Using willow riparian buffers for biomass production and riparian protection

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There is increasing interest in the development of willow biomass as a renewable source of energy and woody lignocellulosic feedstock for bioproducts. Riparian buffers have been identified as an effective barrier to soil and nutrient movement from agricultural fields into watercourses. Willow are ideal riparian species in that they are well adapted to growing conditions in riparian zones and they vigorously regrow following coppicing which allows them to be harvested for biomass in 3-4 year cycles. Characteristically riparian edges are highly productive due to water availability, therefore it is anticipated that willow biomass yield per unit area in riparian zones would be attractive. Research is being conducted to determine if using riparian buffer strips for willow biomass production provides energy alternatives and economic opportunities for land owners, but also leads to environmental benefits such as reduced erosion and nutrient leaching and preservation of water quality.