

# Erosion Control

## Tips on how to prevent damage in groves and orchards

### The PROBLEM...

History can teach us many things, and the Dust Bowl era is no exception. Soil movement, either by water or wind, reduces crop yields and the profitability of agricultural operations as it causes loss of nutrients, reduces productive capacity and deteriorates the soil structure. Sediment, from soil erosion, is the most abundant pollutant in the surface waters in the United States and negatively impacts energy production, water supplies, fisheries and aquatic habitats, navigation and flood control. In fact, an excess of \$44 billion is lost annually from the compromised soil productivity and environmental impacts.



*An avocado grove in southern California with soil erosion.*

### **Best Management Practices (BMPs) that can help prevent or reduce erosion:**

- **Access Roads**
- **Contouring Groves**
- **Cover Crops**
- **Critical Planting Areas**
- **Mulching**
- **Diversions**

### The BENEFITS of controlling erosion...

Preventing or reducing the movement of soil from agricultural properties can benefit both agricultural lands and water quality by preserving the soil on the agricultural properties, maintaining crop yields, retaining the organic matter in the soil and helping to decrease fertilizer use and, thus, cost. Eliminating erosion also maintains the soil's water holding capacity which will decrease the energy costs as less water is needed to water the crops.

What are the best methods of preventing or controlling soil erosion?



Photo by Victor Smothers

*An avocado grove in southern California .*

Methods and activities that are the most effective and economical way of reducing or preventing the movement of soil, while maintaining agricultural production, are called Best Management Practices (BMPs). There are many erosion control BMPs and the methods that are most often used are described on the back of this sheet. As every property and situation is unique, it is best to contact the local Natural Resource Conservation District (NRCS) office, University Cooperative Extension or local Conservation District for assistance in understanding which BMP(s) should be installed.

## Best Management Practices (BMPs) used to reduce and control soil erosion

### Contour Groves

Planting groves and orchards on the property's contour will eliminate the soil loss potential as it would reduce the need to grade the property. Grading a grove or orchard's land not only removes the plants and ground cover that would help hold the soil in place during storm events, but also disturbs the soil, making it easier to move during irrigation and rain events.

### Access Roads

Correctly grading and sloping access roads through and adjacent to the grove or orchard are critical for controlling runoff and preventing erosion.

### Cover Crops

Native cover crops, including grasses and other groundcover species, planted between the tree rows will help slow water while increasing water infiltration and the soil's organic matter content.



Photo by Victor Smothers

*Planting cover crops can reduce erosion potential.*



Photo by Victor Smothers

*Seasonal residue management, such as the tree prunings placed in the access road above, can reduce erosion.*

storm events, placing prunings as cover will reduce surface runoff and sedimentation, while increasing water infiltration into the soil.

### Critical Planting Areas

Also planting cover crops on barren, disturbed or exposed areas (critical planting areas) can reduce erosion. Mulch, in the form of straw, can be used to protect the seeds of annual grasses and will also help with water infiltration into the soil.

### Mulching

Wood chips can also be used to reduce sheet and rill erosion by slowing the water as it flows over the landscape.

### Seasonal Residue Management

During periods of high erosion potential, such as

## Resources

Contact your local Natural Resources Conservation Service office for detailed information on how to properly install and maintain the BMPs mentioned in this informational sheet. The San Diego County NRCS Service Center can be contacted at (760) 745-2061 for more information and for a more expansive list of erosion control BMPs.

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