Weed and disease control in winter linseed

**Weed competition**

Linseed is not a competitive crop. Trials over two years by ADAS at Boxworth, Cambs., High Mowthorpe, Yorks. and Bridgets, Hants. assessed effects of applying herbicides at different timings to remove weed competition, using variety Oliver.

Black-grass, brome, volunteer cereals and broad-leaved weeds left in the crop after early spring seriously reduced yields and delayed maturity.

**Use of trifluralin**

Work on trifluralin (Treflan), the only pre-emergence herbicide approved for use on winter linseed is being carried out in association with Dow Agrosciences.

Incorporating trifluralin pre-drilling reduced plant stands in spring by 25% on average with a range from 8% to 69%. In the worst cases yields were also reduced, but compensatory plant growth often minimised effects.

Post-drilling surface application did not on average change plant stand although actual results ranged from -2% to 21%.

Post-drilling application of trifluralin was as effective as pre-drilling incorporation. Both reduced broad-leaved weeds by 40-47%. Therefore, with winter linseed, apply trifluralin as a post-drilling, surface treatment.

**Grass weed control**

Several grass weed herbicide sequences were tested, starting with trifluralin applied to the soil surface post-drilling. Where grass weeds were the major problem, trifluralin was relatively ineffective. Grass weed herbicides applied later in the autumn gave the best control.

In a separate study, cycloxydim (Laser), applied on several occasions from December to March, gave good weed control. Although efficacy increased with earlier application, yields were sometimes reduced if it was applied prior to cold weather. Therefore, spring application is generally advised.

Other grass weed herbicides that can be used include propaquizafop (eg Falcon), fluazifop-P-butyl (eg Fusilade), sethoxydim (Checkmate) and quizalofop-P-ethyl (eg CoPilot).

**Broad-leaved weed control**

Sequences based on trifluralin followed by spring-applied herbicides were tested. Some, eg metsulfuron-methyl (Ally), temporarily stunted crops.

Cost-effectiveness depended on weeds present. Sequences including metsulfuron-methyl were best where broad-leaved weeds were a significant problem.
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Though not covered in this project, amidosulfuron (Eagle) is effective against cleavers. In sequence with metsulfuron-methyl, it provides broad-spectrum weed control.

**Disease surveys**

Thirty commercial crops, mainly Oliver, were sampled at early flowering and when mature yellow capsules had formed, in each of years 1998 and 1999.

Pasmo (*Mycosphaerella linicola*), a new disease of linseed now infecting winter crops, may reduce yields by more than half.

Pasmo on leaves and stems was most common in both years throughout England and Scotland (Figure 1). Its high incidence conceals considerable variation in severity between crops. Pasmo was much less severe in the east and Midlands in 1999 than in 1998.

**Fungicide advice**

Where pasmo is well established in spring, consider a spring fungicide. Combine this with a growth regulator if there is a lodging risk.

The *most important treatment* is a broad-spectrum spray at mid-flowering (eg Folicur + MBC), which provides generally effective disease control.

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**Summary**

Winter linseed is generally easier to establish, earlier to harvest and can yield more than a spring crop. However, there are agronomic challenges and consistently high yields are difficult to achieve. Poor crop prices mean that growing costs must be minimised. Recent HGCA findings from ongoing projects on weed and disease control should help.

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**Project Report OS22**

Ongoing project 1540

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