

**Part 1B: Current Rangeland Issue, Ventenata (*Ventenata dubia*)**

**Multiple Choice:**

*For examples on what Multiple Choice questions will look like, visit*

<https://idahorange.wordpress.com/preparation/study/> > Habitat Improvement Scenarios > 2019 Current Grazing Issue > Pinyon Juniper Encroachment.

**Scenario:**

The Pony and Elk Complex Fires in 2013 burned about 280,000 acres in the Danskin Mountains. Ranchers partnered with federal and state agencies to assist with range rehabilitation projects following the burn. Although *Ventenata dubia* is not found in the area yet, they wanted to assure that they have plenty of native and introduce perennial grasses to outcompete invasive annual grasses, stabilize the soil, and increase forage for wildlife and livestock. To do this, they decided to treat 36,300 acres with native grasses, alfalfa, and sagebrush through aerial and drill seeding. They also partnered with Idaho Department of Fish and Game to plant sagebrush and bitterbrush seedlings for sage-grouse habitat and winter big-game range. Determine the costs of each treatment as well as the overall costs for the project.

**Drill Seeding:**

- 3,500 acres will be drill seeded. With one drill, it will take 36 days to complete, hence, 3 drills will be used reducing the number of days of 12.
- Each day is 8-hours, labor will cost \$26/hour per person (each drill will require one person).
- Equipment (including fuel and repair) will cost \$300 a day per drill.
- The seed mix from the NRCS cost \$1.25/acre and will include native grasses and alfalfa.

*Labor: 3 drills X 12 days X 8 hours/day = 288 hours X \$26 = \$7,488*

*Equipment: \$300 per day/drill = \$900 a day X 12 days = \$10,800*

*Seed mix: \$1.25/acre X 3,500 = \$4,375*

***TOTAL COST: \$22,663***

**Aerial Seeding:**

- 32,800 acres will be aerial seeded, seeding will take 4 days.
- The plant mix will cost \$2.15/acre and will include native grasses, alfalfa, and sagebrush.
- The fixed-wing aircraft cost \$1,500/day (this includes the pilot's salary).

*Seed mix: \$2.15/acre X 32,800 acres = \$70,520*

*Labor/Equipment: \$1,500 X 4 days = \$6,000*

***TOTAL COST: \$76,520***

**Seeding Sagebrush and Bitterbrush Seedlings:**

- 4,000 seedlings will be hand planted by volunteers. Each seedling cost \$1.15 to grow.

*4,000 seedlings X \$1.15 = \$4,600*

***TOTAL COST: \$4,600***

COST for drill seeding:       \$22,663    
COST for aerial seeding:      \$76,520    
COST for seedlings:          \$4,600    
  
TOTAL COST of all treatments:   \$103,783