Short Reports

1. MillerCoors variety trial

**Investigators:** Andi Pierson, Camby Reynolds, and Carrie Eberle

**Issue:** The Wyoming Agricultural Experiment Station (WAES) at Powell conducts barley variety trials as part of an ongoing research effort. Malting barley is grown throughout the western United States and Canada, and breeders, industry, and producers need guidance on variety performance across environments.

**Goal:** Conduct spring barley variety trials in coordination with MillerCoors to evaluate production characteristics.

**Objectives:** Collect data on production characteristics on spring malting barley varieties grown in northern Wyoming for MillerCoors.

**Expected Impact:** Malting barley trials should assist with selection of high performing varieties for MillerCoors production in the Bighorn Basin.

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**Keywords:** malting barley, variety trial

**PARP:** VIII

2. Intercropping cover crop mix with confection sunflowers

**Investigators:** Camby Reynolds

**Issue:** Producers are being encouraged to plant cover crops in their sunflower fields to help build a diversity of plants and roots in the soil. Ideally, this should improve soil health without harming the sunflowers; however, this is a relatively new process, and the effects are not well known.

**Goal:** A demonstration plot was planted in 2015 at the Powell Research and Extension Center to help producers determine what they can expect if they interplant cover crops in sunflowers.

**Objectives:** The effects and management practices of interplanting cover crops in sunflower need to be understood to help producers determine if this will be a beneficial practice.

**Expected Impact:** Producers should be able to refer to this plot when making decisions about implementing this cropping practice on their farms.

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**Keywords:** sunflower, cover crop

**PARP:** 1:2
3. Impact of cultural and chemical practices on soil-borne pathogens of sugarbeet in the Bighorn Basin

Investigators: William Stump, Gustavo Sbatella, Matt Wallhead, and Wendy Cecil

Issue: Weed management is a key aspect of managing Rhizoctonia root and crown root of sugarbeet because the pathogen that causes the disease (*Rhizoctonia solani*) has a broad host range that includes many species of weeds and other crops. Conservation tillage systems have many benefits; however, under conservation tillage conditions, some diseases will increase in severity whereas others will decrease.

Goal: Study the feasibility of co-applying Roundup® and foliar fungicides for the management of Rhizoctonia root and crown rot of sugarbeet.

Objectives: Investigate the effects of tillage (minimum vs. conventional) and tank-mixed fungicide and herbicide applications on soil-borne diseases of sugarbeet in the Bighorn Basin.

Expected Impact: By altering production practices, crop losses due to soil-borne pathogens may be minimized, enhancing crop health and increasing yields and profitability. Cultural and chemical management practices that minimize losses due to soil-borne pathogens and/or extreme weather events will help maintain productivity.

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Keywords: sugarbeet, *Rhizoctonia solani*, fungicides

PARP: I:7, II:6, III:6, X:2

4. Evaluation of goji berry as a high-value fruit crop in Wyoming

Investigators: Jeremiah Vardiman, Sadanand Dhekney, and Michael Baldwin

Issue: Goji berry contains up to 20 amino acids, is an excellent source of vitamin C and antioxidants, and has a host of other compounds beneficial to good health. The fruit is currently imported from China to satisfy U.S. demand, but there is potential to meet some (and perhaps much) of this demand by growing the crop in the United States, including Wyoming.

Goal: Preliminary studies at the Sheridan Research and Extension Center indicate that goji berry (*Lycium barbarum*) could be a viable high-value crop for some areas of Wyoming, and we will continue evaluations to help determine its non-organic and organic production potential in the state.

Objectives: Evaluate the performance of the cold-hardy goji berry plant to determine days required for flowering, fruiting, and good yield potential at two study locations, Powell and Sheridan.

Expected Impact: The potential economic impact would include development of a new cold-hardy crop suitable for Wyoming growing conditions. The project could benefit backyard growers as well as farmers wishing to diversify their operations.

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Keywords: goji berry, fruit, cold-hardy

PARP: I:1, X:1