

October 2012



## Fungicides for light leaf spot control in winter oilseed rape

Summary of HGCA fungicide project 2010-2012 (RD-2007-3457)

While the Agriculture and Horticulture Development Board, operating through its HGCA division, seeks to ensure that the information contained within this document is accurate at the time of printing, no warranty is given in respect thereof and, to the maximum extent permitted by law, the Agriculture and Horticulture Development Board accepts no liability for loss, damage or injury howsoever caused (including that caused by negligence) or suffered directly or indirectly in relation to information and opinions contained in or omitted from this document.

Reference herein to trade names and proprietary products without stating that they are protected does not imply that they may be regarded as unprotected and thus free for general use. No endorsement of named products is intended, nor is any criticism implied of other alternative, but unnamed, products.

HGCA is the cereals and oilseeds division of the Agriculture and Horticulture Development Board.



## Background

Fungicides for control of light leaf spot and stem canker have been evaluated on susceptible varieties over the last three years at ADAS High Mowthorpe in N. Yorks and by SAC in Aberdeenshire. Fungicides have been tested at half and full label dose applied in autumn (ideally November) with a second application at early stem extension (March). Leaf disease assessments were done after each application and pre-harvest. Combine harvested yield data are adjusted to 91% dry matter.

## Results

The results presented are from the 2011 and 2012 harvest years in North Yorkshire where moderately severe leaf symptoms developed by spring. Disease severity was lower in Scotland and yield effects were correspondingly small.

### 2011

The light leaf spot site at High Mowthorpe, N. Yorks (cv. Castille) was sprayed on 16th November and 14th March. There was significant control of light leaf spot with all treatments 8 weeks after the spring spray (Figure 1). A mixture of prothioconazole + tebuconazole (as Prosaro) gave the best control. Prosaro at full rate gave better disease control than all the other treatments and was the most effective product at half dose. The mean yield response to fungicides (0.57 t/ha) was significant. Individual treatments gave responses of up to 0.8 t/ha (untreated yield 4.40 t/ha). There was very little difference between half and full rate treatments for yield, though disease control was rather better at full dose.

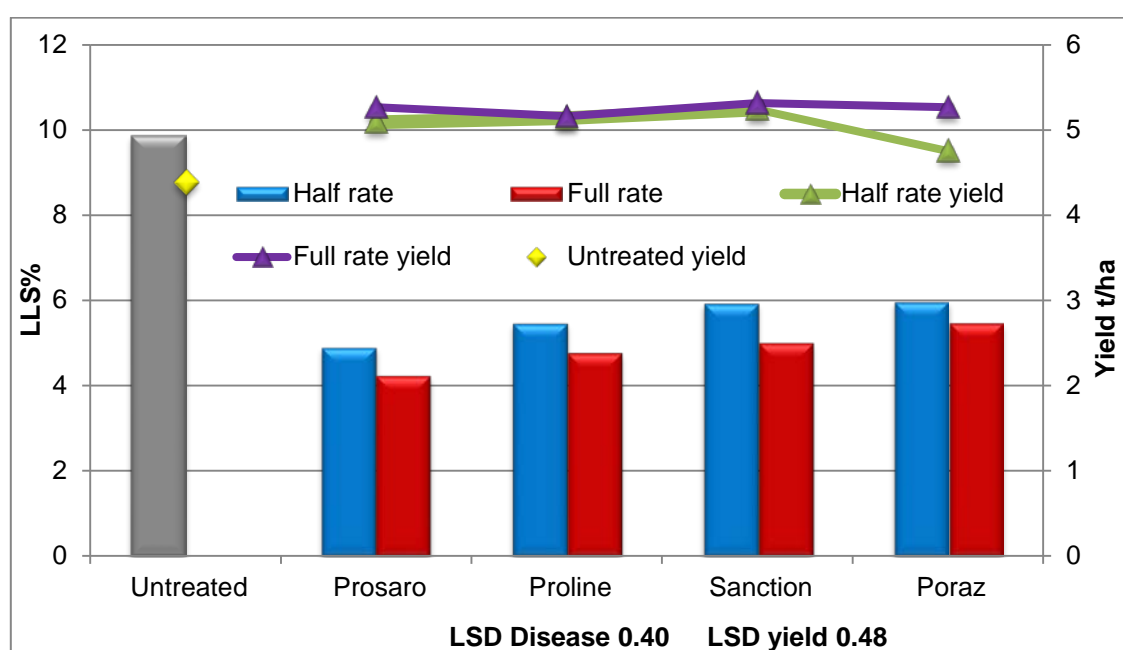
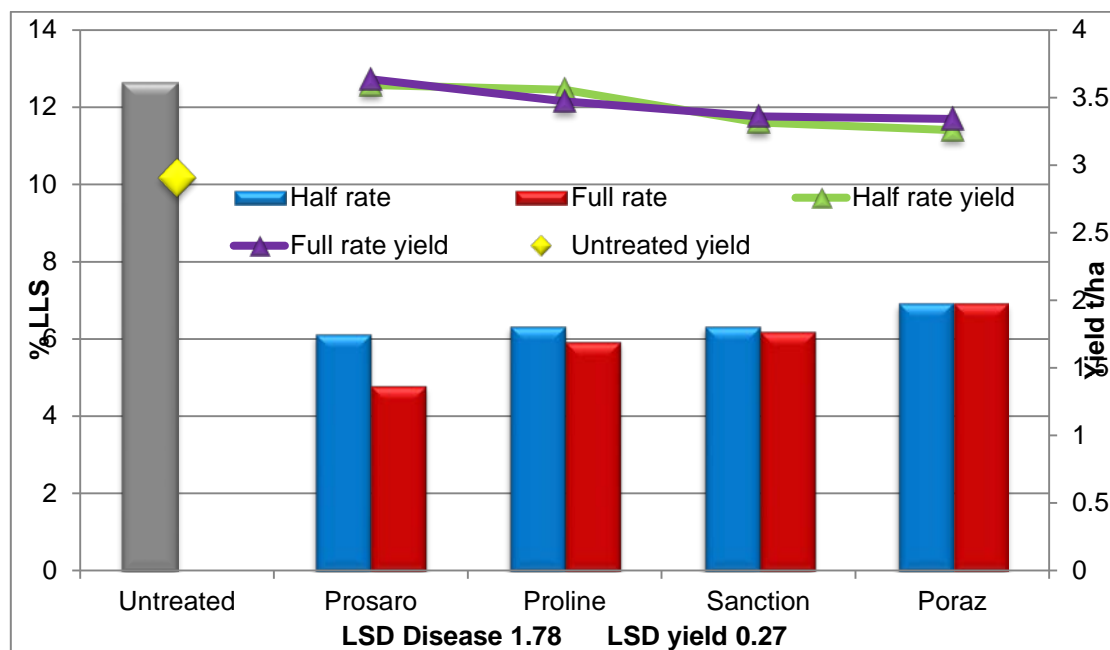


