Background

Despite increased fungicide use on winter oilseed rape, diseases have remained at relatively high levels, comparable to the late 1970s. New fungicides have been introduced but are not being used very effectively. HGCA and MAFF-funded experiments have highlighted where improvements can be made.

Economic importance

In recent years both phoma canker and light leaf spot have caused losses of £40 million a year in the UK (Figure 1). This equates to a loss of one tonne a hectare in many crops. Sclerotinia was much less significant, losses reaching £1.5 million in 1995. These losses occurred after commercial fungicide treatments had been used. With improved use of fungicides, there is potential to increase yields significantly. Dr Peter Gladders, of ADAS Boxworth, leads a UK-wide HGCA-funded project on fungicide use.

Regional variation

There are major differences in the importance of the various diseases in different parts of the UK. Light leaf spot is generally most important in Scotland and northern England but can be common from the West Midlands to the South West and Wales (Figure 2). Canker has been the predominant disease in eastern England with some severe attacks in southern England and the Midlands. At the farm level, large differences in disease can occur between individual fields and between varieties.
Fungicide timing

The disease cycle of phoma is initiated by air-borne spores produced on rape debris, mainly during October to April, which produce phoma leaf spots. The fungus then grows within the leaf stalk to reach the stem base within a few days and produces canker lesions about six months later. Canker generally appears from flowering onwards. Leaf spotting after early stem extension may produce stem lesions much higher up the stem. Disease development in 1996/97 was similar to that illustrated (Figure 3).

Correct timing of the first spray is critical for control of canker - many crops were sprayed too late in the autumns of 1994 and 1995. Currently available fungicides give limited control of phoma canker once phoma leaf spot is well established in the crop. The first spray should be applied when the first signs of light leaf spot appear or when 10-20% of plants are affected by phoma leaf spot - sometimes as early as October.

Whilst single sprays can provide good disease control, more consistent results have been obtained with a single full label dose split between autumn and spring. Sprays applied during the period December to March would have been most effective in 1993/94 (Figure 4). Treatments used for canker will also give useful control of light leaf spot. However, in areas where light leaf spot is the main threat, including Scotland, it is important to look for the first symptoms of light leaf spot which may be found well before Christmas. Autumn sprays are needed to control these early epidemics, usually with a follow-up treatment in the spring.

Future

A forecasting scheme for light leaf spot is being developed in an HGCA project to provide guidance in early autumn on the likely risk in each region and hence improve use of fungicides.

Disease control for winter oilseed rape

Topic Sheet No. 6

Autumn 1997

Action

- Base the spray programme on canker and light leaf spot, the major causes of yield loss.
- Use currently recommendedazole fungicides during the early stages of disease development.
- Monitor crops frequently in autumn to identify those at risk.
- Apply autumn treatment when the first signs of light leaf spot appear - from October onwards.
- Apply autumn treatments when 10-20% of plants have phoma leaf spot - from October onwards.
- Follow up autumn treatment with a spring application to ensure reliable disease control.
- Use split dose applications to improve profitability.

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