

Late Autumn Weed & Disease Control Options in Oilseed Rape

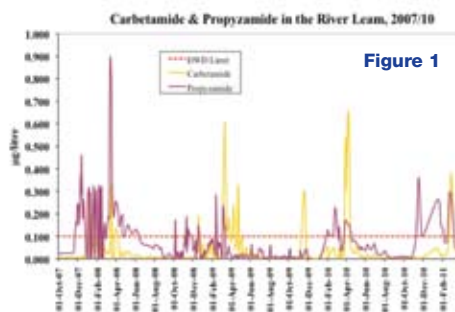
Oilseed rape is probably the most profitable break crop available to UK arable growers at present, so it makes economic sense to optimise yield and profitability. Weed control plays a crucial part in maintaining yield potential, but with limited herbicide options in the spring, late autumn offers the best opportunity to get on top of problem grasses and broad leaved weeds. In addition, October is often the best time to control two key diseases in oilseed rape - Phoma and Light Leaf Spot.

In this article Dr David Ellerton (Hutchinsons Technical Development Director) looks at late autumn weed and disease control strategies and discusses the best ways to minimise the environmental impact of herbicide applications.

Most late autumn options for weed control in oilseed rape revolve around two key active ingredients, propyzamide and carbetamide. However although both offer the potential of good grass weed control in particular (including those resistant to ALS and ACCase products), both are very sensitive to environmental conditions if they are to achieve optimum efficacy. Both products give best control when applied to small weeds with roots close to the surface, when soil temperatures are low (8°C) and declining and to soils that are moist. These conditions normally occur from November onwards, although both products may be applied from mid October. To optimise grass weed control the addition of a suitable graminicide has been shown to increase consistency. Trials work on adjuvants has also indicated that the addition of a silicon wetter with the straight products improves even distribution through the soil profile, leading to improved efficacy in many cases.

However another consideration when applying both these products is that they are frequently detected in water above the limits set under the Drinking Water Directive (DWD).

This can be seen in Figure 1 where regular peaks of active ingredients carbetamide and propyzamide have been detected in the River Leam from 2007 up to last spring. Under the Voluntary Initiative, guidelines are available to minimise the risk of these actives finding their way into water.



These guidelines show the importance of balancing the need for spraying in the right conditions for maximum efficacy, with minimising the risk of the products entering water. The key guidelines for the latter are respecting a 5m no spray zone next to water courses, not applying if heavy rainfall is expected within 48 hours and preferably avoiding use if the drains are flowing (or are likely to flow in the near future). Recent work by Dow Agrosiences has shown that the use of grass buffer strips (12m better than 6m) and min till techniques will reduce the amount of propyzamide lost by surface run off or drain flow. Further information on water issues may be found on www.voluntaryinitiative.org.uk.

While carbetamide and propyzamide can give excellent grass weed control, they both have limited efficacy on most broad leaved weeds (except for a few weeds

such as chickweed and speedwells). Other broad leaved weed options available include bifenox, clopyralid and picloram.

Bifenox offers good control of certain problem weeds such as small cleavers and charlock, plus reasonable activity on cranesbill. Care should be taken to ensure that the crop has an adequate number of well waxed leaves to avoid damage. Products containing clopyralid will give good control of mayweed, thistles and sowthistle and the addition of picloram will boost cleaver control. Both products need active growth of the weed for maximum efficacy. Once again the appearance of clopyralid in water is threatening the future of these products and in the future clopyralid will lose its autumn use timing.

The potential impact of the DWD has increased the need for alternative active ingredients in oilseed rape and Hutchinsons are actively involved in trialling these alternatives this season. We will keep our customers informed of developments as they occur, to ensure we continue to maintain the level of weed control needed in this important crop in the future. In the mean time our current range of products should be used with care to maintain efficacy and ensure they remain available. Consult your Hutchinsons agronomist for best advice.

OSR Disease Control Plans

As for disease control, many crops are likely to be infected by both Phoma and Light Leaf Spot this autumn. Phoma spores need 20 days or more rain from August 1st in order to mature on stubble.

More rainfall than this then causes release of mature spores, which are then able to infect the crop – if there is a minimum of 4 hours leaf wetness.

From infection, it takes an accumulated mean temperature of 120 day degrees (i.e. 6 days at 20°C, or 10 days at 12°C) for a mature spore to produce the characteristic leaf spot, from which the mycelium will migrate down the petiole of the leaf and into the central stem. At low temperatures, this migration may be only 1mm per day. It is essential to control the disease before it reaches the stem, as control then becomes almost impossible and stem cankers will result late in the season.

Despite the recent hot, dry weather in late September, rainfall in August and early September has been relatively high. Therefore all rape crops should be monitored and fungicides applied once crops have reached a threshold of 10-20% of plants infected.

Phoma or Light Leaf Spot?

