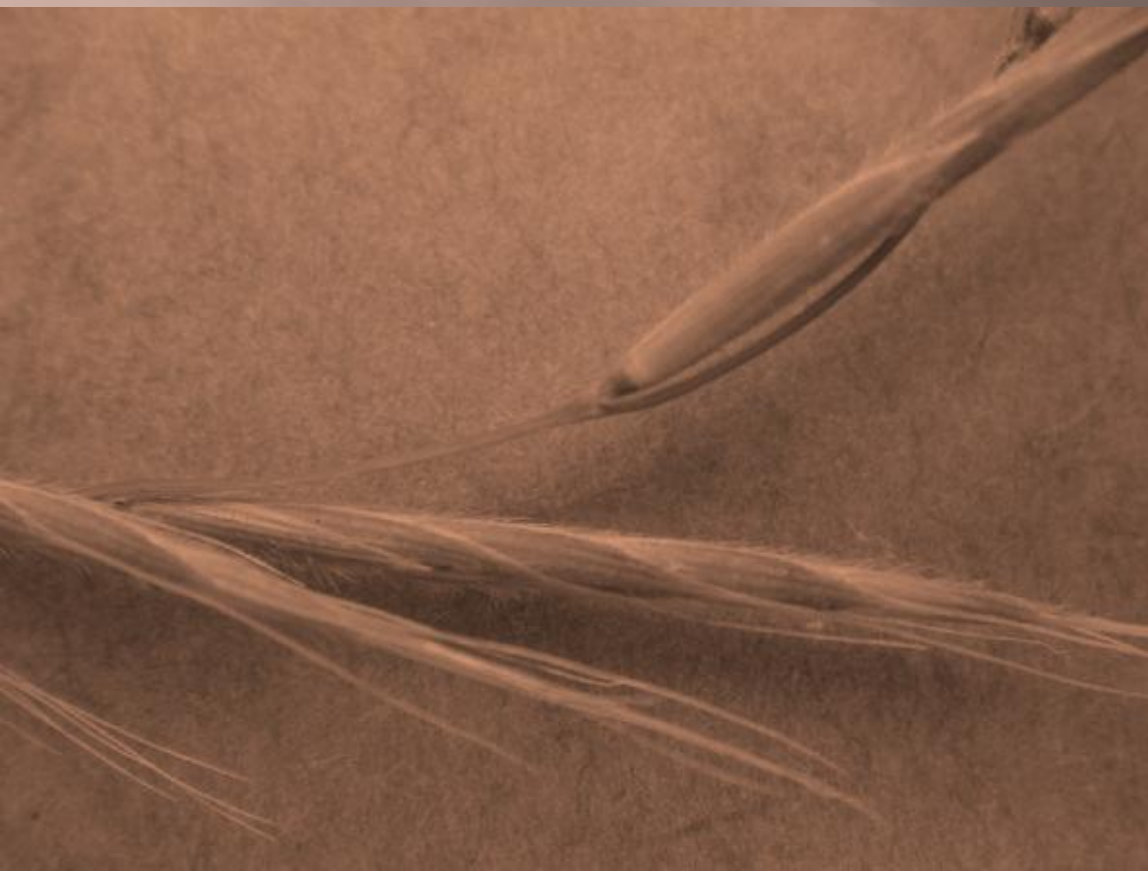


# FALSE BROME

*Brachypodium sylvaticum*



# Introduction to an invasive grass



# False brome



## KEY FEATURES

- ▣ Identifying characteristics
- ▣ Habitat
- ▣ Range

## How to identify false brome?

- Perennial bunchgrass
- Apple green: early and late
- 12 to 18 inches
- Lax (droopy) stem
- Sessile seeds (seeds look like they attach directly to stem)



