

Strategies for Perennial Weed Control

Bertelsen, I.¹

Abstract

*In Denmark, perennial weeds are a major problem in organic farming, and there is a demand for effective control in practice. A new way of measuring the effect of treatments in practice was carried out. Fifty-seven organic farmers were asked to control perennial weeds using a specific strategy. Different strategies were worked out to control *Elymus repens* (L.), *Cirsium arvense*, *Tussilago farfara* and *Sonchus arvensis*. The farmers treated the entire field, and the occurrence of perennial weed shoots was recorded before and a year after the treatment. The organic farmers kept a log of treatments carried out with information of crop, harvest time, treatment date, depth, and machinery, as well as their comments on the quality of the treatment.*

*The control was most successful for *Elymus repens*. Seventy-six percent of the farmers achieved a significant reduction. Forty percent obtained more than 75 percent efficiency. Most farmers carried out the treatments after harvest. Even under good conditions, it is difficult to achieve more than 90 percent effect. The best effect was achieved when farmers started the treatment immediately after harvest. The farmers who inspected the quality of their work and took action when it was not sufficient achieved the best effect. To achieve a good effect, it is crucial that the undercut in the first treatment is complete. Farmers carrying out many treatments did not achieve better results than farmers who performed fewer treatments. However, treatment must be continued if live couch grass still occurs in the field. The farmers, who did not finish the weed control by plowing, did not achieve a good effect. One farmer practiced "mini summer fallow" and achieved a 100 percent effect. Mini summer fallow is when the farmer harrows in June and sows a catch crop in the beginning of August.*

*The control of *Cirsium arvense* was less successful, with only significant reductions in 29 percent of the cases and a significant increase in 14 percent of the cases. One farmer mowed clover grass. He achieved a reduction of thistle shoots of 97 percent. The most popular strategy among the farmers consisted in harrowing after harvest. It proved to be a very risky strategy. Best results were achieved when the first harrowing took place immediately after harvest, and the undercut was complete. Every additional harrowing must have a complete undercut as well. Because of this risk, a competitive crop must be grown the following year.*

The farmers in the project did not follow the strategies closely. As a response to this, an advisory concept was developed and tested. Both the advisers and the farmers were questioned after testing the concept. The use of the advisory concept increased focus on the perennial weed control, the farmers stressed when interviewed. Increased focus led to a better control, although the farmers already were familiar with the treatments included in the control.

¹ Danish Agricultural Advisory Service, National Center, Organic Farming, Udkaersvej 15, DK-8200 Aarhus N. e-mail: inb@landscentret.dk, Internet: www.landscentret.dk