Development of Kentucky Bluegrass Cultivars for Non-burn Seed Production

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ABPRTF Progress Report

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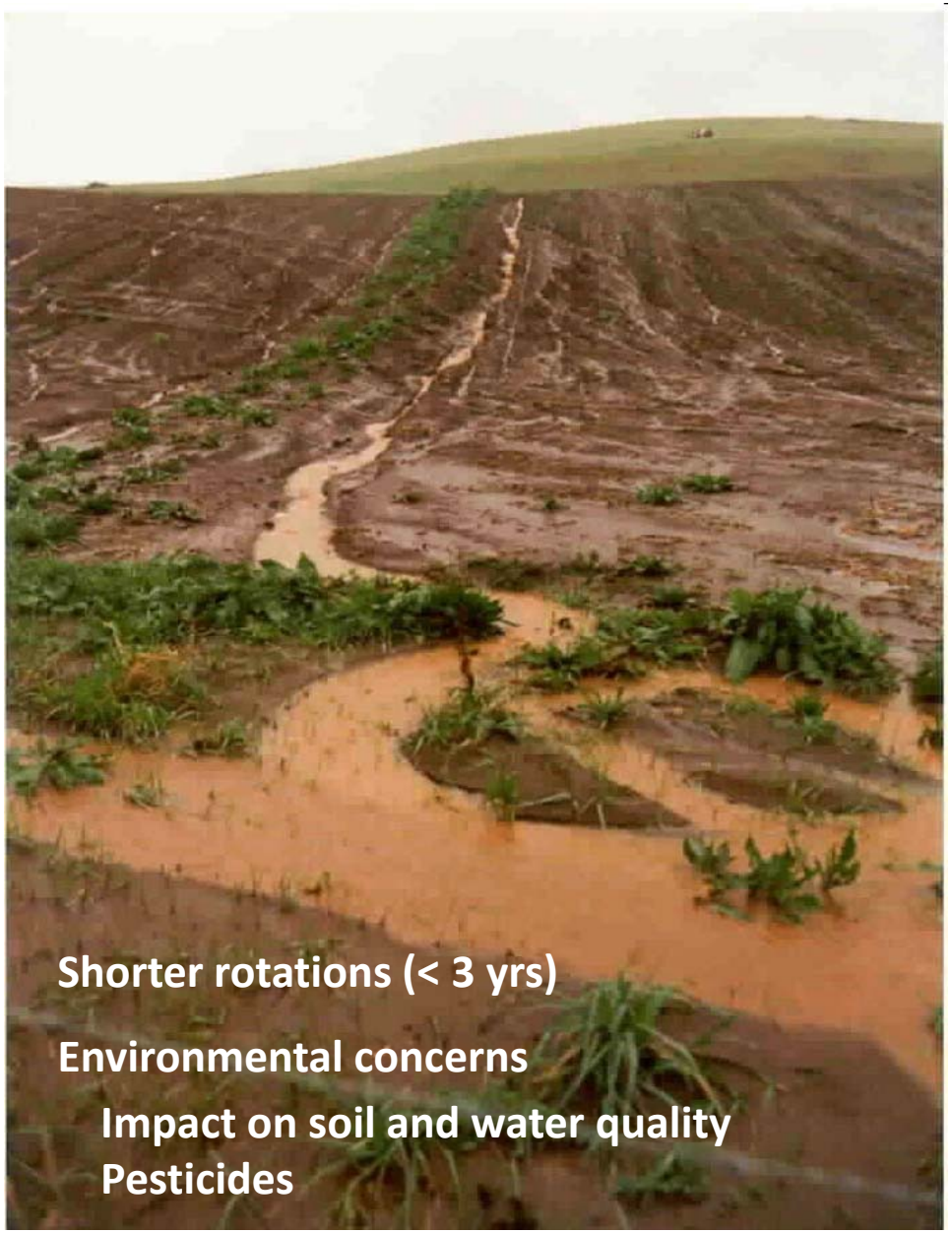
Justification



Objective 1

Identify Kentucky bluegrass germplasm that has good turfgrass quality while producing sustained seed yield under non-burn seed production

Germplasm Source

Initially, more than 225 accessions were tested

1994-1995

1996-1999

- 45 accessions evaluated in seed production and turfgrass trials
- 10 selection made for seed yield under bale residue removal and good turfgrass quality

Selection for Seed Yield Components

2002-2004

28 individual plants of each accession replicated 3 times

Selection was for plant with highest:

