CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)

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Project Number

23552

Project Title

Which Type of Mulch Is Most Effective in Controlling Erosion on Recently Disturbed Hillside Soil?

Abstract

Objectives/Goals

The project was conducted to determine which type of mulch would be most effective in preventing soil erosion from raindrop impact on hillside vineyards. The mulches used were a mixture of yard trimmings and wood waste that had been diverted from the county landfill.

Methods/Materials

We made five 1 sq. ft. soil sample trays and placed them on a 33 grade. We obtained mulches from a commercial composting facility. The mulch was 60% wood waste and 40% yard trimmings that had been mixed, chopped and passed over a 3 inch screen, the material that fell through the screen was used on two trays, the material that did not go through was used on the other 2 trays. The trays were exposed to the environment for 14 days; there was a total 3.75 inches of rain. The sediment from each tray was collected, dried, and weighted. The results from each test group was compared.

Results

There was no significant difference in the effectiveness of the two types of mulches in the prevention of soil erosion.

Conclusions/Discussion

Farmers growing grapes on hillsides should consider using mulch that has been prepared using wood waste and yard trimmings. The use of the less valuable mulch, the material that did not fall through the 3 inch screen would be preferable, as it has no commerical value. The use of this mulch would prevent erosion and divert waste from landfills.

Summary Statement

Our project is about testing the effectiveness of two types of mulch, made from wood waste and yard trimming, to prevent sheet erosion on vineyards planted on 33% grade.

Help Received

Martin Melnick of Cold Creek Compost provided mulch and consultation in designing the project, Laura Baynham helped type and arranged for us to meet and work, Myers Apothacary weighted our soil samples, Pat Williams helped locate supplies for our project and assisted with arranging team meetings.

Preliminary