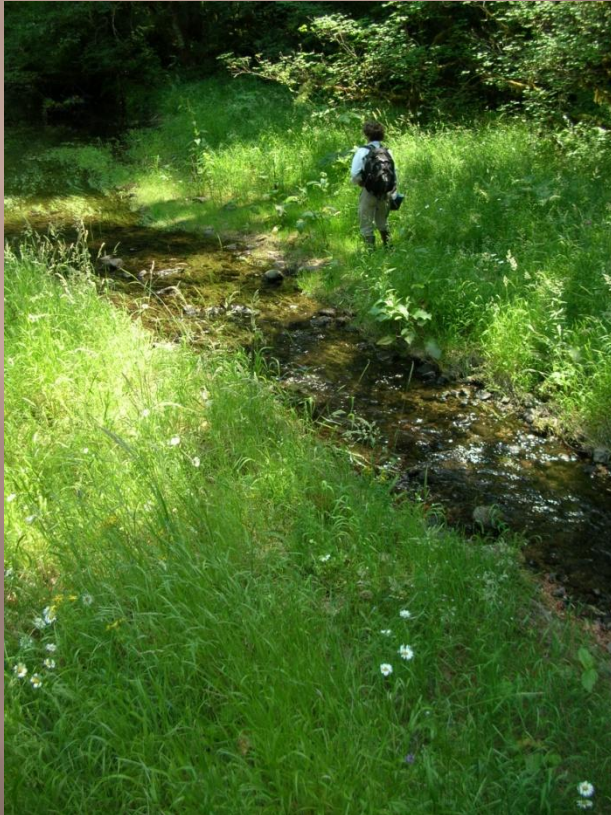
# Pet that grass

- The soft hairy leaves are one of the major characteristics
- Leaf sheath open to the base
- Hollow stems
- Flat leaves  $\frac{1}{4}$ " to  $\frac{1}{3}$ " wide
- Ligules are membranous, 1 to 6mm



# Reproduction

FROM SEED, NOT  
RHIZOMES



FLOWERS AFTER THE FIRST YEAR;  
BLOOMS FROM JUNE - SEPTEMBER.  
4-14 SPIKELETS OF 8-16 FERTILE FLORETS



# Tolerates sun and shade



Bruce Newhouse

# Where is it from?

Europe, Asia,  
North Africa:  
Pakistan, northern  
Europe, central  
Europe,  
southwestern  
Europe,  
southeastern  
Europe, north  
Macronesia, east  
tropical Asia,  
Siberia, Russian  
far east, Russian  
middle Asia,  
Caucasus, Arabia,  
China, India,  
Malasia,  
Papuasia – also  
found in New  
Zealand and  
southern South  
America





# What limits false brome?

From 0 to 4000m elevation (in Europe limit about 1600m) – avoids extremely continental climates and dry soils



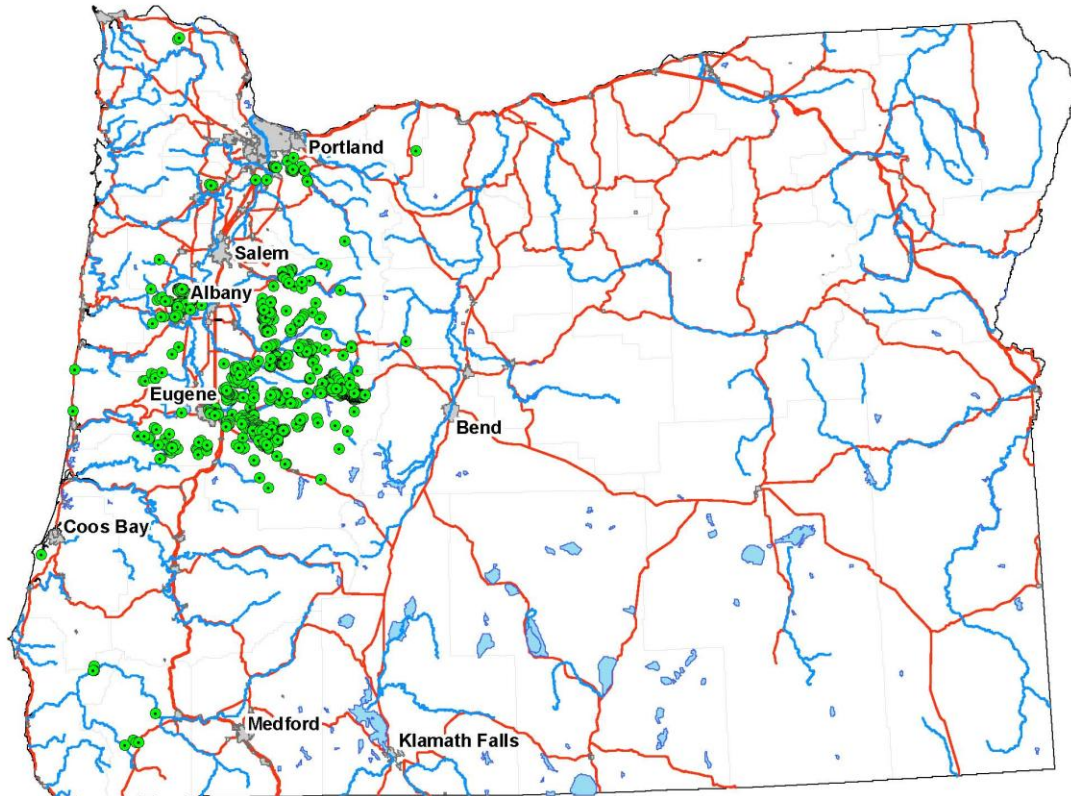
# How long has it been here?