1) Panicles per area
2) Seeds per panicle
3) Seed weight
4) Seed yield per plant

+ Base population

Seed Increase of 50 Selections at Central Ferry, WA

2004

2006

Objective 2

Evaluate effectiveness of seed yield component selection to enhance non-burn seed production while maintaining turf quality

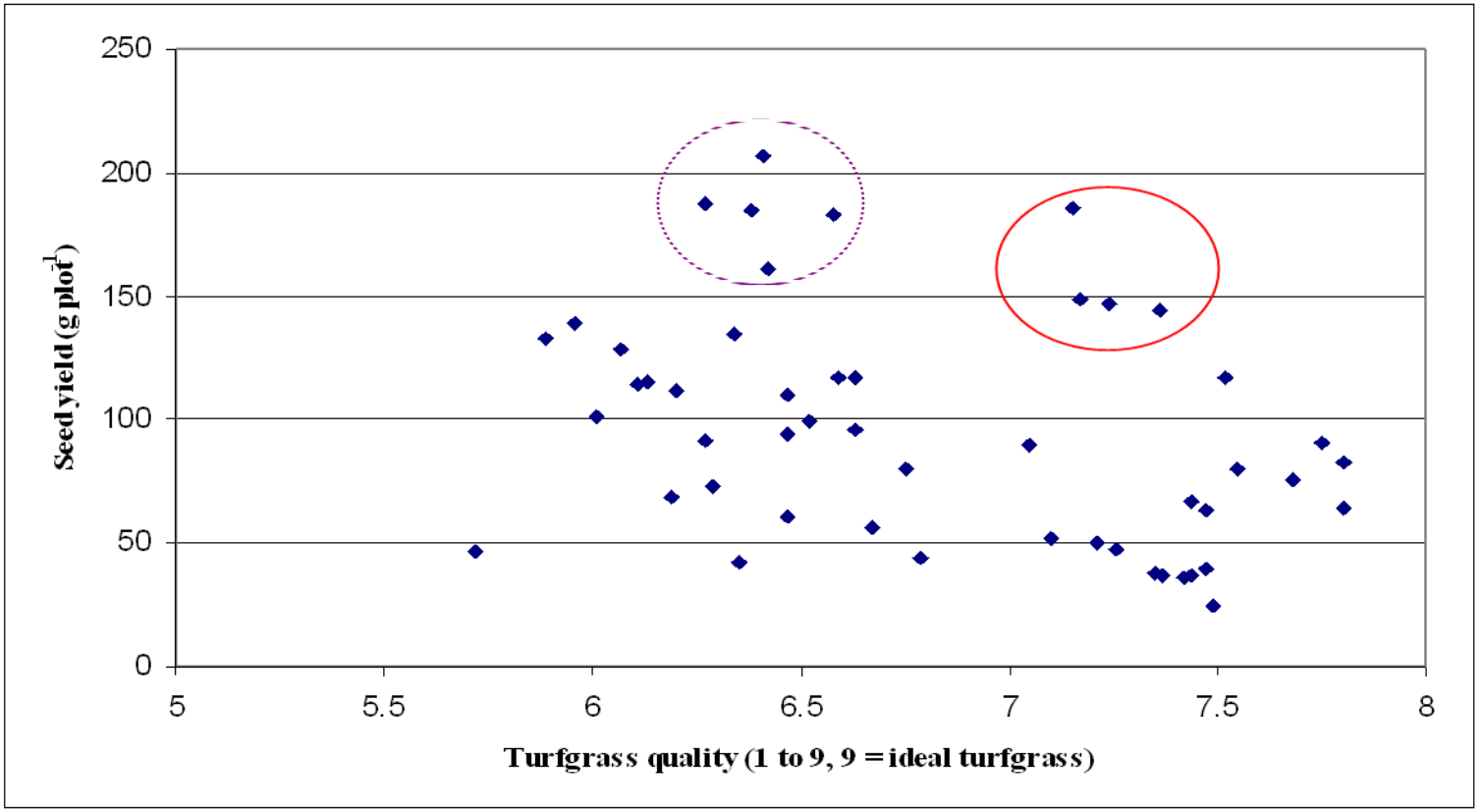
Seed Production (Irrigated and Non-irrigated)

- 50 entries planted in a randomized complete-block design with 3 replications
- **Seed yield**

