

Erosion Control/Winterization Best Management Practices

What are BMPS and does doing a
little goes a long way



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Why implement BMPs

- Erosion is a natural process
- Land management practices can speed up the rate of erosion dramatically
- Addressing erosion issues can be complicated, time consuming, and expensive
- BMPs can be simple, inexpensive, and have significant, quick results

Overview of BMPs

- Erosion Control BMPs
- Sediment Control BMPs

Erosion Control BMPs

- Commonly used EC BMPs
 - Preservation of existing vegetation
 - Establish vegetation
 - Scheduling
 - Mulch
 - Blankets

Establishing Vegetation

◉ Suitable Applications

- Disturbed areas

◉ Implementation

- Provide overstory and understory
- Plant by mid-October
- Initial irrigation

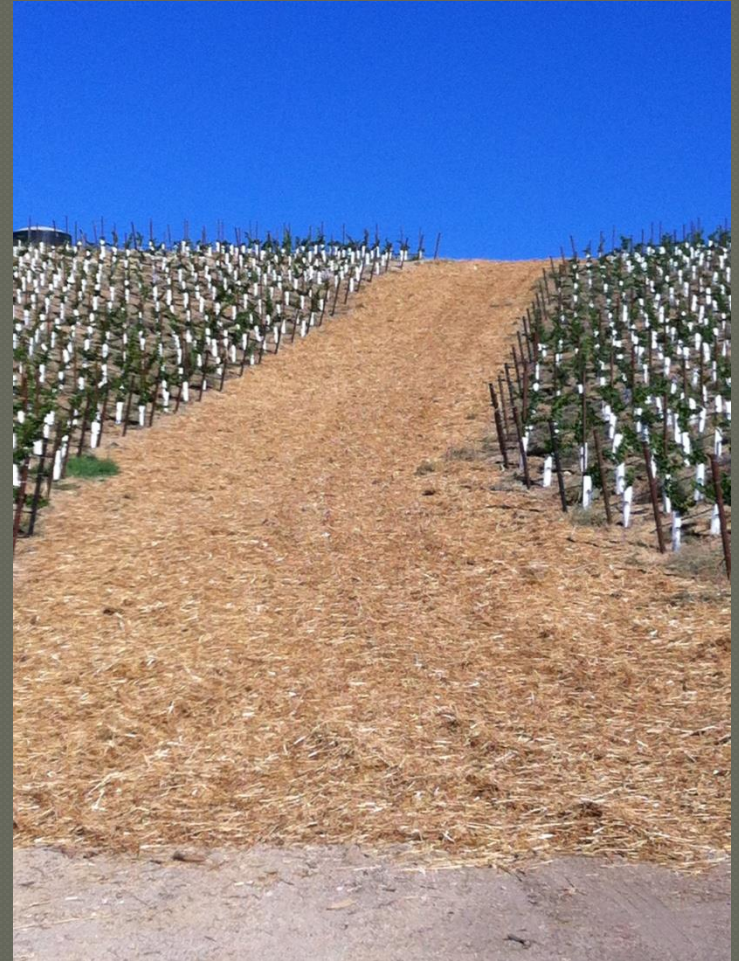


Scheduling

- Avoid rainy season
- Monitor forecast
- Detail implementation and employment of BMPs

Straw Mulch

- Suitable Application
 - Temporary stabilization
 - Combination with seed
- Implementation
 - Min. 2,000 lbs/acre
 - Crimp/track in
 - Evenly distribute



Wood Mulch

◉ Suitable Applications

- Temporary stabilization
- Combination with seed

◉ Installation

- Track soil
- Evenly distribute
- Application varies depending on type



Blankets

○ Suitable Applications

- Short, steep slopes
- Streambanks
- High erosion potential

○ Installation

- Anchor blanket in trench
- Overlap edges
- Staple every 3'
- Maintain direct soil contact



Sediment Control BMPs

- Commonly used SC BMPs
 - Silt fence
 - Straw wattles/fiber rolls
 - Check dams

Silt Fence

○ Suitable applications

- Perimeter of project
- Toe or downslope of exposed slopes
- Along streams/channels
- Stockpiles

○ Implementation

- Level contour
- Max slope 1:1
- Max slope length – 200'
- Avoid concentrated flows
- Avoid ponded water
- Avoid mid-slope



Silt Fence

○ Installation

- Trench and key in
- Turn ends up
- Posts at least 6' apart, 12"-18" deep
- 3' from toe of slope
- Fabric secured to post upslope



Straw Wattles/Fiber Rolls

○ Suitable applications

- Perimeter of project
- Toe, top, face of exposed slopes
- Ditches
- Stockpiles

○ Implementation

- Min. 8" diameter
- Level contour
- Continuous



Straw Wattles/Fiber Rolls

○ Installation

- Max. Intervals:

Slope	Max Interval
4:1	20'
3:1	15'
2:1	10'
> 2:1	Not recommended

- 2-4" trench
- Stake 4' on center
- Overlap ends

Check Dams

○ Suitable Applications

- Small open channels
- Temporary ditches

○ Implementation

- Materials: Rock, gravel bags, sandbags, fiber rolls, logs
- 2 year storm capacity

Check Dams

○ Installation

- Toe of upstream dam = top of downstream dam
- Tightly abut materials
- Sand or gravel bags stacked < 3'
- Trench in straw wattles



Implementation Exercise

○ Determine:

- Which BMP are suitable
- Location of BMPs











Cause and Effect

- Causes of Erosion
 - Water
 - Rainsplash
 - Decreased aggregate stability
 - Long, steep slopes
 - Intense rainfall or irrigation events
 - Mechanical
 - Harvest of root crops
 - Tillage and cultivation practices that move soil downslope
 - Wind
 - Long unsheltered, smooth surfaces
- Effects of erosion:
 - Increasing depth of channels and gullies
 - Decreased aggregate stability
 - Decreased soil organic matter
 - Increased CaCO_3 content at the surface
 - Changes in CEC
 - Decreased microbial biomass
 - Lower rate of CO_2 respiration
 - Slower decomposition of plant residues

Summary

- Prevention v. Repair
 - Consider the cost of maintenance when comparing alternatives
 - Look for practices that have multiple benefits for farm management and productivity

Questions?



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