

AASHE STARS INNOVATION CREDIT WILLOW BIOMASS PROJECT

Colgate University's primary source of energy comes from our wood chip boiler that satisfies more than 70 percent of our heat and domestic hot water needs. Our current source of wood chips comes from local forest thinning projects. Colgate receives chips from wood with low commercial value.

In 2009, we planted 60,000 fast-growing willow shoots on an 8-acre plot in an effort to supplement our wood chip supply by growing and producing some of our own energy. We planted three varieties to experiment with productivity and survival rates. The project grew out of an environmental studies seminar (ENST 480) in 2008. With the guidance of faculty members Ian Helfant, Robert Turner, and Beth Parks, four Colgate students researched the feasibility of growing willow biomass on Colgate-owned land in order to demonstrate that cropped biomass - in the form of willow - can work in our area from an economic and environmental perspective.

Ultimately, the goal is to demonstrate to area farmers, that they can take out-of-production land and plant it with low-cost, fast-growing willow. This could serve as an economic boost to area farmers while keeping Colgate's energy dollars within our local economy.

As of today, the willow plants are well-established as all three varieties are growing successfully. However, biology students revealed - after taking field measurements - that one of the varieties is growing faster and producing more biomass than the other two. This information is valuable as the cropped biomass industry continues to mature in Central New York.

The willow plants should be ready to harvest by 2014.

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