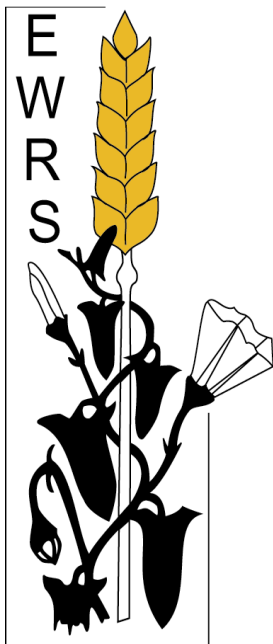


PERENNIAL WEEDS

A growing problem

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Activities of the NJF working group on Perennial Weeds – Comparison of seasonal sprouting readiness of three perennial weeds

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The NJF working group on Perennial Weeds was launched in 2001 to facilitate communication and collaboration among the research scientists working with perennial weeds. The working group belongs to the Section of Plant Protection of the NJF (Nordic Association of Agricultural Scientists, www.njf.nu). The authors of this short communication are national representatives of the working group.

The working group has arranged annual meetings since 2001, hosted in a circulating manner in each Nordic country (DK, FI, NO, SE). In 2003, we were responsible for a session on perennial weeds at the NJF Congress in Finland and presented our work at the EWRS Symposium in Italy in 2005, as well as at the seminar for advisory persons in Norway in 2007. Typically, some 10-15 scientists have attended the annual meetings and relevant information, such as new journal articles, have been delivered to the members on the email list.

Already at the first meeting in Uppsala, Sweden in 2001 we initiated work on a protocol for a joint experiment. Our effort was supervised by Professor emeritus Sigurd Håkansson from Uppsala. The joint experiment aimed to study the differences in dormancy behaviour among *Elymus repens*, *Cirsium arvense* and *Sonchus arvensis*.

The rationale behind our collaborative study was that mechanical control of regenerative structures is a feasible option for controlling many perennial weeds. In fact, post-harvest stubble treatment has been a common practice in the Nordic countries, particularly to control *E. repens*. Such a management strategy aims at depleting the food reserves of underground plant structures (roots and rhizomes). The main hypothesis was, however, that the three weed species selected for our study do not behave in a similar way in terms of sprouting after being mechanically disturbed and fragmented in the latter half of growing season.

The bud dormancy/growth readiness in roots and rhizomes was tested in growth chambers by following the sprouting of underground fragments for four weeks after being cut from test plants collected and grown outdoors in each country. The material for the chamber phase was obtained by cutting 5 cm regenerative fragments at two-week intervals from early July until late October. In this way we gathered information about seasonal variation in the bud activity of roots and rhizomes.

Significant variation in sprouting ability was demonstrated both during the growing season and among the plant species. The development of dormancy was strongest in the roots of *S. arvensis* and weakest in the rhizomes of *E. repens*. In practice this means that weakening of regenerative structures in autumn is likely to be the most successful strategy for managing *E. repens*, but not so efficient for managing *S. arvensis*.

The article of the co-operative study (by Brandsæter *et al.*) is under editorial process with the journal Weed Research. We thank the NJF Board for providing us with financial support to partially cover the costs of annual meetings.