



2016 Wyoming Award Winners:

March 7, 2016	WyoComp Heath Van Eaton 307.432.4073 Cheyenne, WY 82001	Development of Pulp Fiber Technologies made from Wheat Straw	NSF
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Abstract:

The objective of this NSF-SBIR Phase I project titled “Development of Pulp Fiber Technologies made from Wheat Straw” is to prove the feasibility of using wheat straw from the region to manufacture a range of products typically made from wood pulp. Some of the products to be manufactured using the wheat straw pulp fiber technologies include tissue, towel, graphic papers, business papers, publishing grades, packaging grades and molded pulp products. The research will focus on using wheat straw sourced from southeastern Wyoming because of the desirable characteristics of the biomass from the region (higher percentage of cellulose properties). Wood used to make pulp contain three main components: cellulose fibers (desired for papermaking), lignin (a three-dimensional polymer that binds the cellulose fibers together) and hemicelluloses (shorter branched carbohydrate polymers). Previous analysis conducted by WyoComp shows that wheat straw from southeastern Wyoming has a higher percentage of cellulose compared to softwoods, hemp, flax and cotton, making the abundant biomass feedstock from Wyoming ideal. Anticipated results from the NSF-SBIR Phase I will be that the technologies are not only feasible, but superior in physical properties, processability, costing and overall sustainability being that the feedstock is annually renewable and a byproduct.

About WyoComp:

Heath Van Eaton (Phase I Principal Investigator), President, WyoComp first began developing agricultural biomass fibers into polymer fillers in late 1994 and was first to market being the inventor of composite lumber using wheat straw to reinforce plastics. Since forming WyoComp in 2009, Mr. Van Eaton has been conducting product and technology development services for the plastics industry. WyoComp currently processes wood and agricultural biomasses (AgriFi polymer fillers) for the plastics industry and acts as a distributor/supplier to several large, existing commercial plastics producers. WyoComp also custom harvests small grain crops in OK, KS, CO and WY. The company purchases of the wheat straw, which is used as polymer fillers and other feedstocks for other technologies produced by WyoComp.