Turfgrass Trial

- 50 entries planted in a randomized complete-block design with 3 replications
- **Quality**, Color, Texture, and Chlorophyll rated monthly

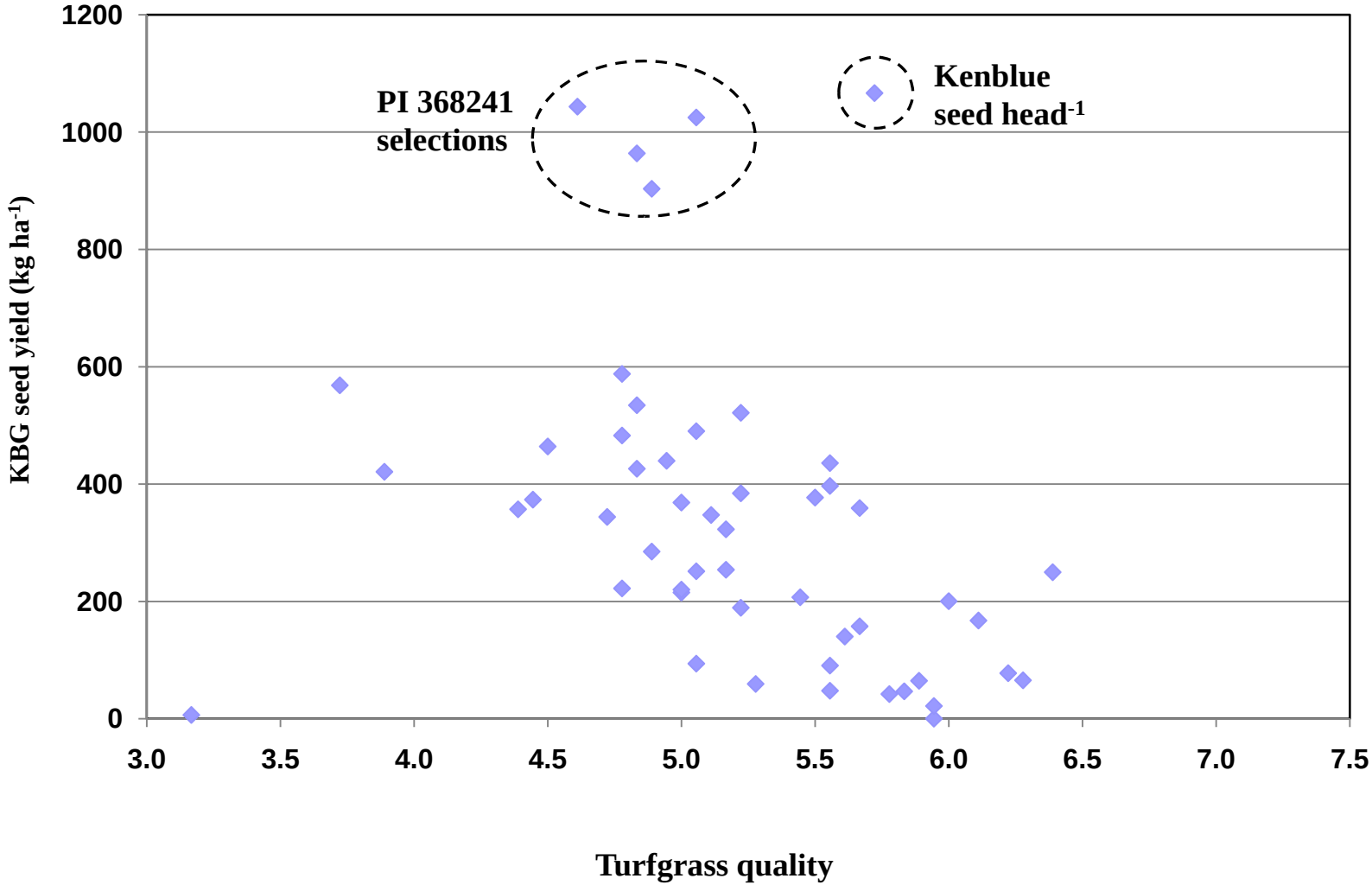
Kentucky bluegrass seed yield (2008) vs. turf quality (mean of 2007 and 2008) for entry x selection parameters at Pullman, WA



