

**Oregon State University barley nurseries: 2014-2015.** The summary is divided into “Malting”, “Food”, “Forage/Feed”, and “Genetics”. In reality, these areas of endeavor are tightly integrated. This is especially true for feed barley as we generally don’t breed specifically for this end-use however feed barley lines may stem from any of the other breeding areas. The emphasis of the program is on facultative growth habit in order to provide maximum flexibility in planting date (for growers) and breeding (for research and variety development).

## Malting Barley

### **Overview:**

#### **Number of advanced and fixed lines: 1055**

- 363 in yield trial plots
- 692 in single, double or mini-plots (doubled haploids)

### **Details:**

#### **Oregon Winter/Facultative Barley Statewide Yield Trial**

- |                  |              |                          |
|------------------|--------------|--------------------------|
| • Corvallis, OR  | Fall-planted | 52 entries, 3 rep, RCBD  |
| • Hermiston, OR  | Fall-planted | 52 entries, 3 rep, RCBD  |
| • Pendleton, OR  | Fall-planted | 52 entries, 3 rep, RCBD  |
| • Mt. Vernon, WA | Fall-planted | 52 entries, 3 rep, RCBD  |
| • Pullman, WA    | Fall-planted | 52 entries, 3 rep, RCBD  |
| • Lebanon, OR    | Fall-planted | 52 entries, unreplicated |

#### **Oregon Malting Barley Advanced Line Trial**

- |                    |              |                          |
|--------------------|--------------|--------------------------|
| • Corvallis, OR    | Fall-planted | 81 entries, 2 rep, RCBD  |
| • Lebanon, OR      | Fall-planted | 81 entries, unreplicated |
| • St. Paul, MN     | Fall-planted | 64 entries, observation  |
| • Fort Collins, CO | Fall-planted | 38 entries, observation  |

#### **Oregon Malting Barley Preliminary Yield Trial**

- |                 |              |                           |
|-----------------|--------------|---------------------------|
| • Corvallis, OR | Fall-planted | 132 entries, unreplicated |
|-----------------|--------------|---------------------------|

#### **Oregon Facultative Barley Yield Trial**

- |                 |                |                         |
|-----------------|----------------|-------------------------|
| • Corvallis, OR | Winter-planted | 33 entries, 2 rep, RCBD |
|-----------------|----------------|-------------------------|

#### **Oregon Promise Yield Trial**

- |                 |                |                         |
|-----------------|----------------|-------------------------|
| • Corvallis, OR | Winter-planted | 51 entries, 2 rep, RCBD |
| • Lebanon, OR*  | Winter-planted | 37 entries, 2 rep, RCBD |
| • Madras, OR*   | Spring-planted | 37 entries, 2 rep, RCBD |

#### **Winter Malting Barley Trial (US and International Cooperators)**

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|-----------------|--------------|-------------------------|
| • Corvallis, OR | Fall-planted | 24 entries, 3 rep, RCBD |
|-----------------|--------------|-------------------------|

#### **Winter Barley Germplasm Nursery (US Cooperators)**

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|-----------------|--------------|-------------------------|
| • Corvallis, OR | Fall-planted | 18 entries, 3 rep, RCBD |
|-----------------|--------------|-------------------------|

#### **AMBA Drill Strips**

- |                 |              |                             |
|-----------------|--------------|-----------------------------|
| • Corvallis, OR | Fall-planted | 10 entries (OSU & USDA-ARS) |
| • Lebanon, OR   | Fall-planted | 5 entries (OSU)             |

#### **Observational Drill Strips/Seed Increase**

- |                 |                |            |
|-----------------|----------------|------------|
| • Corvallis, OR | Fall-planted   | 2 entries  |
| • Corvallis, OR | Winter-planted | 17 entries |
| • Lebanon, OR*  | Winter-planted | 10 entries |

#### **Purification Head Rows**

- |                 |              |                         |
|-----------------|--------------|-------------------------|
| • Corvallis, OR | Fall-planted | 3 entries, 72 rows each |
|-----------------|--------------|-------------------------|

### **Malt Doubled Haploid Mini-Plots**

- Corvallis, OR Fall-planted 63 lines, unreplicated w/checks
- Corvallis, OR Winter-planted 86 lines, unreplicated w/checks

### **Malt Doubled Haploid Double Rows**

- Corvallis, OR Fall-planted 71 lines, unreplicated w/checks
- Corvallis, OR Winter-planted 108 lines, unreplicated w/checks

### **Malt Doubled Haploid Single Rows**

- Corvallis, OR Fall-planted 179 lines, unreplicated w/checks
- Corvallis, OR Winter-planted 185 lines, unreplicated w/checks

### **2-row Spring Barley Fertility Trial**

- Willamette Valley\* Spring-planted 5 entries, 3 treatments, 4 rep, RCBD
- Klamath Basin\* Spring-planted 5 entries, 3 treatments, 4 rep, RCBD
- Northeastern Oregon\* Spring-planted 5 entries, 3 treatments, 4 rep, RCBD

\*Not yet planted as of 2/12/15

## **Food Barley**

### **Overview:**

#### **Number of advanced and fixed lines: 293**

- 105 in yield trial plots
- 188 in single, double or mini-plots (doubled haploids)