First recorded in Lane County in 1939 – naturalized around Corvallis by 1966. Oral histories suggest it may have been here since the 1890-1920 period. Alternate hypothesis: Bureau of Plant Introductions experiments



# Local distribution?

Known Distribution of *Brachypodium sylvaticum* in Oregon as of January 23, 2007



- ▣ Map from 2007 inventory
- ▣ Other US locations: Washington, California, New York, Virginia

# Genetic evidence

(Rosenthal, Ramakrisnan, and Cruzan 2008)

## OREGON

- ▣ Intraspecific hybridization among genotypes from geographically distinct regions of western Europe AFTER colonization

## CALIFORNIA

- ▣ A separate introduction from one to several genetically similar regions in the native range.

**Novel genotypes may be a key in the rapid spread in Oregon.**

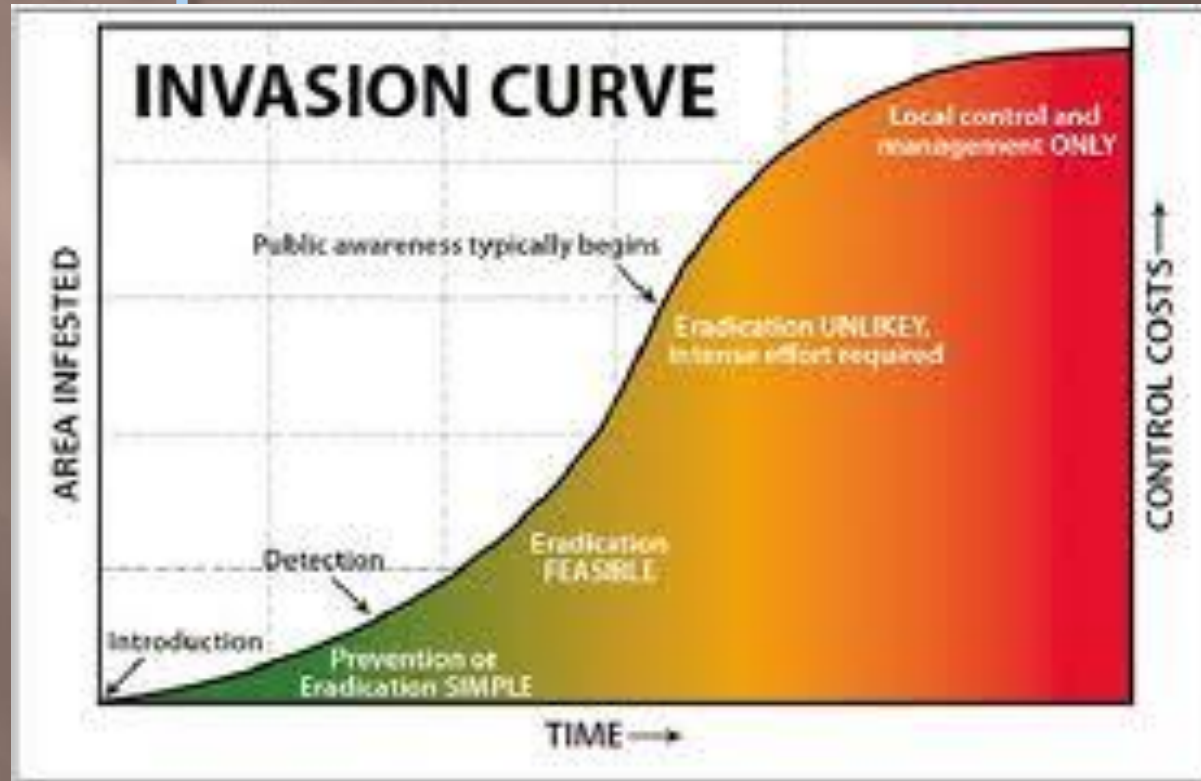
# What is false brome habitat?



- Shade tolerant
- Drought tolerant
- Prefers partial shade
- Competes with grasses best in partial shade/high nutrient situation
- Does not compete well with dense shrubs

