

**Oat breeding activities at the
Mount Vernon Research & Extension Center
Washington State, USA**

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**American Oat Workers Conference 2014
Breeder's Forum**



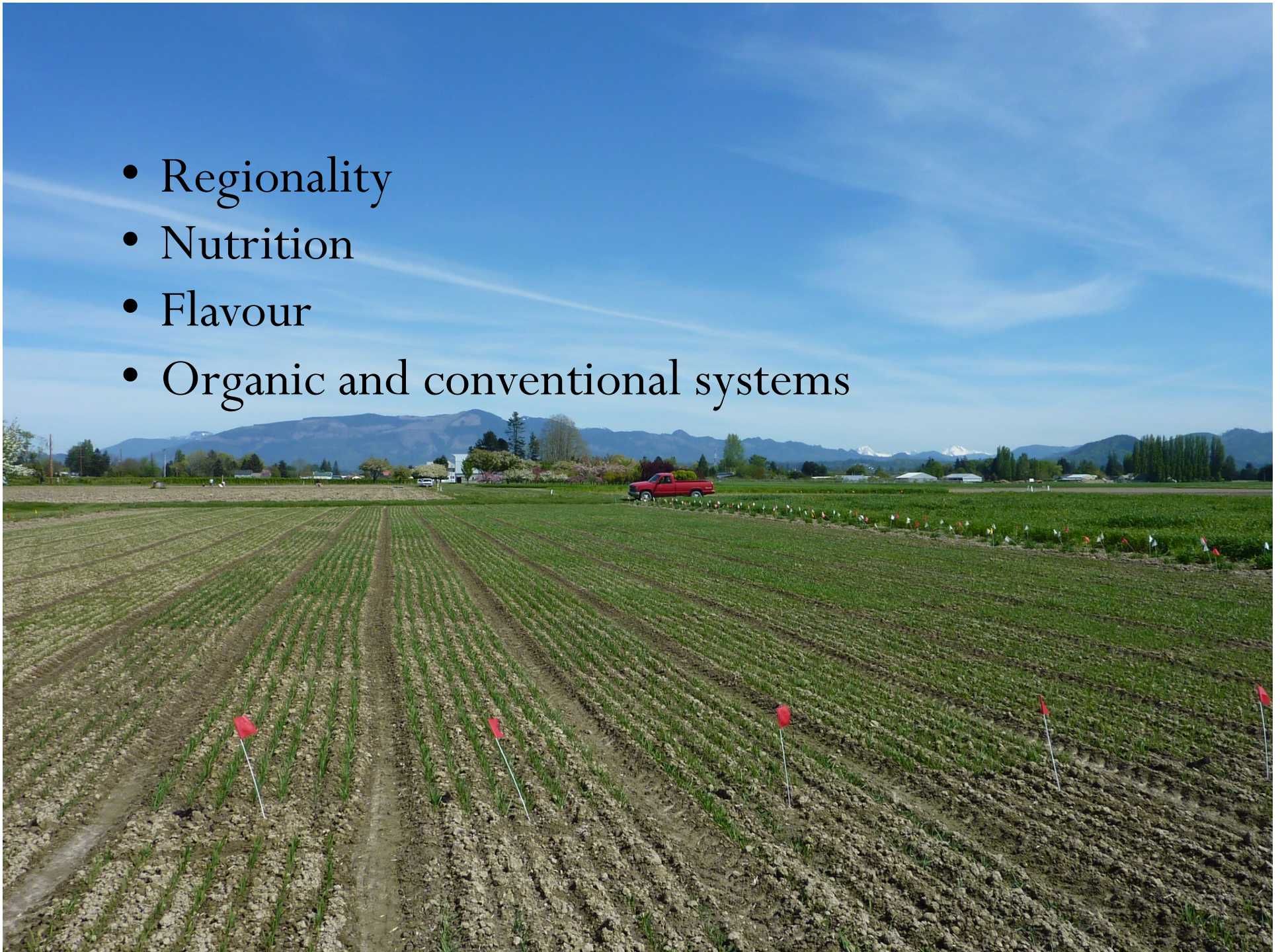
WASHINGTON STATE UNIVERSITY
 MOUNT VERNON
NORTHWESTERN WASHINGTON RESEARCH & EXTENSION CENTER

Context





- Regionality
- Nutrition
- Flavour
- Organic and conventional systems



Potential markets



**1. Local oatmeal
(Camas Country Mills, OR)**



2. Oatmeal stout



**3. Poultry & egg production
(Wilcox Family Farm, Roy, WA)**

Activities

Poultry feeding study

- Large-scale producer with strong brand recognition.
- Goal: oats will constitute the entire grain portion of layer diets.
- Initially using caged birds, later moving to organic birds in a free-range house.
- Testing egg quality.
- Hulless oats for maximum energy density.
- Building on UK projects QUOATS and AFENO.



Food experiments

Exploring distinctive food-oat products for potential breeding goals.



