Managing Switchgrass as a Biofuels Crop. (C03-parrish081238-Poster)

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Abstract:

Switchgrass (Panicum virgatum L.) shows excellent potential as a biofuels crop. With proper attention to detail and favorable weather, it can be consistently established, and it can produce high yields (15 to 20+ Mg/ha) by its second season. When grown only for its biomass, management may vary considerably from when it is employed as a forage species. Based on a 10-year study at eight sites across upper southeastern USA, we make the following observations and recommendations for optimizing long-term switchgrass yields: 1) Lowland cultivars are equally or more productive than upland cultivars (and significant genetic variation exists within each ecotype). 2) Harvesting lowland cultivars once at the end of the season (after aboveground biomass has senesced) provides as much biomass as two harvests. 3) Standing biomass declines by ~10% as tops senesce, but harvesting after senescence prolongs stand life/vigor. 4) Application of 50 kg N/ha will support maximum yields if biomass is harvested only after tops have senesced (since significant N is conserved below ground in senescence). 5) In favorable years, standing biomass may be harvested as late as January or February with no significant loss of yield. This work was supported in part by funding from USDOE.

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Presentation Information:

Presentation Date: Wednesday, November 13, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 1107

Keywords:
switchgrass, biofuels, N fertility, cutting frequency