

# Bluebunch Wheatgrass Trial, Washakie County, WY

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**Objective:** Identify a bluebunch wheatgrass cultivar that establishes well in the area  
**County:** Washakie County near Worland, WY  
**Average Annual Precipitation:** 5 – 9 inches  
**MLRA:** 32, Northern Intermountain Desertic Basins  
**Dominant Soil Type:** Lostwells  
**Elevation:** 4720 ft  
**Site Preparation:** Disc lightly in spring moisture  
**Seeding Date:** May 6, 2014  
**Seeding Rate:** each cultivar was planted in separate plots at 7 lbs/acre  
**Seeding Method:** Precision drill seeder from the Plant Materials Center, 14 inch row spacing, ¼ to ½ inch depth  
**Acres Seeded:** 3 acres total, 0.75 acre each cultivar  
**Previous Site History:** former crop area that had become annual wheatgrass and sixweek fescue  
**Herbicide:** none  
**Irrigation:** no irrigation was planned but overflow from an irrigation ditch did provide water to the southern end of the seeding  
**Grazing:** wildlife only, mostly antelope  
**Monitoring Dates:** July 2014 and June 2017



Fig. 1. Bluebunch wheatgrass three years after planting.

Table 1. Seeded bluebunch wheatgrass cultivars and their seeding rate.

Scientific Name	Common Name	Cultivar	lbs/acre	Percent Seed Mix
<i>Elymus wawawaiensis</i> *	Snake River wheatgrass	Secar	7	100
<i>Elymus wawawaiensis</i> *	Snake River wheatgrass	Discovery	7	100
<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass	Goldar	7	100
<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass	Anatone	7	100

\* Previously identified as bluebunch wheatgrass before describing the Snake River nomenclature.

## Introduction:

The field planting goal was to identify a bluebunch wheatgrass cultivar that works well in the region. The cultivar that preforms the best will be used for future plantings and recommends in the region. At planting, the site was described as having good seedbed condition prepared by discing; however, a medium weed infestation (annual wheatgrass, sixweeks fescue and blue mustard) and dry soil moisture conditions were also present. The southern third of the field plantings received flood irrigation after seeding.

## Results:

In July 2014, all of the seeded cultivars had established in the plots (Table 2). The Discovery Snake River wheatgrass had the highest rating for stand establishment and vigor, and had the greatest average plant height. Where Goldar and Anatone bluebunch wheatgrass established, the plants had good vigor. Secar Snake River wheatgrass was the poorest rated cultivar (Figure 2).



Between 2014 and 2017, the property changed ownership and the field planting stakes were removed and site mowed. Without the stakes, it was not possible to locate each cultivar for the 2017 evaluation. Overall seeded cultivars had 5% canopy cover on the site. In the flood irrigated area, seeded cultivars had 10 - 15% canopy cover. Plants were producing seed but no seedlings were observed outside of drill rows.

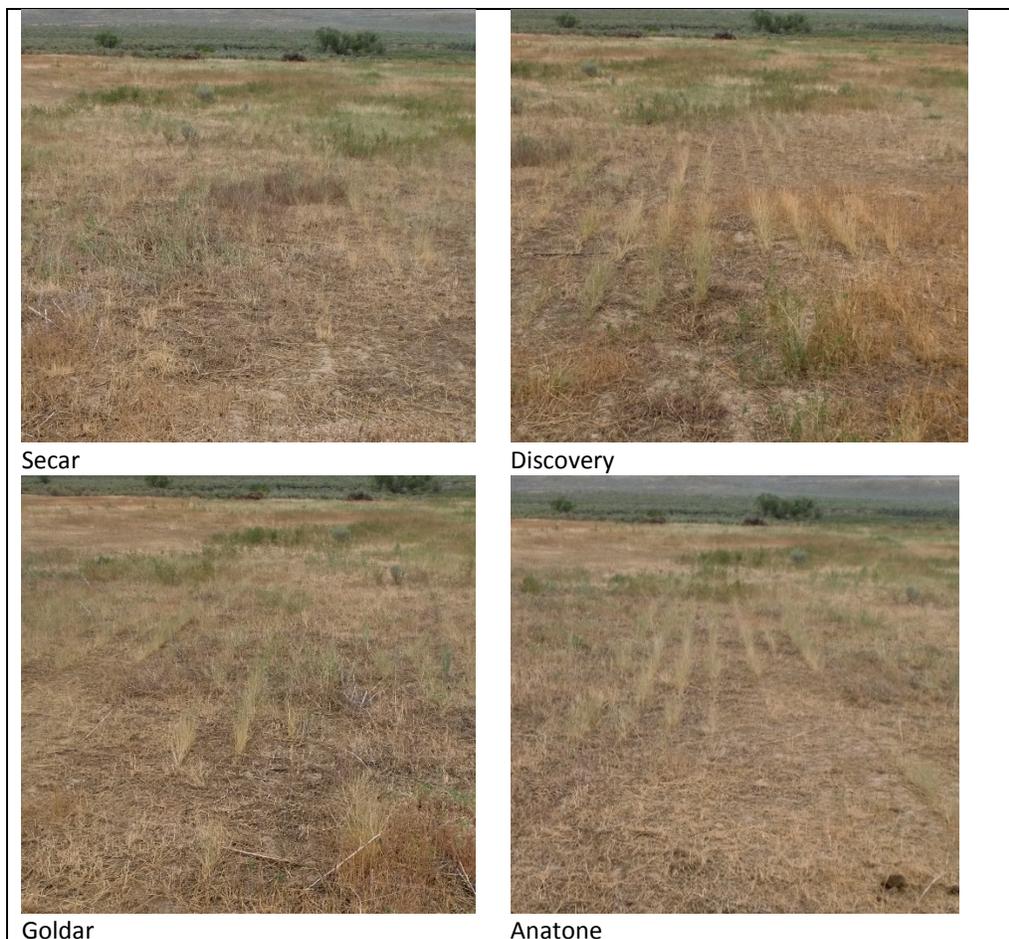
**Table 2.** The 2014 evaluation ratings and measurements of the four cultivars.

Cultivar	Stand	Vigor	Height (inch)	Density (ft <sup>2</sup> )
Secar	Poor	Good	6	5
Discovery	Good	Good	7	7
Goldar	Fair	Good	5.5	6
Anatone	Fair	Good	4.5	8

The weed infestation increased over time and was rated as severe in July 2014 and approximately 90% canopy cover in 2017. The most common weed species were cheatgrass and annual wheatgrass. Even with the high canopy cover of annual grasses, seeded cultivars that established were able to persist.

**Summary:**

- Discovery Snake River had the best establishment and greatest height on this droughty site.
- Irrigation following seeding improved seeded species establishment.
- Weed control prior to seeding may have improved seedlings establishment.
- Established cultivars were able to persist in the annual grass-dominated area.



**Fig. 2.** Seedling establishment of the four cultivars, July 2014

