PREC Introduction

Introduction

The Powell Research and Extension Center (PREC) is located one mile north of Powell at 747 Road 9 with an elevation of 4,378 feet. PREC has 200 irrigated acres, including 2.5 acres under on-surface drip, 1.2 acres under sub-surface drip, 112 acres under a variable-rate sprinkler, and 84 acres under surface irrigation using gated pipes and siphon tubes. Research at the center focuses on irrigation, weed control, cropping systems, variety trials, and alternative crops. We serve northwest Wyoming, including Big Horn, Fremont, Hot Springs, Park, and Washakie counties.

The faculty and staff at PREC include a researcher (Assistant Professor Vivek Sharma), a farm manager (Camby Reynolds), a research associate (Andi Pierson), two assistant farm managers (Brad May and Keith Schaeffer), and an office associate (Samantha Fulton). We are also assisted by graduate students and summer hires throughout the growing season. Bret Hess, director of the Wyoming Agricultural Experiment Station (WAES), serves as the interim director of PREC and provides administrative support mostly from the WAES office within the University of Wyoming College of Agriculture and Natural Resources in Laramie.

PREC Loses Valuable Team Member

In 2017, we were saddened by the unexpected passing of UW Department of Plant Sciences Assistant Professor Gustavo Sbatella (Fig. 1). Gustavo was stationed at PREC and focused his work on irrigated crop and weed management. He was a pleasure to work with and contributed greatly to agriculture-related research and extension throughout the Bighorn Basin and Wyoming with his extensive knowledge and abundant energy. Our thoughts are with Gustavo’s family, friends, colleagues, and the students he mentored.

PREC Focused on Variety Trials, Irrigation Studies

Last year was a busy year with a lot of exciting research happening at PREC and in the Bighorn Basin. We continue our efforts with trials in crops such as malt and feed barley, dry beans, corn, and sugarbeets in an effort to identify the best varieties for this region. We also have several irrigation studies designed to provide producers with more information about crop water-use requirements. To assist in this effort, Assistant Professor Vivek Sharma installed a Bowen ratio-energy balance (BREB) system. BREB measures multiple variables, among them incoming and outgoing short and longwave radiation, vapor pressure, soil heat flux, soil moisture every 12 inches to a depth of five feet, and evapotranspiration. This is an exciting addition to the research equipment at PREC. Data gained from the BREB system will be used to measure crop evapotranspiration and crop coefficients during the growing season and evaporative losses during the non-growing season. Our overall goal is to help growers and crop advisors manage irrigation water more efficiently.

2017 Growing Season

The 2017 growing season (Fig. 3) was fairly characteristic of the Powell area. We experienced large rain events in both April and September, totaling more than 1.5 inches each of these months.

Acknowledgments

We thank the PREC staff for stepping up to make sure everything was covered in a professional manner in 2017 and into this year. We appreciate your dedication to the success of the research center. We are also very appreciative of the input we receive from the PREC Advisory Board, which includes growers and industry representatives throughout the Bighorn and Wind River basins.

Contact Information

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PARP: I, II, IV, VII, IX, X
**Figure 2.** Bowen ratio-energy balance system for measuring crop evapotranspiration and crop coefficients during the growing season (A); and for measuring evaporative losses during the non-growing season (B).

**Figure 3.** Weather conditions in Powell for the 2017 growing season.