Sprays applied for Phoma control will also inhibit the other key autumn disease, Light Leaf Spot. However, if no spray has been applied for Phoma, then a routine protectant fungicide should be applied for Light Leaf Spot in late October, or early November - although symptoms are often not found in crops until late November, or December.

Symptoms shown are large, mealy blotches on the leaves, with a pinkish white centre and white spore droplets around the edge of the lesion. However, it may be necessary to incubate them for a couple days in a plastic bag for these droplets to develop. Although traditionally Light Leaf Spot was a disease of Scotland and the North of England, more recently the disease is frequently being found in the south of the country.

Fungicides should be based around prothioconazole, tebuconazole, flusilazole, or difenoconazole. Choice will be governed by the disease present, as well as the need for growth manipulation. Your Hutchinsons agronomist will be able to advise you on the correct choice for your crop.

Wheat Bulb Fly

– MINIMISING THE RISKS

The incidence of wheat bulb fly in the 2011 harvested crop was one of the worst in recent years. Duncan Connabeer (Hutchinsons Technical Support Manager) looks at the background to the pest attack and considers what may lie in store for the 2012 harvest crop.

There have been an increasing number of enquiries to our Technical Desk, asking about the current state of play for wheat bulb fly (WBF). It is important to look back over the 2010/11 season and understand the reasons why that was a high incidence year, in order to make suitable plans for the crop that has just gone (or just going) in to the ground.

Wider Incidence

WBF incidence was not limited to the usual counties which the classic text-books describe – it was found in new territories further North and West of its traditional home range of East Anglia, Lincolnshire and South Humberside. It also appeared in early sown crops (September-drilled) following onions and proved more difficult to control, despite the use of seed dressings and follow-up foliar sprays. It appears that

egg hatch was triggered much earlier than expected following the early winter cold spell - this may have caught some growers out with their first egg hatch sprays.

Work done by McKinlay (1980) showed that a 5°C diurnal change in soil temperature triggers the breaking of diapause in the eggs and egg hatch then ensued. In addition, crops were generally more backwards coming out of December, with few tillers or just a single stem - thus more crops were at greater risk of damage than would be normally expected.

ADAS will again be conducting a survey of a range of fields throughout Eastern England to assess the background level of WBF this year. The work is sponsored by HGCA and conducted by Dr Steve Ellis (ADAS, High Mowthorpe) - his initial feeling is that there is a high potential for another bad WBF year. We will not know the true risk until HGCA report their survey findings in October. The key sites identified will then be monitored by Dr Ellis as part of the Dow AgroSciences Pestwatch scheme, monitoring egg hatch and then plant invasion during the January – March period.

Pest Biology

WBF eggs are laid during late July/August in bare, freshly worked ground or between the rows of root crops. These hatch during January to March to infect plants, giving rise to the classic “dead heart” symptoms (picture 1). From here the larvae can then move to affect further tillers, hence more backward crops are at greater risk. There is an indication that egg numbers are higher after late harvests, as the females feed on saprophytic fungi on the ears of wheat (larger, healthy females producing more eggs).

What are the risk factors and how can they be minimised?

RISK - Late drilled crops following potatoes, sugar beet, peas and onions.

ACTION - As drilling date is delayed from October to December the risk increases



Picture 1 (courtesy HGCA)

and tefluthrin+fludioxonil dressed seed should be used as a first line of defence. Be mindful that the seed dressing gives 8-10 weeks cover, so is primarily of benefit to seed sown from November onwards.

RISK - Low plant and/or tiller numbers.

ACTION - Aim for establishment of 250+ plants/m² and ideally plants with 4 plus tillers at the end of January to be able to withstand WBF attack.

RISK - Deep-drilled crops or loose/puffy seedbeds.

ACTION - Ensure seed is drilled into firmed seedbeds and not placed too deep (especially if using dressed seed). Seed dressings give a limited zone of effect - if drilled too deep into “puffy” soils this can negate the benefits of the seed dressing and the WBF larvae can enter the plant above this zone. Do not drill below 40mm.

Best Practice Guidance

- Check Pestwatch warnings for egg hatch in your area and be prepared to use egg hatch sprays without delay. Chlorpyrifos is the active of choice at this timing.
- During conditions which promote a prolonged egg hatch a second egg hatch spray may be necessary.
- If bad weather prevents egg hatch sprays from being applied and tiller invasion has occurred then an early treatment of dimethoate is preferred. **Legal note:** you are no longer allowed to apply a tank mix of these two active ingredients.
- If using dressed seed remember it has a limited period of activity so be mindful of drilling dates and expectations.

Please contact your Hutchinsons agronomist to discuss the best options for your crops to ensure you have the greatest protection against wheat bulb fly this season.

For more information on any of our products or services please contact your local Hutchinsons agronomist or contact us at:

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