Executive summary:
In 2017, the Cereal Variety Testing Program (VTP) conducted 12 spring barley variety trials across eastern Washington. The total number of individual barley plots evaluated was 864. Entries in the trials included submissions from every major barley breeding program in the Pacific Northwest. Variety performance information is delivered to barley growers and other clientele through field tours (9 tours in 2016), grower meetings, the variety testing website, emails with preliminary results after harvest (over 200 recipients), the variety selection tool (located at smallgrains.wsu.edu), Wheat Life, seed buying guide, annual technical report, direct contact with clientele, and reports to the Washington Grain Commission. The variety trials are used by WSU breeders for variety release decisions, by pathologists to rate disease reactions, and for county Extension programming.

Impact:
The economic impact of the WSU VTP is measured by providing information to growers and seed industry personnel that leads to variety selections that maximize profitability and minimize risk. Choosing an appropriate barley variety to plant is one of the easiest ways that a grower can increase production and decrease costs (through decreased inputs). Although current barley acreage in Washington is declining, it is important for the VTP to continue to evaluate the growing list of available barley varieties. It is also important for the program to evaluate new breeding lines for potential variety release. The trials provide a venue for growers to see what’s available, and a platform to continue to promote barley production in Washington. Without the VTP, many growers in Washington would not have access to barley variety performance data in their areas of production. Growers who choose to plant barley will see an increased economic return by choosing high yielding barley varieties showcased in the WSU VTP.

Some of the most direct and measurable impacts that this project had in 2017 are as follows:
1. Barley VTP field tours were attended by 234 farmers/clientele. At those tours, I presented a few details about each entry in the trial.
2. As soon as harvest results were available, they were distributed via email to a listserv with 208 members and posted to the project website.
3. The variety testing section of the small grains website (http://smallgrains.wsu.edu/variety/) was the most visited section of the site (23,815 page views).
**Objective**

1. Conduct barley variety trials in Eastern Washington
   - Deliverable: 12 spring barley trials, 24 entries/trial
   - Progress: 2017 trials complete (24 entries/trial)
   - Timeline: 2018 trials in planning
   - Communication: Trials are planted in the spring, data results are available to growers at the end of the harvest season. Field tours in summer.

2. Public and private entries in trials
   - Deliverable: All widely grown, commercially available varieties included in trials.
   - Progress: 2017 barley entries: 67% Public and 33% Private Entries by Feb. 15
   - Timeline: Solicit entries February 1. Maintain positive relationship with breeding programs to ensure future participation.

3. Trials and data available to other projects
   - Deliverable: Participation by other projects/programs
   - Progress: Data is used by breeders for variety release and promotional materials. Graduate students conducting fertility and nutritional studies on harvested barley grain.
   - Timeline: Ongoing cooperation and collaboration that fit with timelines and other listed objectives
   - Communication: VTP data used for variety release. Graduate students will publish research results.

4. Extension programming
   - Deliverable: Grower Meetings
   - Progress: 5 grower mtgs in 2017; Whenever I'm invited
   - Timeline: Grower Meetings: 5 in 2017
   - Communication: Field Tours (with county Extension)
   - Deliverable: 9 in 2017; 9 planned for 2018
   - Progress: 9 in 2017 (listed below)
   - Timeline: June - July
   - Communication: *Field Tours: 9 in 2017 (listed below)

### 2017 TOUR SCHEDULE—BARLEY

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayview</td>
<td>30-Jun</td>
<td>20</td>
</tr>
<tr>
<td>Dayton</td>
<td>29-Jun</td>
<td>31</td>
</tr>
<tr>
<td>Almira</td>
<td>22-Jun</td>
<td>80</td>
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<td>Reardan</td>
<td>23-Jun</td>
<td>15</td>
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<td>Fairfield</td>
<td>21-Jun</td>
<td>21</td>
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<tr>
<td>St. John</td>
<td>14-Jul</td>
<td>10</td>
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<td>Lamont</td>
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<td>8</td>
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<tr>
<td>Farmington</td>
<td>13-Jul</td>
<td>11</td>
</tr>
<tr>
<td>Palouse</td>
<td>11-Jul</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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