# Why does it spread?

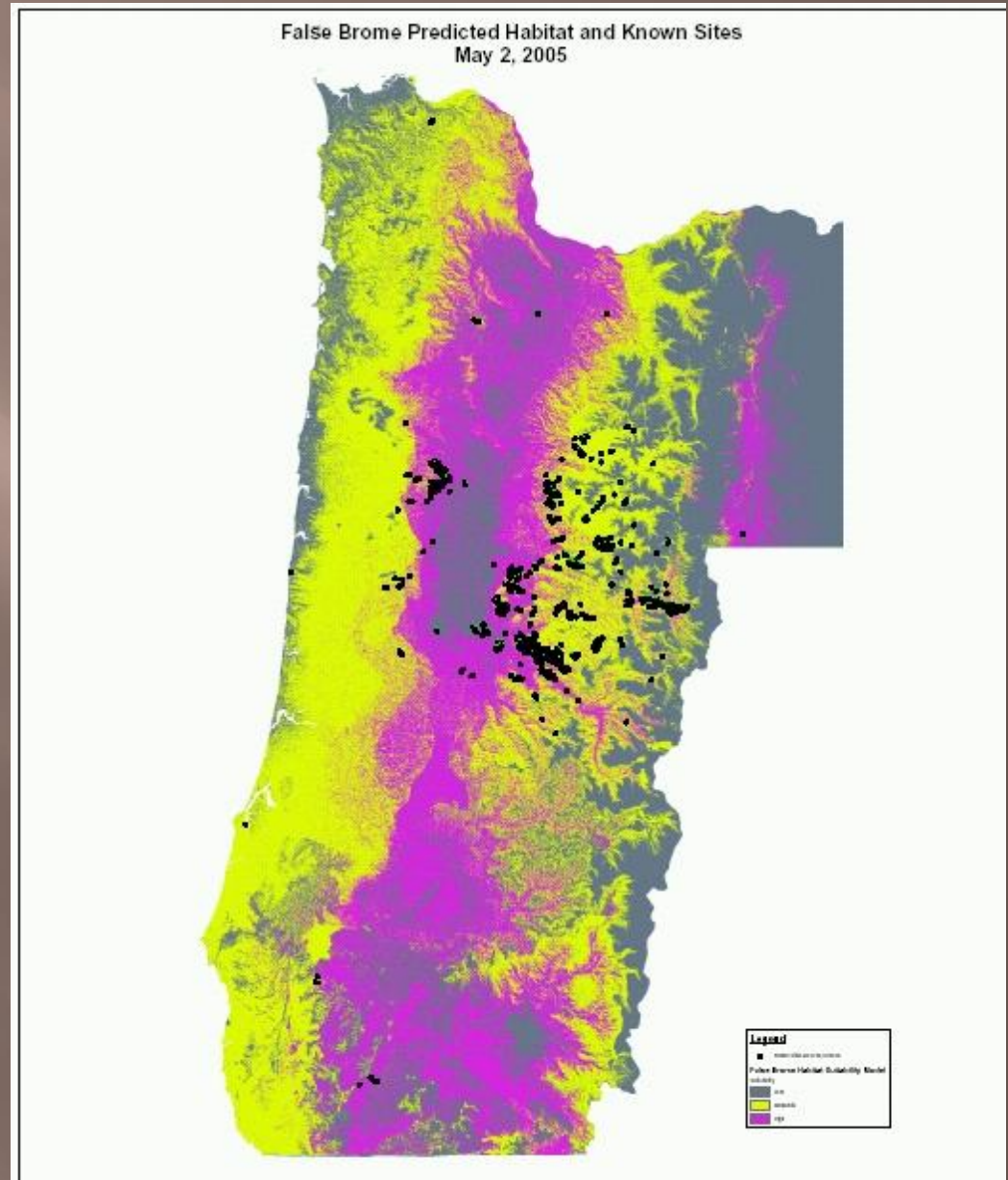
- Self fertile, wind pollinated – single plant can spread viable seed
- Spread rates estimated (loosely) at about 100 feet/5 years
- Barbed awns – the seeds cling
- Spread by deer, elk, dogs, people, water, equipment
- Roads, trails, streams
- Fewer local herbivores/pathogens



Listed weed in Oregon (B list), Washington (A list), and California

# Where else can it spread?

We don't know, but probably throughout western Oregon, western Washington, much of California, and in riparian areas in the west and deciduous woodlands elsewhere in the US



## Research

False brome has a fungal partner (Epichloe). In its asexual form (the only form found in the US sites), it produces alkaloids that protect the grass from insects and pathogens. In its sexual form (not found in US), it causes “choke” and prevents seed set.

Dr. Bitty Roy (UofO): false brome in Oregon

- Is attacked by insects
- Is protected by Epichloe
- Still produces more successful seed and increases population compared to false brome in Switzerland





# False brome



Around here, there is a grass,  
a soft and fuzzy, apple green grass  
with a long stem that arches  
when the seeds are ripe and heavy.

This grass is everywhere around here  
but it's not from around here  
and that's the problem.

Where it's from, it is modest, circumspect.  
But in Oregon it's gone crazy,  
lost control and spread,  
into the meadows, into the forest.

Someday, long after natives  
can even see its foreignness, long after  
anyone can remember what was there before,  
some other invader will corral this grass  
and enforce civilized behavior.

Then people will plant it in shady edges  
to make their yards more natural.