

Thin crops need TLC

Autumn 2019 sown cereal crops have struggled to get through the wet winter and will need careful management over the coming months

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Farmers face some key decisions in the next two months including whether to re-sow poorer crops. Before any decision is made growers should carry out some plant counts, as the profitability of spring crops can be low, even at fairly high yields, when you add the costs already incurred in autumn.

The above figures are only guidelines as it will be the number of ears per metre square and 1,000 grain weight that will determine final yield. In two-row barley, the target is 1,000 ears per metre square, in six row barley 700 to 800. For wheat, ear number is not as critical as the crop can compensate, however crops will still need 550 to 600 ears for optimum yield.

The oat panicle can also compensate. However you should still aim for 350 to 450 panicles per square metre.

Fertiliser

Many barley crops will receive compound fertilisers in early to mid-March, depending on weather. This application is aimed at applying sufficient P & K for the crop and also 30kg/ha to 40kg/ha of nitrogen to encourage tillering. However, tillering will only occur if temperatures are adequate. First applications on wheat and oats will normally happen in early to mid-March.

Once the first applications have been made, farmers need to estimate the yield potential of the crop. Have they the potential to yield up to 10t/ha? Many will not. Therefore, the question facing farmers is how much nitrogen do I actually need to apply? Table 2 shows the total Nitrogen requirement for winter wheat and

Table 1: Plant counts

Winter cereal plant count/m²

Plant count	Wheat	Barley (two-row)	Barley (six-row)	Oats
Target	200+	250+	170+	275+
Viable	90 – 200	120 – 250	90 – 150	90 - 275
Not viable?	< 90	< 120	< 90	< 90

Table 2: Nitrogen requirement for winter wheat and barley

Yield t/ha	7	8	9	10
N kg/ha				
Winter wheat	170	190	210	230
Winter barley	150	170	190	210

barley at different yields on Index 1 soils.

Trying to estimate yields at this stage is difficult. In many cases, due to poor establishment, some fields have areas within them that have poor potential. Cutting the amount of nitrogen in these areas will reduce total spend and lessen the risk of nutrient losses.

Where the total amount of nitrogen applied is to be reduced on a particular area, maintain the rates at the second application and make the cut in the last application. Aim to complete final application of nitrogen by GS 31/32 in barley, GS 37 in wheat and GS 32 in oats.

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Trace element deficiencies are common this year. Treat crops that are suffering manganese deficiency, for example, as soon as possible. Manganese deficiency can reduce tiller production or, worse still, kill off existing tillers.

Plant growth regulators (PGRs) can assist thin crops by reducing the apical dominance of the plant's growing point and encouraging growth in the tillers. There are a few key guidelines when using PGR's such as chlormequat chloride CCC to stimulate tillering:

- Only apply a PGR to a growing crop,

if there is no growth then they are ineffective.

- Do not apply a PGR to a crop under pressure as it will stress the crop even more.
- A PGR will be more effective after nitrogen has been applied as there will be more growth.
- If there are trace element deficiencies in the crop, treat these before applying the PGR.
- Avoid including a PGR in complicated tank mixes as this can result in crop scorch.

Disease control in winter cereal crops plays an important part in the final yield. However, the strategies employed are entirely different. In barley, disease control is all about protecting the tillers, therefore early applications can be very important.

Some varieties, e.g. Tower, can be attacked by net blotch during late tillering. This can cause substantial tiller death and so, earlier treatment is sometimes warranted. The first fungicide application is normally targeted at growth stage 30 of the crop. This is then followed at GS 32/33 and again, finally, as the awns emerge.

Ramularia infection will need to be carefully monitored this year as most barley crops have been stressed over the winter months. Susceptible varieties, such as Pixel, are at particular risk. Fortunately, chlorothalonil is still available for use on winter barley crops up to 20 May for Ramularia control.

In wheat, especially late-sown crops, T0 has to be questioned this year. Trial results in Oak Park have never recorded a yield benefit in late-sown crops, so this is an area where some savings could be made. In oats, a three-spray strategy is advised, starting at growth stage 30, mildew and crown rust being the main targets.



Veronica Nyhan, Marie Keegan and Aisling Keegan.

FARMER FOCUS

Marie Keegan and her daughter Aisling run a tillage and drystock farm in Ard-nagross, Co Kildare, just outside Athy. The tillage enterprise comprises of spring malting barley, along with winter barley and winter wheat. This year, for the first time, the Keegans are growing Craft, a winter malting variety, primarily to spread the workload at harvest time.

Like many tillage farms, the Keegans experienced a tough autumn but they managed to get the winter barley, both feed and malt, and the winter wheat planted over the last two weeks of October. Today, the crops are looking very clean, with good establishment and even distribution.

"Plant counts are up around 300 plants/m² for the winter barley crops and 290 plants/m² for winter wheat," says Marie. "We advocate putting a little extra seed in the ground at sowing to generate a strong crop." The practice has stood to them in this challenging year.

Herbicide

"The herbicide application happened later than intended in early February, but due to the slow growth rates, should still prove effective against what little annual meadow grass is evident."

Marie and Aisling apply a compound fertiliser in late February/early March as

soon as the growth commences to help maintain tiller numbers. "Normally, we apply three to four bags of compound as needed according to the recommendations from soil reports," says Aisling.

"This is followed by 100kg to 115kg/ha (80 to 90 units per acre) of CAN in mid to late March with the last application in early April. The barley receives a PGR to help maintain the tillers and a fungicide will also be applied again to protect those tillers.

"I like to have a good thick barley crop," adds Marie.

"I find thin crops on our farm tend not to yield, and have less straw which is also valuable to us."