Commercial variety test

- 54 lines, 50 hulled and 4 hulless
- Replicated plot trials in 4 locations spanning the region
- In-field and postharvest tests on all milling industry parameters



Hulled oat entries

06-5465	Kaufmann	Robust
AC Lu	Killdeer	Rockford
AC Morgan	Kona	Rodeo
Baker	L-5	Ronald
Buckskin	Leggett	Saber
Cayuse	Lincoln	Shootingstar
Chaps	'Merrill Lewis' oat	Souris
Don	Monida	Spurs
Esker	Newburg	Stainless
Excel	NZA228/17	Stride
Furlong	NZA29/09	Summit
HiFi	NZA292,06	Tack
Horsepower	NZA293,111	UC113
Jay	NZA733/01	UC125
Jim	Ogle	Viking
Jordan	Pinnacle	Wombat
Jury	ProLeaf234	

Hulless oat entries

Streaker

Paul

NZA313,11

AC Gwen

“Merrill Lewis” project

- Monida / Derby cross performed in the 1990s
- Selected by a local breeder
- F5 bulks
- F10 head-rows

Exploring available diversity in spring material

- A collection of germplasm including current cultivars, older cultivars and landraces, in short rows.
- Includes black-hulled phenotypes.
- Includes *strigosa* genotypes.
- Characterising agronomic properties, possibly doing some tests on kernel properties.

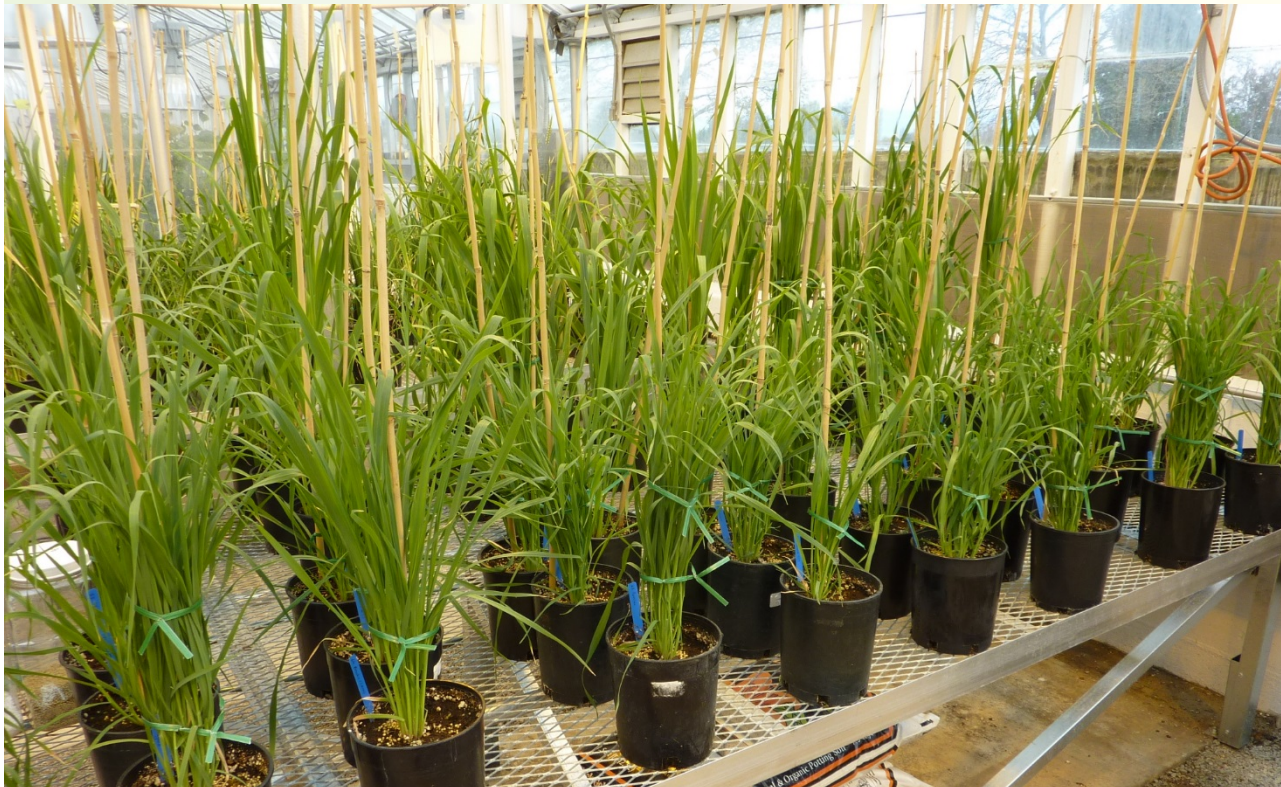


Winter oat development

1. 2013-14: Winter field survival tests and characterisations

- Existing winter cultivars from genebanks
- Breeding material from NCSU

2. Winter-spring crosses





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Thank You