

PROJECT TITLE: Evaluation of post-harvest seed dormancy of newly released barley varieties 'Haxby' and 'Eslick' relative to 'Harrington' and other selected popular varieties.

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OBJECTIVES:

Evaluate the post harvest seed dormancy and speed of germination as an indication of the potential for a particular cereal variety to be a weed through establishing volunteer plants.

RESULTS:

Harrington barley was used as a check variety as it has consistently demonstrated relatively quick germination immediately after harvest and after a delay of 2 or more months.

The ideal time to conduct the germination is during the month of September, because that is typically the optimal time for field germination of shattered barley seed. Available resources are often limited in September, so the post harvest dormancy/ speed of germination is typically evaluated later in the fall. The later speed of germination is not undesirable as it provides insight into the persistence of a latent or post harvest seed dormancy. The persistence of a post harvest dormancy can affect field or seed management strategies.

The three barley lines compared to Harrington exhibited slower speed germination than Harrington. Harrington had seed scored as germinated after just 48 hours of incubation. The other three varieties had their first recorded germinations after 72 hrs (Table 1 and Illustration 1). Total germinated seed had evened out by 96 hrs. The overall speed of germination was about 24 hrs faster than what is typically experienced in the September – October period. The entry rankings were similar to 2005 results (data not presented).

SUMMARY:

Speed of germination results indicate that the variety Eslick has a higher potential for producing volunteer plants, than the other three entries, through the seed laying dormant through the fall-winter period then germinating in the spring.

FUTURE PLANS:

Uncertain

Table 1 Speed of germination of four barley varieties.
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	----- Incubation Duration -----				
	24hr	48hr	72hr	96hr	120hr
Eslick	0	0	32	93	98
Harrington	0	9	54	92	98
Haxby	0	0	60	83	91
MT 910189	0	0	51	90	97
Mean	0	2.25	49.25	89.5	96

Incubation temperature: 70 F

Incubation Date: 11-Dec-06

ILL. 1 2006 Barley variety post harvest seed dormancy.

