

# TILLAGE

September 2021

## National Crops Forum

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The annual National Crops Forum provides an ideal opportunity for farmers to assess the season just gone and also look forward to options for next season. This year

due to Covid-19 restrictions, the National Crops Forum will be held over two mornings as a virtual event on Zoom, at 11.30am each day.

### September 9

#### – Agronomy and grain markets

Update on varieties available for this year, with an eye on disease resistance in cereals and the short- and medium-term market prospects for grains.

The sessions will be:

- Department of Agriculture, Food and the Marine (DAFM) – New varieties for 2021; and,
- Phelim Doran, Comex McKinnon – Market prospects for grain in 2021 and 2022.

### September 16

#### – Carbon farming and nitrate leaching

This webinar will look at the carbon cycle and how it can be harnessed to better effect by tillage farmers.

It will also look at nitrate losses from tillage and how farmers can mitigate the problem.

The sessions will be:

- The carbon cycle: how tillage farmers can maximise the benefits; and,
- Nitrate leaching from tillage soils and solutions for farmers.

Register on the Teagasc website at:  
[https://www.teagasc.ie/news--events/national-events/events/nationalcropsforumday2.php](https://www.teagasc.ie/news-events/national-events/events/nationalcropsforumday2.php).

## Autumn planting

It is always tempting to avail of good weather in September to plant winter cereals, but early planting carries risks. Planting winter wheat and barley early (mid to late September – later further south) generally ensures good seedbeds and favourable temperatures during germination and leads to higher establishment rates. However, there is an increased threat from take-all, foliar diseases, lodging, grass weeds and aphids (barley yellow dwarf virus (BYDV)).

### BYDV

Early-sown crops are at the highest risk from BYDV (**Figure 1**) and yield reductions of 3.7t/ha have been recorded in Teagasc winter barley experiments.

Risk increases when early sowing is combined with coastal areas and followed by a mild autumn/winter, as the aphid migration period increases and so does overwintering risk.

**Planting cereals in October significantly reduces the risk of BYDV over September planting.**

### Grass weeds

Avoiding the main germination period is a key integrated pest management (IPM) technique. The key germination period for sterile brome and blackgrass is September and tapers off as sowing moves into October. Winter barley should be avoided, as there are no reliable chemical control options.

Delayed sowing also allows for the use of stale seed beds, which are an effective IPM measure to reduce the weed seed bank. Ideally, the first flush of brome/blackgrass should have appeared in the field before sowing.

Plan to sow heavier land with low grass weed pressure and lower BYDV and take-all risk sites first, leaving more vulnerable land till later.

Spreading risk through a diversity of crops and a good rotation are key elements for a profitable tillage enterprise.

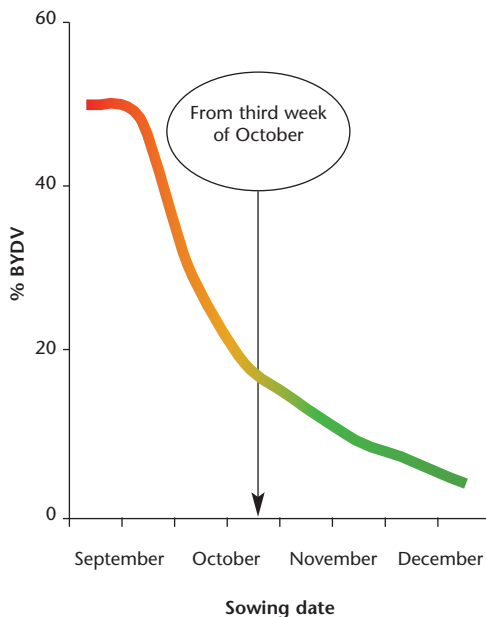


FIGURE 1: BYDV risk increases with early sowing – Tom Kennedy, Teagasc National Tillage Conference 2014.

