

## Oil Content of Risø 1508 Barley

To the Editor:

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Shewry et al (1979) reported that the total oil (ether extract) content of the barley mutant Risø 1508 is 3.8%, compared with 1.8% for Bomi. Previously, Munck (1976) reported the oil content of the mutant to be 4.1%. In our view, high oil content of Risø 1508 is of major significance to barley breeders, nutritionists, and cereal chemists engaged in increasing the caloric and hence digestible energy value of barley for nonruminants.

We wish to confirm the high oil content of Risø 1508. We have been searching for a high oil line of barley for crossing with local cultivars of feed barley to improve oil content from an average of 2.1% (Bhatty et al 1974) to 3.0 or possibly 4.0%. The latter value will increase the oil content of barley to the level normally present in corn. Such an increase in oil content would have a major influence on the digestible energy of feed barley.

To confirm its oil content, we obtained samples of Risø 1508 from different sources. Some of these samples contained only a few seeds and were stored under undefined conditions. Nevertheless, the oil values (Table I) were always higher than the mean oil value of 29 cultivars of barley, which represented a broad range of germ plasm, currently used in the barley breeding program at this

university. Values of Risø 1508 that were lower were most likely because of slow oxidation of some samples stored for as long as seven years under less than ideal conditions. However, samples of the mutant grown at Saskatoon in 1977 and 1978 had oil values almost identical to that reported by Shewry et al (1979). In 1979, we planted Risø 1508 at several different locations to further assess its oil content.

In a previously reported high oil line of barley, environment strongly influenced oil content. Parsons and Price (1974) reported that C.I. 12116 contained 4.6% total lipid on dry basis. However, the same line grown at Ottawa showed an oil content of 3.0% (Fedak and de la Roche 1977) and samples grown at Saskatoon and analyzed in our laboratory showed 2.1%. The oil values of Risø 1508 grown at widely different locations and in different years strongly suggests that its oil content is genetically controlled and stable.

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TABLE I  
Lipid Content of Normal Barley and Risø 1508  
from Different Sources

	Lipid (%)
Normal barley (Bhatty et al 1974)	2.1
Risø 1508	
From J. Helm, Alberta; seed age unknown	2.30
From R. Wolfe, Manitoba; seed originally supplied by H. Doll of Denmark in 1972	2.60
Saskatoon, grown in 1974	2.94
Saskatoon, grown in 1977	3.44
Saskatoon Observation Nursery 1978	3.43

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