



# Managing forward crops of oilseed rape

## Crop thickness and yield

Many autumn-sown oilseed rape crops produce pod canopies that are too thick, often due to early establishment, warm autumns and abundant soil nitrogen. Seed is often sown at high rates to minimise risks from winter kill, as well as slugs and pigeons.

Thick crops look productive, but are inefficient and more prone to disease and lodging. Such crops usually yield less than those with sparser canopies.

## Remedies for thick crops

The conventional variety Apex and the hybrid Pronto were grown at ADAS Rosemaund and ADAS High Mowthorpe. Sowing dates and seed rates were varied to produce different canopy sizes.

Effects of triazole fungicides, tebuconazole (Folicur) and metconazole (Caramba), which have some plant growth regulator (PGR) activity, were tested. Non-triazole fungicides were also applied. Any effects of the triazoles on canopy size were therefore due to their PGR activity.

## Targeting responsive crops

In 2000 and 2001, at both sites, trial plots of Apex or Pronto were sown in early September or early October at 60 or 120 seeds/m<sup>2</sup>.

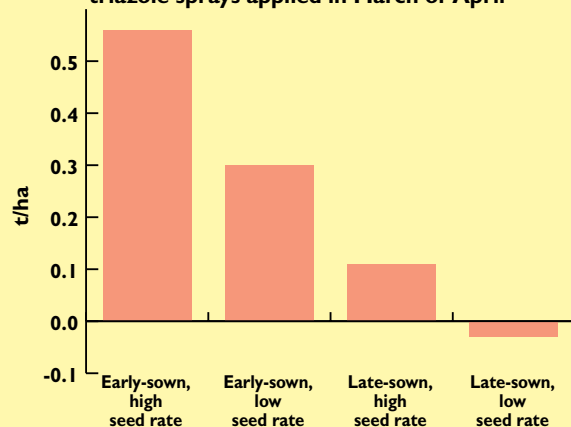
Tebuconazole or metconazole sprays were applied in March or April at full or half rates. Responses to both triazoles depended on crop size. Large crops from early sowing at high seed rates gave yield responses up to 0.7 t/ha in some trials. Small crops from late sowing at low seed rates responded less to treatment and sometimes there were yield losses (Figure 1).

Effects were related to green area index (GAI), the ratio of leaf green area to the area of ground on which the crop is growing, at

## Action:

- Select crops with well-advanced spring growth.
- Estimate GAI by comparison with photographs or by measuring fresh crop weight from 1 m<sup>2</sup> and multiplying weight (kg) by 0.8.
- Consider management in spring to reduce canopy size with over-thick crops. Take account of disease control requirements.
- Use either tebuconazole or metconazole at between half to full rate:
  - in March to crops with GAI of 1 or above.
  - in April to crops with GAI of 2.
- Consider using lower seed rates in future years to minimise problems with over-thick canopies.

Figure 1. Responses (t/ha) of the hybrid Pronto to triazole sprays applied in March or April



High Mowthorpe, 2000  
Average untreated yield = 3.8 t/ha

*If you are unsure about any of the suggested actions, or want them interpreted for your local conditions, consult a professional agronomist.*

# Managing forward crops of oilseed rape



spraying. Responses were often negative when GAI was less than 0.5 in March, or less than 1 in April.

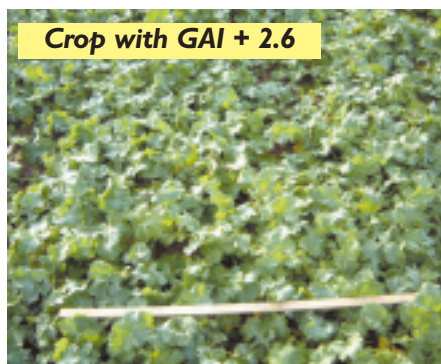
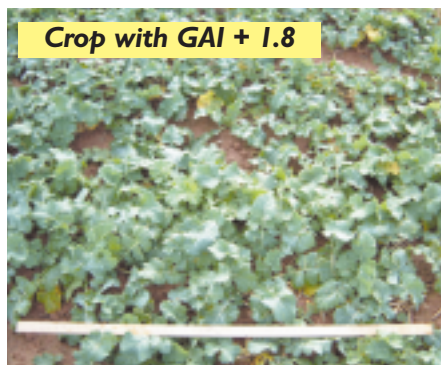
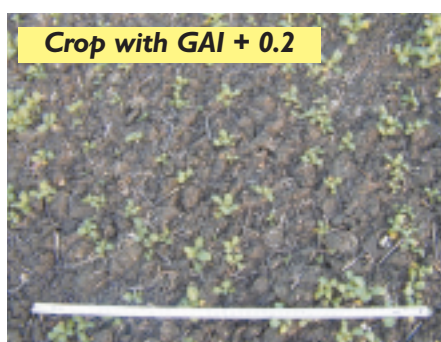
The PGR effects of triazoles in northern Britain, or where light leaf spot is severe, are more variable. The disease often shortens the crop and where triazole fungicides are applied there are conflicting effects: disease control encourages a taller crop while the growth regulating effect of the triazole tends to shorten it. These effects may balance each other out in terms of canopy size.

## Identifying thick crops

Methods of identifying crops that may benefit from spring treatment were assessed, based on comparison with photographs, height, fresh weight and dry weight. The aim was to estimate GAI.

The most practical methods were either to compare the crop with photographs (Figure 2) or to weigh the above-ground parts of the plant from a square metre of average crop. GAI (no units) can be roughly calculated as fresh weight (kg)  $\times$  0.8.

**Figure 2. Field assessment of GAI**



## Summary

Many oilseed rape crops are too thick. Trials carried out jointly by ADAS and Nottingham University, and funded by HGCA, BASF, Bayer (and in kind by CPB Twyford) aimed to identify such crops in early spring and test effects of several treatments to reduce canopy size.

An application of tebuconazole or metconazole, applied in March or April, can reduce canopy size and disease incidence. This often leads to increased yield.

### Further information:

John Spink, ADAS Rosemaund  
E-mail: [john.spink@adas.co.uk](mailto:john.spink@adas.co.uk)

Topic Sheet 37

Project Reports OS49 and OS64



**Topic sheets are free**

To join our mailing list contact HGCA

### Home-Grown Cereals Authority

Research & Development  
Caledonia House  
223 Pentonville Road  
London N1 9HY

Tel: 020 7520 3945  
Fax: 020 7520 3992  
e-mail: [research@hgca.com](mailto:research@hgca.com)  
<http://www.hgca.com>

The Home-Grown Cereals Authority (HGCA) has provided funding for this project but has not conducted the research or written this report. While the authors have worked on the best information available to them, neither the HGCA nor the authors shall in any event be liable for any loss, damage or injury howsoever suffered directly or indirectly in relation to the report or the research on which it is based.

Reference herein to trade names and proprietary products without stating that they are protected does not imply 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.