Nitrogen Management for Winter Malting Barley. (S04petrie183316-Poster)

Authors:

- S.E.Petrie* Oregon State University
- P.Hayes Oregon State University
- A.Corey Oregon State University
- K.Rhinhart Oregon State University

Abstract:

Winter malting barley (Hordeum vulgare L.) is a potential alternative crop for dryland producers in the intermountain west. Excessively high or low grain protein levels will result in unacceptable malt quality. The objective of this research was to evaluate the effects of different nitrogen (N) management schemes on grain yield and protein and various malting quality characteristics. We seeded three winter barley varieties and six winter barley lines in mid-October 2000 and 2001 at Pendleton, OR on a Walla Walla silt loam soil. Preplant soil test N totaled about 135 kg/ha in the upper 1.2 m of the soil both years. Preplant fall N was applied at 0, 56, 112, or 168 kg/ha and spring N was applied at 0 or 56 kg/ha when the barley was in the four-leaf stage of development. The greatest yields (about 6000 kg/ha) resulted from the application of 112 to 168 kg N/ha. Grain protein increased from about 8% without fertilization to about 12% when 168 kg N/ha was applied in the fall. Applying 56 kg N/ha in the spring increased grain protein an average of 1% compared to no spring N but had little effect on grain yield. Our results show that split N applications can increase the possibility of achieving desired malting quality profiles.

Corresponding Author Information:

Steven Petrie Oregon State University P. O. Box 370 Pendleton, OR 97801 phone: 541-278-4186 fax: 541-278-4188 e-mail: steven.petrie@orst.edu

Presentation Information:

Presentation Date: Tuesday, November 12, 2002

• J.Kling - Oregon State University Presentation Time: 2:00-4:00 pm Poster Board Number: 1536

Keywords:

nitrogen management, malting barley yield, malting barley quality