites carry soil particles to local streams.



Deposited sediment has damaged coral reefs across the state.

3. **Inspect drainage structures.** Terraces, grassed waterways, and diversions should be inspected and given some special attention at this point to make sure they are in ship-shape by the time the rains come. Any blow-outs or breaks in the structure should be repaired and replanted, and low spots in berms that have resulted from settlement or traffic should be restored to their design height. Bare patches should be filled in with seed or grass sprigs to get the grass well established, and applying a small amount of general fertilizer and some irrigation may be needed to get the grass nice and healthy.



Sunn hemp is used as a cover crop to reduce erosion and add nitrogen to the soil.

4. **Check inlets and outlets of culverts.** Inspect inlets of culverts to make sure they are trash and sediment free, and inspect outlets to make sure there is no significant headcutting or gullying taking place. Culverts should be inspected after each major storm to make sure they continue to function through the winter.

5. **Maintain sediment basins.** Sediment basins should be checked to ensure that berms and outlets are structurally sound and that the basin has adequate capacity. Regular maintenance and removal of accumulated sediment is necessary for a sediment basin to function.

6. **Protect critical areas from erosion.** While it's a little late to plant Vetiver grass and count on its ability to filter or re-direct water, temporary measures can be taken at this point to help protect critical areas. Silt fences, compost socks, and straw bales can be used to provide temporary protection. Have some of these materials on-hand in the event you find you need them.



Leaving plant residue on the soil surface reduces raindrop impact and erosion due to runoff.

7. **Be a good neighbor.** Water flows downhill and it is important to consider drainage paths that cross multiple properties. Find ways to reduce water leaving your property. Talk with your neighbors if you have concerns about water coming onto or leaving your property.
8. **Monitor your property through the winter.** As winter progresses, keep notes on problem areas, noting the rainfall your farm receives and corresponding damages. This information will help with planning and preparation for future years.



Vetiver is used in combination with Bermuda grass to stabilize a drainage path.

9. **Follow-up.** If you experience erosion problems or have questions on using and maintaining conservation practices, contact the local Soil and Water Conservation District, the Natural Resources Conservation Service, or on O'ahu, the O'ahu Resource Conservation and Development Council.

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