

## WEED PROBLEMS IN AUTUMN-SOWN OILSEED CROPS

By Gunnar Gummesson  
 Department of Plant Husbandry  
 Swedish University of Agricultural Sciences  
 S-750 07 Uppsala, Sweden

The weed flora in winter oilseed crops is largely composed of winter annuals. The most common weeds are Stellaria media, Matricaria spp, Viola arvensis, Capsella bursa pastoris, Lamium spp and Galium aparine.

In Fig. 1 the weed frequency of the most common weed species is presented. The figures are taken from untreated plots in Swedish trials concerning weed control.

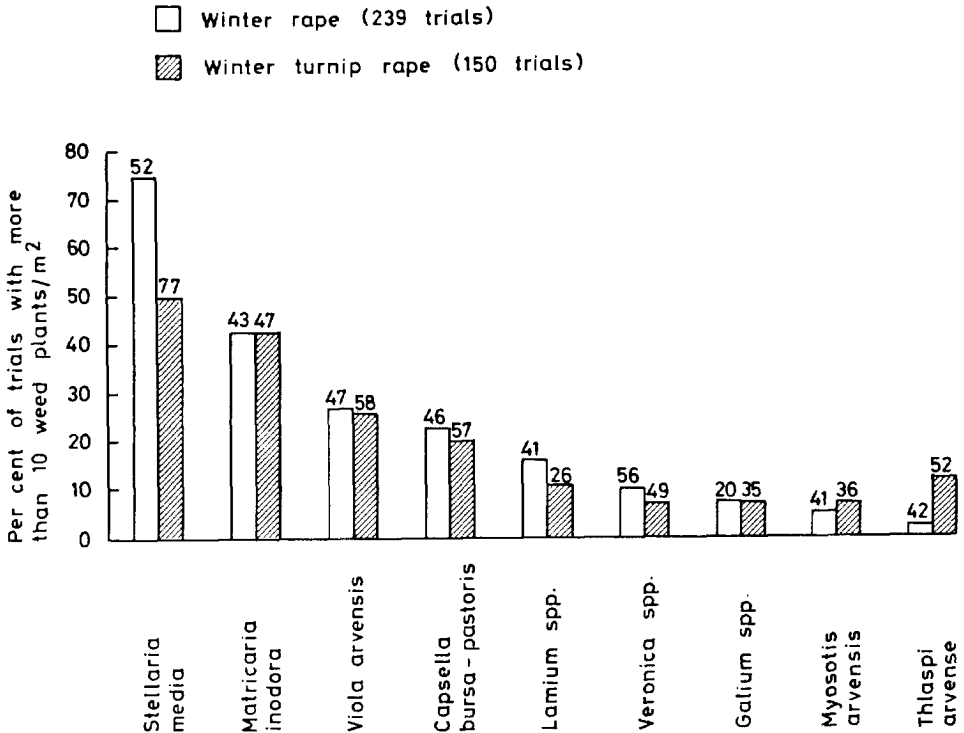


FIG. 1

THE FREQUENCY OF THE MOST COMMON WEEDS IN SWEDISH WEED CONTROL TRIALS. THE FIGURES ABOVE THE COLUMN SHOW THE MEAN NUMBER OF WEED PLANTS PER M<sup>2</sup>.

Stellaria media is somewhat more common in winter rape than in winter turnip rape. Winter rape is mostly grown in the southernmost part of Sweden, where Stellaria media is capable of growth during mild periods of the winter.

The Matricaria species and Galium aparine often cause harvesting difficulties. Galium aparine is not so widespread as Matricaria species but can locally be very frequent.

