

TILLAGE

June 2021

Spring barley

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Disease control

Late season disease control in spring barley is designed to control various diseases such as rychnosporium, net blotch, mildew and ramularia. All of these diseases have the potential to rob yield even at this stage. The risk of infection of rychnosporium, net blotch and mildew will largely be determined by the disease rating of each individual variety. However in the case of ramularia, it is normally caused by stress in the crop. Given that we have had a lot of cold weather in the spring this year, crops have definitely been under some degree of stress as this was very evident in the different shades of green in leaves during May. While different varieties have differing levels of tolerance to ramularia, being able to predict which varieties are going to show signs of infection is very difficult. For this reason, we recommend that growers protect all barley crops from ramularia. Trials in Oak Park indicate that the multisite folpet (Arizona, Stavento, Mirror) has some activity on

ramularia and when it is used with the azole, e.g., prothioconazole (Proline), we can expect reasonably good control. However timing of the application is critical as the fungicides are preventative only.

Again Teagasc trials have clearly shown that from flag leaf fully emerged to the awns peeping is the optimum timing for applying the final fungicide but that waiting for the heads to come fully out and to start flowering, i.e., 10-14 days later, can reduce yields by 0.3-0.4t/ha (**Figure 1**).

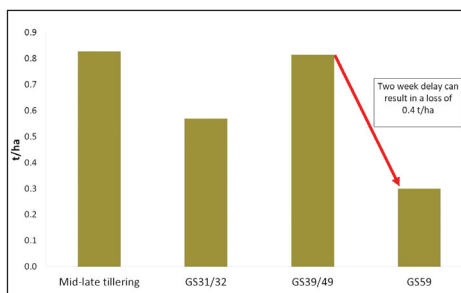


FIGURE 1: Effect of timing of final fungicide on yields of spring barley.

In the video available from the following link, Ciaran Collins, Teagasc Crops Specialist describes the ideal timing for the final fungicide application on barley:

<https://www.youtube.com/watch?v=bVtJP4i-2TY&t=48s>

Barley crops that have received the first fungicide at late tillering should have good coverage for about three weeks, especially if an azole plus

strob/SDHI mix was applied. Some crops were sprayed a little later due to spraying conditions being tricky in mid May. However, avoid the temptation to delay the second fungicide application until the “three weeks” are up, as this could result in the incorrect timing for that second fungicide.

The second fungicide will consist of the multisite, folpet (Arizona) 1.5L/ha plus [half rate triazole plus

strob/SDHI mix]. Various options are available but once you have the basic components in the mix (folpet plus triazole plus strob/SDHI), you should expect good control of diseases (**Table 1**). Teagasc trials consistently show that 50% rates of any triazole plus SDHI/strobilurin mix are adequate to control diseases such as rynchosporium and net blotch.

Table 1: Spring barley fungicide options.

TIMINGS AND PRODUCTS	NOTES
T2 timing – flag leaf to awns visible (GS37-49) Folpet 1.5L/ha + ½ - ¾ rate SDHI/triazole mix (Siltra, Elatus Era, Macfare Expro, Decoy packs etc) or Folpet 1.5L/ha + ½ - ¾ rate triazole (Proline, etc.) + ½ rate SDHI (Imtrex/Zulu) or ½ rate strobilurin (Amistar, Comet)	▶ Target the final fungicide before the head is emerged. Trials have shown this earlier timing can increase yields by 0.4t/ha compared to applying a fungicide at flowering. ▶ Ceriax and other products that contain epoxiconazole, e.g., Deuce, Venture Extra, and have been widely used on barley, must be used up this year before October 31.

Winter wheat

Disease control

Septoria is very visible in most crops, however, the levels are relatively low in most crops where leaf 3 and flag leaf fungicide applications were applied on time. Yellow rust has been problematic all season in susceptible varieties, particularly Bennington.

The final “head” spray (**Table 2**) has two purposes: it tops up control of disease on the important flag leaf; and, it also gives some protection against fusarium and other ear diseases, especially if the weather is broken during flowering. Time the final fungicide application at early flowering, which is normally three to three and a half weeks after the flag leaf spray.