## Time for soil sampling

Now is the ideal time to identify fields on the farm that require fresh soil samples. Ensure soil samples are taken correctly and take a soil sample every 4-5ha. This will provide the basis for lime, phosphorus (P), potassium (K) and magnesium (Mg) applications for the next four to five years. Soil test results will provide recommended rates of lime to correct soil pH to the optimum pH 6.5 for a cereal crop rotation. Where crops such as oilseeds, beans or beet are part of the crop rotation, aim for a target pH 6.8.

Aim to apply lime over the coming weeks and months to correct soil pH for either winter or spring crops. Lime is a soil conditioner and delivers many benefits from soil pH correction to improving soil structure at least cost. For winter crops, where possible, apply lime to ploughed/pressed soils. Optimising soil pH will

provide the right soil conditions for the establishment of winter cereals and ensure nutrients such as P and K are readily available for rapid establishment.

Contact your local advisor today to take soil samples over the coming weeks and request an S4 soil test (pH, lime requirement (LR), P, K, Mg, manganese (Mn), copper (Cu) and zinc (Zn)) for tillage soils.



*Regular soil sampling saves money on fertiliser.*

## Cereal crop P and K requirements

Winter cereals have a demand for P and K, which ensures that crops are well established in terms of rooting and tiller development entering the winter period. Check soil test results for Index 3. These soils will have a good supply P and K for crop establishment; therefore, omit P and K applications until springtime. For Index 1 or 2 soils, apply nutrients as shown in **Table 1**. A fertiliser product such as 0-10-20 or 0-7-30 will supply the correct balance of P and K at this

stage. Apply at sowing time and incorporate into the seedbed. Complete fertiliser P applications by October 31.

Where organic manures are available, they should be considered as a source of P and K for winter cereals. For example, farmyard manure (FYM)/cattle slurry/mushroom compost are all suitable organic manures, as they are low in nitrogen (N) and will supply good levels of organic matter.

**Table 1: Autumn P and K requirements for winter cereals (build-up).**

Soil Index	P (kg/ha)	K (kg/ha)	Suggested fertiliser product and rate (kg/ha)
1	20	30	200kg 0-10-20
2	10	15	100kg 0-10-20

## Soil structure assessment



Now is a good time to take out the spade and assess soil structure. This involves digging a number of shallow soil pits (50cm deep) around the field (see Figure 2).

Take out the top 25cm (topsoil) and assess the shape, size, strength, colour and friability of the soil particles. Examine rooting activity and earthworm numbers in this top zone. This will help classify it as having good, medium or poor soil quality. It will help identify the presence of soil compaction and how it may be dealt with depending on its position. Take out the next 25cm of soil and repeat the same again to assess soil quality and whether a compacted layer is present or not. For example, a plough pan is often present from the continuous operation of cultivation equipment at the same

depth year after year.

Aim to alternate the cultivation depth by using different tillage strategies or equipment. Teagasc and UCD have published 'The Soil Structure ABC'. This provides practical guidelines on carrying

out the double spade method, plus visual aids on soil structure assessment. There are also a number of short videos available on soil structure assessment. Both of these sources of information are available at: [www.teagasc.ie/crops/soil-soil-fertility/soil-quality](http://www.teagasc.ie/crops/soil-soil-fertility/soil-quality).



*Assess soil in September.*

## HEALTH & SAFETY

### Food for thought

The Teagasc strategy applies the total worker health model to support farmers with both health and wellbeing and health and safety. Excess body weight is associated with increased injury, cardiovascular disease, cancers, Covid-19 disease severity, musculoskeletal disorders and depression. An Irish study involving Teagasc found that 62% of male farmer study participants were overweight or obese. A high proportion of diets had a low intake of fruits and vegetables, dairy products and fish, and a high intake of meat, fried foods, salt, and sugary and/or salty snacks. Further information



*Fruit and veg for health.*

on healthy eating is available from the HSE online guide 'How to Eat Well'. Also, Teagasc is holding half-day health and safety courses in all regions. They are a great way to update your knowledge and motivation on farm health and safety. The course is a requirement for the Department of Agriculture, Food and the Marine (DAFM) Targeted Agricultural Modernisation Scheme 2 (TAMS II) submission grant claim. The current closing date for TAMS II applications is November 5, 2021. Contact your advisor if you want support in making an application.

