Forage Winter Wheat Production for Grazing or Hay Production in Eight Montana Counties

George Reich (Montana – Farmer/Rancher Grant)

Project Number: FW05-012

Title: Forage Winter Wheat Production for Grazing or Hay in Eight Montana Counties

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Winter forages for dryland hay production in eastern Montana.

Cooperators:

County	Producers	County Agents
Ravalli	Steve Kaufman	Rob Johnson
Gallatin	Mark Cooper George Reich Robert Miller	Ron Carlstrom
Granite		Dan Lucas
Judith Basin	Todd Davis	Wes Gibbs
Hill		Joe Broesder Peggy Lamb (research associate)
Garfield	Vern Pluhar	Eric Miller
Wheatland	Dean Peterson	Mandie Reed
Custer	Mark Helland	Kent Williams

Western SARE Grant: $19,795

Situation:

Many Montana ag operations comprise integrated crop and livestock systems that rely on efficient forage production for winter feed and economic stability.

With the state's dry climates, producers often fallow dryland farm ground in summer to store moisture and control weeds. They then plant grain hay (hay barley, sorghum sudangrass, millet), which often out-produces perennial grasses thanks to stored moisture and reduced weed competition.

The use of these forage crops is increasing. Since 2000, cereal hay has been harvested from 300,000 acres with an annual value of $34.5 million. Hay barley, such as 'Haybet,' accounts for much of the cereal hay.

Many producers are interested in winter cereals, but Montana has no forage winter wheat variety recommended by the Agricultural Experiment Station.

Small plot trials on farms and research stations, conducted under a previous Western SARE grant (FW04-018, Forage Winter Wheat Production for Hay or Grain in Gallatin County) showed that one variety, Willow Creek awned winter wheat, has promise for both forage and full harvest yield. Testing this variety on producer fields in diverse locations around Montana could confirm its potential.

Objectives:

1. Examine the agronomic characteristics of Willow Creek awnless forage winter wheat, which will be available in limited supply for planting in 2007
2. Allow eight producers across Montana to assess the grazing and hay production potential of Willow Creek to see if it will fit in their specific environments
3. Make producers and technical advisors in the agricultural community aware of winter forage enterprises and sustainable agriculture

Actions:

Eleven demonstration strips of Willow Creek awnless winter wheat and triticale, 1 to 10 acres each planted in the fall of 2004, were evaluated across Montana in 2005. The trials, involving eight producers and 14 county agents and Montana State faculty, were conducted in eight counties, east to west: Ravalli, Granite, Gallatin, Judith Basin, Hill, Wheatland, Garfield and Custer.

The plot sites represent much of Montana and the West's season and precipitation zones:

- Both sides of the Continental Divide
- 2,350 to 5,400 feet elevation
- Mild mountain valley to extreme northern and eastern Montana climate
- Subzero temperatures and drought in recent years

The family-owned operations are also representative:

- Irrigated and non-irrigated
- Hay and small grain production
- Rest-rotation to highly intensive grazing systems
- Looking for alternative crops when rotating out of hay
- Feed 1 to 2.5 tons of hay per cow per year

The forages were sampled May 23, June 7 and June 21 to determine production and quality, and hay samples were collected from most fields.

Hay and silage harvested at the E.L. Peterson Ranch was used for a 45-day backgrounding trial.

Similar trials were completed at Montana State University in Bozeman (Dennis Cash, extension agronomist) and at North Dakota State University in Hettinger.

Fourteen workshops and field demonstrations were conducted in 2005 and early 2006, reaching 759 producers.

Willow Creek is harvested to determine yield and quality.

Field day attendees learn about Willow at the Northern Agricultural Research Center.

The forage crop is assessed to determine quality.

A plot under irrigation.

Results:

Following workshops and field days, surveys showed that, had seed been available at planting time in the fall of 2005, 102 producers would have been interested in seeding 9,100 acres of Willow Creek awnless forage winter wheat.

From feeding trials at the E.L. Peterson Ranch, it was shown that cattle prefer, in order, Haybet spring barley, Willow Creek forage winter wheat and Koldtana winter triticale.

Participants plant Willow Creek.

The forage winter wheat in early growth stages.

Potential Benefits:

The project showed that winter forages can complement spring-planted forages for hay production with these values:

- Increased yields
- Earlier harvest dates
- Spreading the workload to fall and spring for planting