

American Corn Growers Foundation

Biomass as Feedstock for a Bioenergy and Bioproducts Industry: The Technical Feasibility of a Billion-Ton Annual Supply

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4.5 Agricultural Resources Summary

The amount of biomass sustainably removable from agricultural lands is currently about 194 million dry tons annually. This amount can be increased fivefold to nearly 1 billion dry tons within 35 to 40 years through a combination of technology changes (e.g., higher crop yields and improved residue collection technology), adoption of no-till cultivation, and changes in land use to accommodate large-scale production of perennial crops. These results are graphically summarized in Figure 25. By comparison, the total amount of biomass produced on this acreage is 2.1 billion dry tons. There is a large increase both in total amount of plant matter produced due to higher crop yields and in the available biomass due to changes in tillage practices and harvest technology. Without the addition of perennial crops targeted toward biomass production, the maximum amount of sustainably removable biomass would be about 600 million dry tons under the high technology change assumptions. Approximately the same amount of biomass could be produced on agricultural lands within 15-20 years with moderate changes in future yields (e.g., 25 percent for corn), less residue recovery, and less no-till cultivation, *provided* perennial biomass crops are substituted for other land uses on at least 40 million acres of land. Most of this land could come from idle land (summer fallow and CRP) and cropland pasture. Use of about 15 million acres of active cropland is assumed.

