

# TECHNICAL NOTES

---

U.S. Department of Agriculture

Natural Resources Conservation Service

---

TN-AGRONOMY CA-66

March 2007

## **CROP RESIDUE REMOVAL FOR BIOMASS ENERGY PRODUCTION**

Attached is Soil Quality–Agronomy Technical Note No. 19, “Crop Residue Removal for Biomass Energy Production: Effects on Soils and Recommendations.”

This technical note is the nineteenth in the Soil Quality-Agronomy series to provide information about management effects on soil quality. It provides an overview of research examining the effects of crop residues on soil quality and the potential for residue removal for biomass energy production.

There are national and state efforts underway to produce more alternative fuels like ethanol. Preliminary research shows that ethanol production from biomass materials such as switchgrass is more energy efficient than using corn as the feedstock. Market forces are expected to push the cost of corn up to the level that makes other biomass materials more cost-effective feedstocks for energy production.

This technical note presents a method to determine the amount of crop residue available for harvest while maintaining soil erosion at or below Soil Loss Tolerance (“T”).

Recommendations for additional conservation practices and/or crop alternatives to facilitate sustainable residue harvest are provided.

Additional copies of the attached technical note are available on the NRCS Electronic Directives System web site at: <http://directives.sc.egov.usda.gov/>. It is also available on the NRCS Soil Quality web site at: <http://soils.usda.gov/sqi/>.

---

Prepared by Walt Bunter, Earth Team Agronomist, and Rita Bickel, State Conservation Agronomist, Resource Technology Staff, Natural Resources Conservation Service, Davis, CA.