Teagasc
Advisory
Newsletter

TILLAGE

September 2020

National Crops Forum

Edited by
Ciaran Collins, Tillage Specialist and
Mark Plunkett, Soil and Plant Nutrition Specialist

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 evenings as a virtual event on Zoom, from 6.30pm to 7.30pm each evening. The dates and topics are as follows:

September 10 – varieties and agronomy; and, September 17 – Green Deal and Farm to Fork – implications for tillage farmers.

Autumn planting

There is a temptation to plant crops at the first opportunity this autumn to avoid the issues experienced last autumn, but early sowing can also create disease and pest problems that can reduce yield and profitability. Planting winter wheat and barley early (mid to late September – later further south) generally ensures good seedbeds and favourable temperatures during germination, leading 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)).

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

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Grass weeds

Grass weeds are becoming an increasing problem, with brome species and blackgrass becoming more difficult to control.

Avoiding the key germination period is a vital 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 chemical control options.

Delayed sowing also allows the use of stale seedbeds, 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 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.

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 carried out in coastal areas and followed by a mild autumn/winter, as the aphid migration period increases and so does overwintering risk.

BYDV infection and sowing date

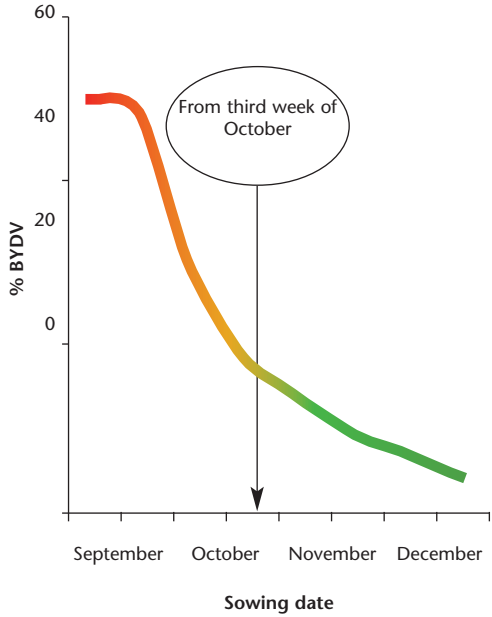


FIGURE 1: BYDV risk increases with early sowing – Tom Kennedy, Teagasc National Tillage Conference 2014.

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 them 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

Soil sampling helps identify what nutrients your soil requires.

are part of the crop rotation, aim for a target pH of 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 for tillage soils – pH, lime requirement (LR), P, K, Mg, manganese (Mn), copper (Cu) and zinc (Zn).

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. Soils at Index 3 will have a good supply of 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.

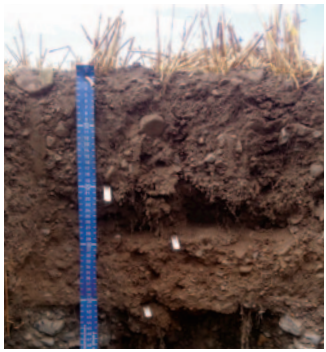
Table 1: Autumn P and K requirements for winter cereals (build-up).

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 (45-50cm deep) around the field (see **Figure 2**). Take out the top 25cm (top soil) 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 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 process to assess soil quality and whether a compacted layer is present or not (see **Figure 2**). 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 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.

Double spade



Carefully dig a soil pit (trench), roughly 45cm deep, 50cm long and 30cm wide. While digging, do not stand on, lean the spade against or damage the wall of the soil pit that is to be assessed.

FIGURE 2: This soil profile dig shows a compacted soil layer at 30cm.

HEALTH & SAFETY

Get winter ready

From mid September onwards is the ideal time to focus on getting winter ready. In recent years, storms, flooding, and snow and ice have become more frequent in winter. Now is the time to do winter-ready maintenance around the farm. For example, check for buildings or trees that could collapse. Check your supplies, e.g., anti-slip grit, protective clothing and equipment, torch batteries and first-aid boxes. Make sure to have your emergency contacts up to date and accessible and that your Eircode is displayed in a prominent place. Further information on getting winter ready is available on the health and safety section of the Teagasc website.

Be winter ready.

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