BIOFUELS ARE PEST FOOD, TOO!

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Biofuel crops are monocultures that insects and diseases will use as an energy resource and they will compete with our intended use of these crops. Repeated land use for one cropping system without rotating crops will increase the potential for losses due to pest activities, and pest management will reduce profits. Site preparation to minimize pest populations will be rewarded. Irrigated cropping systems will facilitate delivery of pest control chemicals. What are the most serious pest problems in biofuel production? How can these pests be controlled? What is the cost/benefit ratio of control measures and what are the factors that define an economic threshold for initiation of control efforts? Many riparian species of insects attack both willow (*Salix*) and poplar (*Populus*) hosts. We have successfully used a synthetic sex pheromone to control a clearwing moth (Sessidae: *Paranthrene robiniae*) that can cause major damage to irrigated hybrid poplar grown in eastern Oregon and eastern Washington. Our efforts toward reducing populations of a carpenterworm moth (Cossidae: *Prionoxystus robiniae*) below an economic threshold show promise. Our most difficult pest problem in hybrid poplars is the poplar/willow borer (Curculionidae: *Cryptorhynchus lapathi*), which, true to its common name, attacks *Salix*, too. Repeated use of imidacloprid delivered through the dip system controls aphids (Chaitophorus: *Chaitophorus populicola*) and cottonwood leaf beetles (Chrysomelidae: *Chrysomela scripta*), and seems to be reducing the poplar/willow borer, too. Likewise, insect pests of corn, sugarcane, and rice are known to feed on *Miscanthus spp*., and nematode and diseases of *Panicum virgatum* can severely reduce biomass production. Introduction of *Miscanthus* × *giganteus* has potential as a biofuel, but it could serve as an alternate host to corn (*Ostrinia nubilalis* and *Diatraea grandiosella*) and sugarcane pests (*Diatraea saccharalis*). With the potential of pest movement between crops a "Good Neighbor" pest control strategy may be required.

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