Figure 1. Light leaf spot control at High Mowthorpe, N. Yorks 2011.

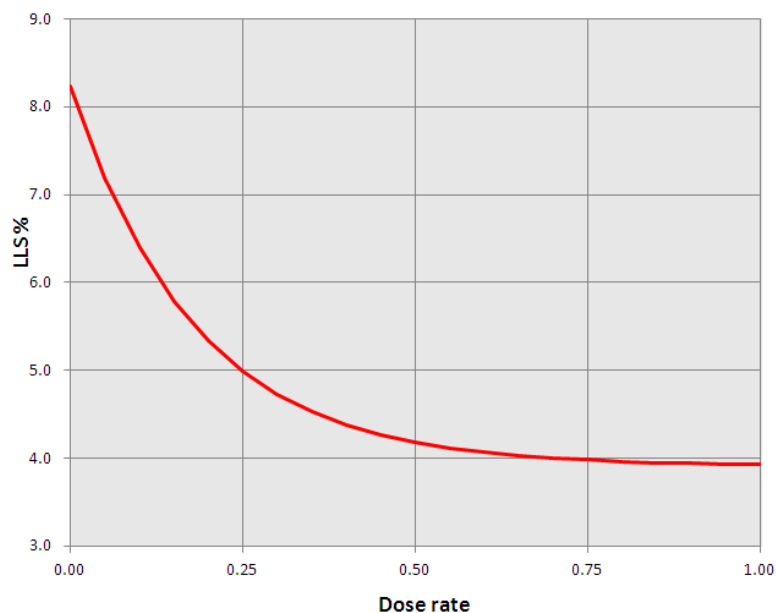
## 2012

The light leaf spot site at High Mowthorpe, N. Yorks (cv. PR46W21) was sprayed on 21st November and 13th March. There was significant control of light leaf spot with all treatments (Figure 2) but little to choose between products or half and full dose. There was a significant yield response to treatments of between 0.35 t/ha and 0.73 t/ha but little to choose between full and half dose in terms of yield.



**Figure 2.** Light leaf spot control and yield, High Mowthorpe, N. Yorks 2012

The dose response curve for light leaf spot control with Proline (which was tested at 4 rates) shows that increasing dose above half rate did not improve light leaf spot control (Figure 3).



**Figure 3.** Light leaf spot control in relation to dose of Proline (2 experiments).

## Comments

Light leaf spot levels have been increasing year-on-year in England for six years and 2012 levels were very similar to 2011, despite efforts to control the disease on farms. Light leaf spot remains at high levels in all regions in England and the [risks for 2013 are judged to be high](#). These fungicide experiments indicate that good control of light leaf spot is difficult to achieve. The leading fungicides are azoles but reduced sensitivity to these products may be affecting performance. These trials showed no improvement in control with Proline above a half dose rate application, so high doses are unlikely to improve control. There are prospects for improving control by better fungicide timing as many crops are treated when the disease is already well established.

Light leaf spot continues to spread within the crop throughout the year and a fungicide spray may only give control for a few weeks. Early detection and treatment in January/February will provide more effective control than treating heavily diseased crops at the stem extension stage.

## Key points

### Strategic

- Assess light leaf spot management and control on a farm-by-farm basis. If light leaf spot was well established on stems before harvest, there is a high risk of continuing problems in 2013. Note that late-emerging crops may be less severely affected than earlier sowings.
- Use resistant varieties (HGCA Recommended List resistance rating of at least 7) if light leaf spot is well established in crops on the farm.

## Crop decisions

- Use a spray in autumn at high-risk sites. After the autumn treatment, inspect crops for light leaf spot regularly on a field-by-field basis from January onwards. If phoma sprays are being used, check crops in winter and early spring to determine if phoma sprays have given adequate control of light leaf spot.
- Treatment timing is important: be prepared to apply fungicide as soon as light leaf spot is found (weather conditions permitting). The old spring threshold for light leaf spot control of 25% of plants affected applies only at the early stem extension stage. At current prices, a threshold of 15% of plants affected may be used at early stem extension as this equates to a 5% yield loss (or 0.20 t/ha (£80/ha) in a 4 t/ha crop). Prior to stem extension, there is no threshold, but react to the presence of light leaf spot by spraying immediately when it is seen.
- Within the HGCA fungicide performance project there have been some differences between products and prothioconazole is the leading active ingredient. Control is likely to be improved by increasing the number of applications rather than by increasing dose.
- Product choice will be influenced by requirements for phoma activity and including or avoiding plant growth regulation (e.g. metconazole or tebuconazole products).