Table 2: Head spray options in winter wheat.

HEAD (T3) GS51-60	Septoria? Rust? Fusarium?	Triazole, e.g., Prosaro, Magnello, Jade 80-100% rate Low pressure sites: Juvetus, Tebuconazole (Fezan, etc.) +/- Strobilurin (50-80% rate)
Date Early-mid June	Mildew? +	Include mildewcide ½ rate

Spring oats

Disease control

Mildew again will be the biggest threat especially in broken weather. Rusts and mildew require a broad-spectrum fungicide, such as Elatus Era, Decoy/Comet, etc. This should be added to the PGR at GS32-33.

The final fungicide should be applied when the crop is starting to head out. Options are the same as the first spray, although Elatus Era can only be applied once to a crop during the season.



Mildew is the biggest threat in spring oats.

Spring wheat

Disease control

Mildew tends to be the biggest threat in spring wheat, while septoria is usually less of an issue than in winter wheat. Use Folpet (Arizona, etc.) 1.25-1.5L/ha plus mildewicide plus azole/SDHI mix, e.g., Ascra Expro (70-80% rate) at flag leaf fully emerged followed by a triazole mix at the final timing. Reduced rate of the azole/SDHI mixes and mildewicides should help to keep costs down, target total spend at approximately €115 plus VAT per hectare.

HEALTH & SAFETY

Keep yourself and children safe

Farm workplace deaths have reduced in the four months to April 2021, with two fatalities reported. It is likely that there are more persons available to assist with farm work due to the Covid-19 lockdown, which may have helped with the injury reduction. However, as the economy reopens and as farm risks rise during the busy summer months from June to August, extra safety vigilance is needed from now on. Farmer vehicle knockdowns and falling from heights are major causes of deaths during these



months. Last year saw an increase in childhood farm workplace fatalities, so extra vigilance is especially needed in this area. This month we include a children's safety newsletter. Please check in on the use of this newsletter by children and discuss farm safety positively with them. Children model their safety behaviour on adults, so a good example and leadership are vital to gain culture change with farm safety. Further information can be obtained on the Health and Safety Authority (HSA) and Teagasc websites.



Beans

Foliar diseases such as chocolate spot, downy mildew and rusts must be controlled to keep the foliage for as long as possible. All diseases develop quickly in warm humid conditions. For chocolate spot control, fungicides need to be applied before the disease develops. Therefore, apply a fungicide at the first signs of disease or in any case at the start of flowering and repeat two to three weeks later. Apply Signum 0.5-0.75kg/ha at both timings for best control. Where downy mildew is a problem, apply Ridomil Gold (where disease is active) or Mancozeb (preventative) at start of flowering.



For chocolate spot control, fungicides need to be applied before the disease develops.

Mancozeb products and Ridomil Gold are now in use up and can't be used in 2022.

Beans offer growers a good opportunity to control problematic grass weeds such as bromes, ryegrasses and wild oats with graminicide type herbicides. It is important to take the opportunity now to reduce the problem in the following cereal

crop. Good control can be achieved where products such as Fusilade Max (1.0-3.0L/ha), Stratos Ultra (1.5-4.0L/ha) or Falcon (0.7-1.5L/ha) are used in time. Generally they need to be applied before flowering has commenced for best control.

Products in use up

The month of June will be the last opportunity for growers to use up some popular products whose registration has expired and are now in the use-up period. Products containing active ingredients such as epoxiconazole, cyproconazole, mancozeb and metalaxyl M all expire this year and should be included in fungicide programmes before the end of the

season. Products remaining on farm after each of the individual expiry dates must be disposed of through a registered waste disposal centre and receipts of their disposal must be kept. For a full list of products that are due to expire in 2021, log on to the Department Of Agriculture, Food and the Marine's PCRD website: <https://www.pcs.agriculture.gov.ie/register/plantprotectionproductsregisters/recentlywithdrawnplantprotectionproducts/>.