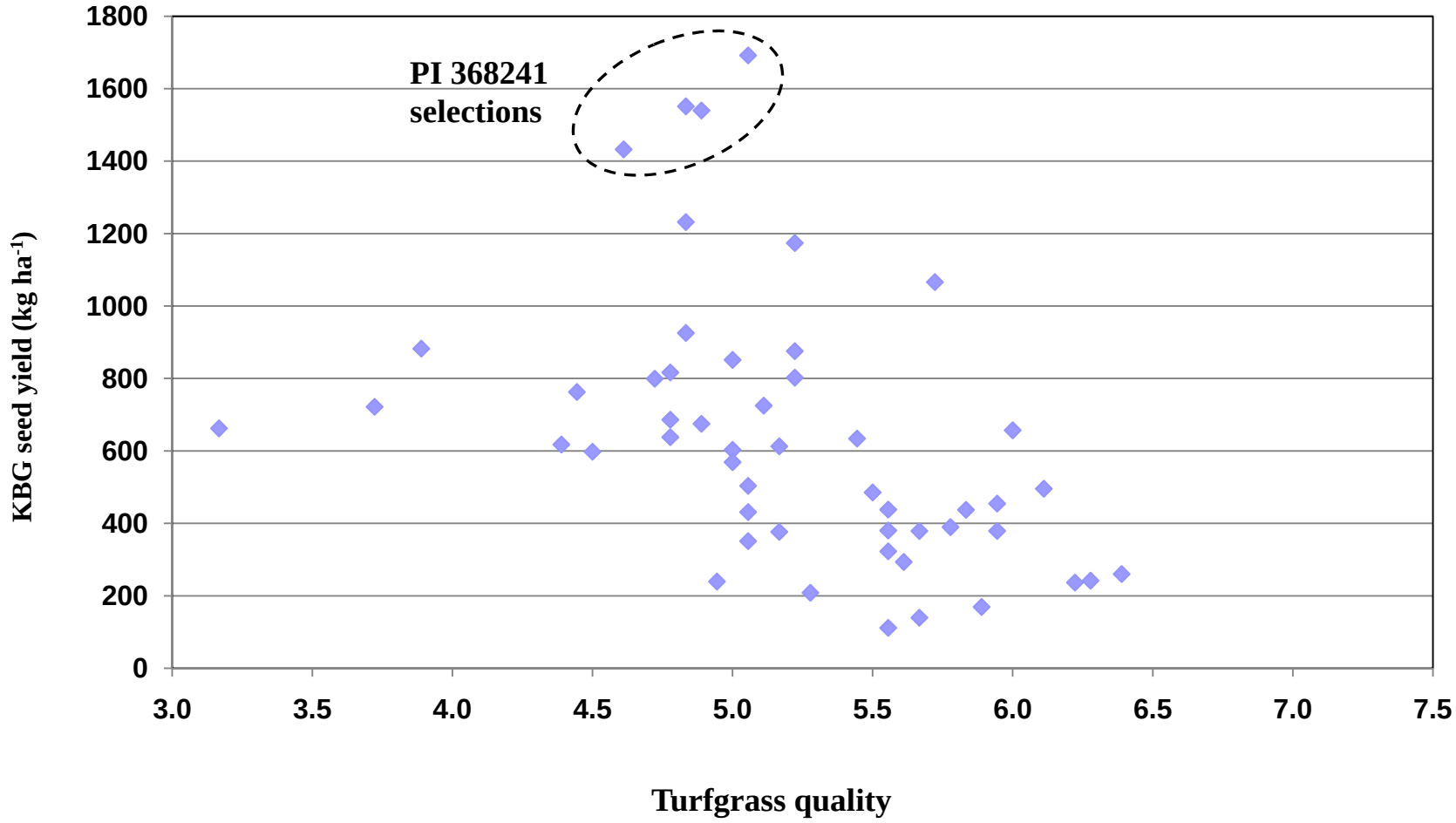
2009 – 2011 ABPRTF Proposal

- Continue to evaluate seed production under bale management in diverse environments (dryland and irrigated) for 2nd (2009) and 3rd (2010) harvests.

- Continue to test selections for turf quality and stress tolerance at several locations.
  - Pullman – 2006
  - Auburn – 2009
  - Puyallup – 2010



Non-irrigated Kentucky bluegrass seed yield vs. turf quality (rated 1-9; 9=excellent quality) at Pullman, WA, 2009.



Irrigated Kentucky bluegrass seed yield vs. turf quality (rated 1-9; 9=excellent quality) at Pullman, WA, 2009.

Questions