### **Details:**

#### **International Food Barley Trial**

- Corvallis, OR Fall-planted 54 entries, 2 rep, Lattice
- Mt. Vernon, WA Fall-planted 54 entries, 2 rep, Lattice
- Pullman, WA Fall-planted 36 entries, 2 rep, Lattice
- Dundee, Scotland Fall-planted 30 entries, 2 rep, Lattice
- Lleida, Spain Fall-planted 30 entries, 2 rep

#### **Oregon Food Barley Advanced Yield Trial**

- Corvallis, OR Fall-planted 22 entries, 2 rep, RCBD

#### **Oregon Food Barley Preliminary Yield Trial**

- Corvallis, OR Fall-planted 15 entries, unreplicated

#### **Black Beaut Yield Trial**

- Corvallis, OR Winter-planted 14 entries, 2 rep, RCBD

#### **Observational Drill Strips/Seed Increase**

- Corvallis, OR Fall-planted 3 entries
- Corvallis, OR Winter-planted 2 entries
- Lebanon, OR Fall-planted 1 entry

#### **Purification Head Rows**

- Corvallis, OR Fall-planted 1 entry, 72 rows

#### **Food Doubled Haploid Mini-Plots**

- Corvallis, OR Fall-planted 123 lines, unreplicated w/checks

#### **Food Doubled Haploid Double Rows**

- Corvallis, OR Fall-planted 36 lines, unreplicated w/checks

#### **Food Doubled Haploid Single Rows**

- Corvallis, OR Fall-planted 29 lines, unreplicated w/checks

## Forage & Feed<sup>^</sup>

### Overview:

**Number of advanced and fixed lines: 62**

- 9 in drill strips
- 53 in single, double or mini-plots (doubled haploids)

### Details:

#### **On-Farm Strip Trial (Morrow County)**

- Jepsen Farm Fall-planted 7 entries, 4 rep, RCBD
- Starvation Farm Fall-planted 7 entries, 4 rep, RCBD

#### **Spring Forage Barley Drill Strips**

- Corvallis, OR Winter-planted 2 entries

#### **Observational Drill Strips/Seed Increase**

- Corvallis, OR Fall-planted 3 entries
- Corvallis, OR Winter-planted 1 entry

#### **Purification Head Rows**

- Corvallis, OR Fall-planted 9 entries, 72 rows each

#### **Forage Doubled Haploid Mini-Plots**

- Corvallis, OR Winter-planted 38 lines, unreplicated w/checks

#### **Forage Doubled Haploid Double Rows**

- Corvallis, OR Winter-planted 7 lines, unreplicated w/checks

#### **Forage Doubled Haploid Single Rows**

- Corvallis, OR Winter-planted 8 lines, unreplicated w/checks

<sup>^</sup>Not an inclusive list as feed lines are integrated within other breeding classes. All lines grown have potential as a possible feed variety.

## Genetics

### Overview:

**Number of advanced and fixed lines: 2331**

- 2331 in single, double or mini-plots

### Details:

#### **UG99 Doubled Haploid Mini-Plots**

- Corvallis, OR Winter-planted 93 lines, unreplicated w/checks

#### **UG99 Doubled Haploid Double Rows**

- Corvallis, OR Winter-planted 16 lines, unreplicated w/checks

#### **UG99 Doubled Haploid Single Rows**

- Corvallis, OR Winter-planted 14 lines, unreplicated w/checks

#### **Barley Stripe Rust Nursery (Corvallis); Winter-planted**

- Lenetah/GZ Population 154 entries, 2 reps, RCBD
- Barley Stripe Rust Screening Trial 40 entries, 2 reps, RCBD
- Winter/Facultative 2-row GWAS Panel 404 entries, 2 reps, RCBD
- Oregon Promise Population 202 entries, 2 reps, RCBD
- Violetta/Full Pint Population 178 entries, 2 reps, RCBD
- Uniform Barley Winter-hardiness Nursery 21 entries, 2 reps, RCBD

***OSU-TCAP Low Temperature Tolerance Panel***

• Corvallis, OR	Winter-planted	941 entries, MAD (type 2)
• St. Paul, MN	Fall-planted	941 entries, MAD (type 2)
• Aberdeen, ID	Fall-planted	941 entries, MAD (type 2)
• Wooster, OH	Fall-planted	941 entries, MAD (type 2)
• Lincoln, NE	Fall-planted	941 entries, MAD (type 2)
• Dundee, Scotland	Fall-planted	941 entries, MAD (type 2)
• Irlbach, Germany	Fall-planted	384 entries, MAD (type 2)
• Martonvasar, Hungary	Fall-planted	941 entries, MAD (type 2)
• Freising, Germany	Fall-planted	941 entries, MAD (type 2)
• Zaragoza, Spain	Fall-planted	941 entries, MAD (type 2)
• Lacombe, AB Canada	Fall-planted	941 entries, MAD (type 2)
• Denmark (Carlsburg)	Fall-planted	941 entries, MAD (type 2)
• Champagne, France	Fall-planted	941 entries, MAD (type 2)

***Minnesota Genomic Selection***

• Corvallis, OR	Fall-planted	268 entries, MAD (type 2)
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**Other**

***Adaptive Symbiotic Technologies Drill Strips***

• Corvallis, OR	Fall-planted	7 entries, 2 treatments
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