



2011 Wyoming Award Winners:

350	Oct 1, 2011	WyoComp Heath Van Eaton 307.432.4073 Cheyenne, WY 82001	Comparison of Domestic Wheat Straw for Industry Use	NSF
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Abstract:

This Phase 0 is utilized to generate a well written Phase I proposal submitted to the NSF under the AM8 – Materials for Sustainability section. The research focuses on comparing the physical properties and composition of different wheat straw varieties produced domestically. The proposed research will help address industry’s growing demand for sustainable biomass materials that minimize impacts to the environment while providing improved performance and reductions in cost. Wheat is an annually renewable crop already grown for its grain, but the straw (stalk) is a byproduct that is rich in cellulose and hemicellulose content making it ideal for use as biomass filler that competes with wood and other fillers like minerals. No research currently exists that compares the actual physical properties and composition of different wheat straw varieties being produced in different regions of the United States. Anticipated results include the development of a Phase I proposal that lays out the work plan and budget necessary to prove the feasibility of analyzing and comparing various domestic wheat straw varieties. The technical information yielded from the research will be used by industry to improve their ability to select advanced, sustainable biomass materials that are best suited for specific applications and processes.