



## 2015 Wyoming Award Winners:

March 1, 2015	<b>WyoComp</b> Heath Van Eaton 307.432.4073 Cheyenne, WY 82001	Nanocomposites: Agri-Nanofibers Used In Polymers	NSF
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### Abstract:

The objective of this NSF-SBIR Phase I project titled Nanocomposites: Agri-Nanofibers Used in Polymers is to prove the feasibility of using nano-scale particles derived from agricultural biomasses as reinforcing fibers and fillers for polymers. Large market opportunities exist for biobased natural fibers that can compete with mineral fillers like talc and calcium carbonate in polymer applications. This Phase I will focus on developing biobased natural nanofibers that will reinforce polymer materials used in the injection moulding process. Product focuses will include production of HDPE waste baskets and PP utility carts. A variety of polymer formulations using the nanofibers from wheat straw and other agricultural biomasses such as bagasse, kenaf and flax will be compounded and pelletized using WyoComp processes and facilities. The waste baskets and utility carts will be generated at a commercial producer's injection moulding plant using existing die/molds and product testing will be conducted at University of Wyoming. Testing results will be used to compare against existing plastics products currently being made and the economic benefits from using the biobased nanofiber fillers will be derived and reported. Anticipated results are that the biobased nanofiber fillers will provide improved performance, added green market appeal and lower costs to producers.

### 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.