

Enhancing Rural Agriculture Family and Community Development in Wyoming through Sustainable Biofuel Crop Production

Donn Randall (Professional + Producer Grant Program)

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Title: Title: Enhancing Rural Agriculture Family and Community Development in Wyoming through Sustainable Biofuel Crop Production

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Lindsey Tylor, Campbell County ag extension agent, demonstrates crushing camelina with a Kern Kraft crusher during an oilseed open house at the Sheridan Co-op.

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Situation:

In Wyoming, rural agricultural production and community economic stability are jeopardized by increasingly high input costs for fuel and fossil-fuel-related products.

One pathway for Wyoming producers to overcome these challenges is to raise sustainable alternative crops that can:

- add value to their current cropping practices
- provide for vertical integration of a product for local consumption
- help reduce the nation's dependence on foreign oil

This project proposes to help Wyoming producers conduct biofuel-crop test trials in the northeastern and southeastern districts, as well as the Big Horn Basin and central region, and to encourage growers to adopt of these crops.



The on-farm biodiesel reactor on the Phil and Kate Boreen ranch in Basin, WY, where Phil collects waste vegetable grease and processes the oil into B100, which he runs in his John Deere power generator to operate three circle pivots.

Objectives:

- Increase and sustain Wyoming biofuel crop production
- Provide producers with a marketable biofuel crop that can be processed, marketed and consumed locally
- Increase revenue streams that provide sustainable jobs for rural communities



A test plot of spring canola on the Mile High Ranch in Riverton produced 2,200 pounds per acre. It was the producer's first time growing canola.



Wyoming soybeans are being grown on the Beckton Stock Farm at the base of the Big Horn Mountains near Sheridan.

This spring canola field, growing near Casper, was planted back to alfalfa the following year. As it was Roundup Ready Canola, the field had few weeds and has since produced record hay tonnage.

Actions:

The project team took a multi-pronged educational approach to persuade Wyoming producers of the value of oilseeds in their cropping portfolio.

The first step was to promote oilseed production test plots to Wyoming producers statewide. The team assisted producer cooperators by purchasing seed for safflower, camelina, canola and soybean for test plots. The team monitored oilseed test plots and assisted producers with harvesting.

In addition, two groups of Wyoming producers participated in 2009 in two separate oilseed trade missions to Idaho, Washington and Oregon to gather insight into the processing phase of crushing canola and camelina.

In 2010, a second oilseed trade mission to Montana focused on oilseed variety development, on-farm small biodiesel processing and a tour of the Earl/Fisher biodiesel plant in Chester, MT. Eighteen producers and three high school students participated in the trade missions.

Another strategy involved producer education about oilseed crops. On September 13, 2010, the project team conducted a field day on the ranch of Phil and Kate Boreen in Basin, attended by 45 people, including producers, students and government and agribusiness representatives.

In addition, a 21-page Wyoming Oilseed/Biodiesel bulletin was produced, and team members attended several meetings and conferences to learn more about oilseed production, network with others producing oilseeds and to demonstrate oilseed crushing with a mobile trailer.

Results:

This project has fostered an increase in the number of acres planted to oilseed crops in Wyoming. Before 2008, two Sheridan producers planted and harvested 45 acres of camelina. By September 2010, thanks to the test plots and education efforts, more than 2,000 acres of oilseeds had been planted and harvested around the state. Crop acres for the 2011 and 2012 oilseed varieties are:

- camelina – 350 acres
- safflower – 570 acres
- sunflower, oil varieties – 1,000 acres
- sunflower, confection varieties – 2,500 acres
- canola – 450 acres
- brown mustard – 35 acres
- soybeans – 20 acres



Producers and researchers evaluate the first field of camelina in Pine Bluffs.

In addition to the commercial value of the oilseed crops, they provide a value for growers of forage crops, Wyoming's No. 1 agronomic crop. Growers who plant Roundup-ready canola in alfalfa fields for at least two years, then plant back to a new hybrid variety of alfalfa, are seeing improved alfalfa production. This improves opportunities for selling Wyoming premium alfalfa into out-of-state dairy and horse hay markets.

Five hundred copies of the 21-page oilseed/biodiesel bulletin highlighting research on and production of oilseeds in Wyoming were made available to producers, schools and businesses statewide in September 2010.



The mobile trailer used to promote Wyoming oilseeds.

Potential Benefits:

As a result of the increased production of various oilseeds, there is now a potential market for selling to the Sheridan Farmers Co-op that hadn't existed before this project. The Sheridan co-op purchased two Kern Kraft oilseed crushers that processed about 15 tons of various oilseeds during winter 2009.

Phase I of Sheridan Farmers Co-op business plan was to test the crushers and experiment with the resulting meal to be processed into a value-added livestock range cake supplement.

Phase II involves securing a community development business grant or loan through the Wyoming Business Council to construct a building that will house the crushers and oilseed for storage.

The goal is to crush at least 1,000 tons of oilseed stock each year and process the stock meal into range cake. And, through the newly formed Wyoming Biofuels LLC, process the oil from the Sheridan Farmers Co-op into B100 diesel fuel. The B100 will be blended to make B20, which will be sold through the co-op truck stop and delivered to co-op fuel customers.