NSPIRE-IGERT Policy Fellowship
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Advised by the Environmental Protection Agency – Office of Research and Development
Status: Complete

Title: Life Cycle Analysis of Pacific Northwest Biofuel Feedstock Production

Synopsis

The main goal of this joint project between EPA-ORD, WSU, and U of I is to develop a comprehensive lifecycle analysis (LCA) of Pacific Northwest feedstocks for biofuel production. This LCA will determine the lifecycle greenhouse gas (GHG) emissions performance, potential emissions of criteria pollutants and air toxics, as well as waste and water impacts across the biofuels supply chain from feedstock production to product end-use. My specific objectives were to:

1. Determine the impact of nitrogen use efficiency on GHG emission from PNW canola;
2. Determine the impact of nitrous oxide emission estimates for three canola production zones in eastern WA on GHG emission; and
3. Determine how canola production regions in Washington State compare to national averages for GHG mitigation.

Results from this work will be presented at the 2012 IGERT poster session. Further goals are to determine the impact of incentives on oilseed biodiesel feedstock related GHG mitigation and farm level economics in each of the three production zones.

The goals of this project are well aligned with those of my own N policy research and therefore I will be utilizing much of this work in writing my policy dissertation chapter. This work is on-going, but my policy chapter that includes much of the work is scheduled to be finalized by August 2012.