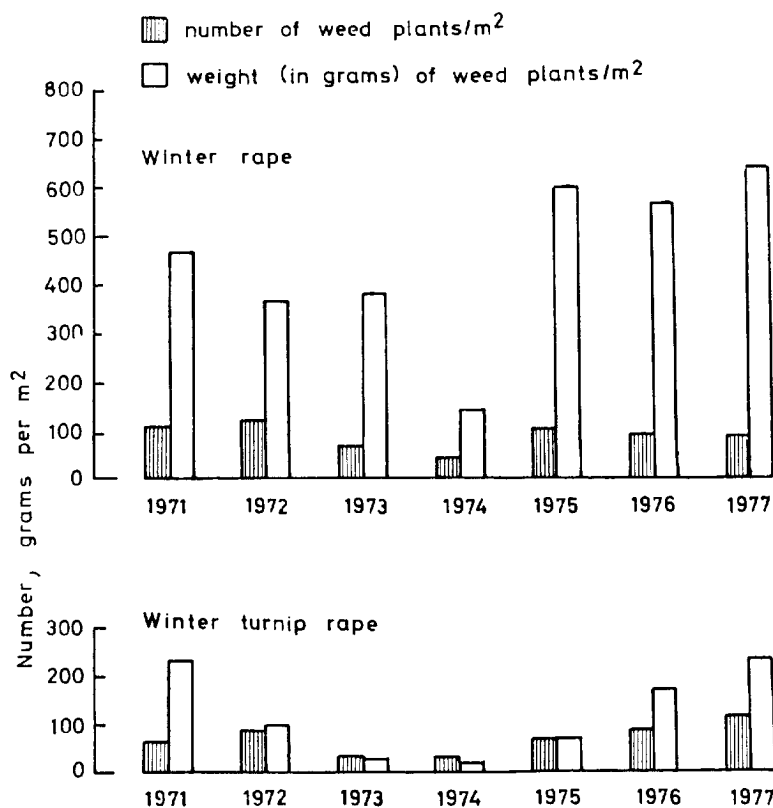


FIG. 2

NUMBER ON WEIGHT OF WEED PLANTS IN UNTREATED PLOTS IN WEED CONTROL TRIALS 1971-77

Fig. 2 presents the mean numbers and weights of the total weed stand in winter rape and in winter turnip rape. The total number of weed plants was about the same in the two crops. The weight of the weed plant was, however, much greater in winter rape than in winter turnip rape, the reason being that winter rape has a much weaker ability than winter turnip rape to compete with the weeds. The weed problem is therefore much more severe in winter rape than in winter turnip rape.

As can also be seen from Fig. 2, the weed frequency varies very much from year to year. In 1974 the conditions were very favourable for the crop which was thus successful in competing with the weeds that year.

In Sweden winter rape is mostly sown with about 50 cm row space, and hoeing is normally carried out once or twice. Winter turnip rape is sown with a row space of about 12 cm, which makes hoeing impossible.

Four herbicides for the control of weeds in winter oilseed crops are today obtainable on the Swedish market. These herbicides are:

Lasso (480 g/l alachlor)

Teridox (500 g/l metachlor)

Matrigan (100 g/l 3,6-dichloropicolinic acid)

Benasalox (80 g/kg 3,6-dichloropicolinic acid + 250 g/kg benazolin)

Lasso and Teridox are used pre-emergence. Matrignon and Benasalox are used post-emergence either in autumn or in spring. The effects on some common weeds are presented in Tables 1 and 2.

TABLE 1

THE EFFECT ON WEEDS OF AUTUMN TREATMENT WITH HERBICIDES IN SWEDISH WEED CONTROL TRIALS

Effect	Lasso alachlor	Teridox metachlor	Matrignon 3,6-dichloro- picolinic acid	Benasalox benazolin + 3,6-dichloro- picolinic acid
Very good control	<u>Matricaria</u> spp <u>Lamium</u> spp	<u>Matricaria</u> spp <u>Lamium</u> spp	<u>Matricaria</u> spp	<u>Matricaria</u> spp <u>Stellaria</u> <u>media</u>
	<u>Thlaspi</u> arvense	<u>Capsella</u> bursa <u>pastoris</u>		
	<u>Capsella</u> bursa <u>pastoris</u>			
Good control	<u>Veronica</u> spp	<u>Stellaria</u> media <u>Veronica</u> spp		
Moderate control	<u>Stellaria</u> media <u>Viola</u> arvensis	<u>Viola</u> arvensis <u>Galium</u> aparine	<u>Viola</u> arvensis	<u>Galium</u> aparine <u>Veronica</u> spp <u>Viola</u> arvensis
Weak control	<u>Galium</u> aparine		<u>Capsella</u> bursa <u>pastoris</u>	<u>Capsella</u> bursa <u>pastoris</u>
			<u>Thlaspi</u> arvense	<u>Thlaspi</u> arvense
			<u>Galium</u> aparine	
			<u>Stellaria</u> media	
			<u>Veronica</u> spp	

Lasso and Teridox are sprayed immediately after sowing. These herbicides control most of the common weeds in autumn sown oilseed crops. The effect of Lasso is sometimes unsatisfactory on Stellaria media.

Pre-emergence herbicides must be used before it is possible to see the weeds and to estimate the need of weed control. That is why there is a great interest in post-emergence weed control.

The herbicides for post-emergence control have not so broad an effect on weeds as pre-emergence herbicides. The effect on, for instance, Cruciferous weeds is not satisfactory.

Spring treatment is most important in the northern part of the winter oilseed crop growing area, as the crops there sometimes are killed in hard winters.

The effect on Galium aparine is much better after spring treatment than

after autumn treatment. On other winter annuals the difference in weed control effect of autumn and spring treatment is small.

TABLE 2

THE EFFECT ON WEEDS OF SPRING TREATMENT WITH HERBICIDES IN SWEDISH WEED CONTROL TRIALS

Effect	Matrigan 3,6-dichloropicolinic acid	Benasalox benazolin + 3,6-dichloropicolinic acid
Very good control	<u>Matricaria</u> spp	<u>Matricaria</u> spp
Good control	<u>Galium aparine</u>	<u>Galium aparine</u> <u>Stellaria media</u>
Moderate control	-	-
Weak control	<u>Capsella bursa pastoris</u> <u>Thlaspi arvense</u> <u>Lamium</u> spp <u>Stellaria media</u> <u>Viola arvense</u>	<u>Capsella bursa pastoris</u> <u>Thlaspi arvense</u> <u>Lamium</u> spp <u>Viola arvense</u>