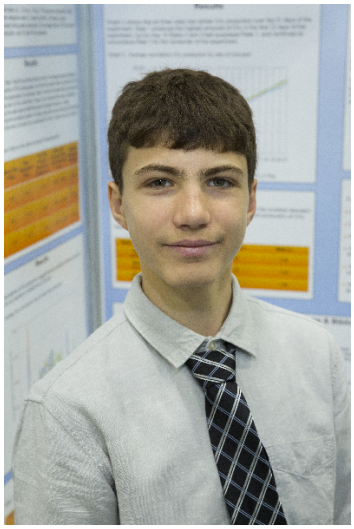
CWSF 2019 - Fredericton, New Brunswick



Liam Christian

Horse Power: Turning Manure into Power for Small Acreages Using a Biodigester

Challenge: Energy
Category: Junior
Region: 4-H Canada
City: Red Deer County, AB
School:

Abstract: Small acreage owners in Alberta should practice beneficial land and animal management, because they have a direct impact on the natural environment. Proper manure management is one example. The purpose of this project was to determine if horse manure can be used to produce biogas as a way of managing manure. Biogas is a green energy source that helps to reduce greenhouse gas emissions.

Biography

Liam is 13-years old and lives on a cattle ranch southwest of Red Deer, AB. He is homeschooled, which allows him time to pursue a variety of interests outside academics. Liam loves sports such as hockey, triathlon and Brazilian Jiu-Jitsu, as well as outdoor activities like camping, hiking and fishing. In addition, he runs his own business, Haywire Art and Design, and sells his creations at a local gift shop, as well as donating his art to various non-profit organizations. Liam is passionate about agriculture and the environment, and recently won the junior category of Red Deer County's Youth for Agriculture Award for his essay on land conservation. Liam was a finalist in the 4-H Canada Science Fair in Truro, NS where he was selected as a member of the 4-H Canada Science Team. His project idea came from his observation that, in Alberta, many small acreages with horses have large stockpiles of manure, but not the land base to utilize it. This led him to develop a bench scale biodigester to test if horse manure is a suitable feedstock, and he hopes to eventually develop a working scale, co-generation system to produce green electricity.