Teagasc
Advisory
Newsletter

# TILLAGE

March 2022

# Winter cereals

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Fertiliser application will be the priority this month. The dramatic increase in fertiliser costs will result in an adjustment to application rates this season. Recent soil test results and a nutrient management plan are essential to target fertiliser use. The economic optimum nitrogen (N) rates are reduced by 20-35kg/ha depending on crop type, grain value and N cost. Making the most efficient use of applied N is crucial, so target application to match crop requirements and ensure soil conditions are good to avoid leaching losses. Phosphorus (P) and potassium (K) need to be applied to match offtakes, but it may be uneconomic to apply P and K for build-up in 2022. A 10t/ha crop where the straw is removed will require 38kg P and 100kg K or equivalent of 4.25 bags of 10-7-20/ac.

## Winter barley

Apply the first split of N (50kg/ha) in early March and apply the main split by GS31. On thin or backward crops, the first N can be earlier (start of growth) but application rate should be low as crop demand is small. Sulphur (S) (15kg/ha) and deficient trace elements (based on soil analysis and field history) should be applied before GS31. Use Moddus/Medax Max plus 1.0L/ha CCC for high-lodging-risk fields at GS30. For best straw shortening effect in barley, apply Cerone/ Terpal/Moddus/Medax Max from GS32-39. Most crops received a herbicide last autumn but where a tidy-up application is required, use a sulfonylurea/Zypar/Galaxy/Hurler, etc., depending on weeds present. Active growth and high rates

*Optimum nitrogen is reduced by 20-35kg/ha this season.*

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are needed to control overwintered weeds. It is too late to control annual meadow grass.

### Winter wheat

Apply 40-50kg/ha of N as the first split in mid March or by GS30. Increase rates to 75kg/ha for thin crops, second wheat or where take-all is a risk. Generally, divide the N applications one-quarter:half:one-quarter over three splits. Apply the main split by GS31 and the last split by GS39. Where grass weeds are present, Pacifica Plus/Monolith plus Biopower are options. Broadway Star plus Torpedo is a strong brome option where annual meadow grass has already been controlled. Avoid crops under stress and be careful of tank mixes.

### Winter oats

The first application of approximately 50% of the total N requirement should be applied by GS30 (early to mid March). Where no autumn herbicide has been applied, treat with a sulfonylurea (Cameo Max/Ally Max) and a suitable partner to match weed spectrum.
The most successful plant growth regulator (PGR) strategy in Teagasc trials is a two-spilt approach, with the first application at GS30/31 followed by a second application at GS32. The second application will have a greater shortening effect. Remember only apply PGRs when there is active growth and avoid frost and large tank mixes.

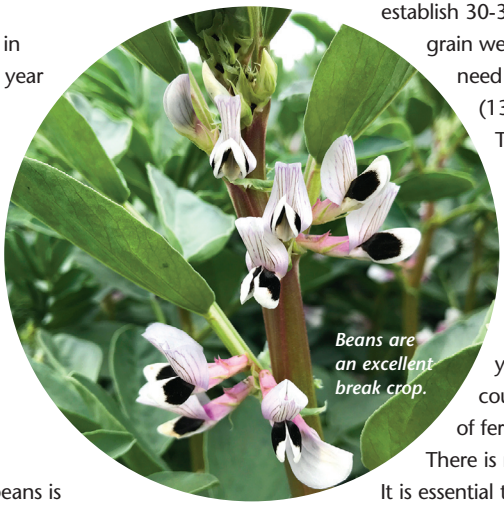
### Winter oilseed rape

Many winter oilseed rape crops have large canopies this season and as a result there will be large savings on N. A green area index (GAI) of <1.0 will require 225kg N/ha (first application as soon as growth commences), whereas a crop with a GAI of 2.0 will only need 130kg N/ha and the first split can be delayed until mid March.

# Spring crops

### Spring beans

There is strong interest in spring beans again this year due to favourable contract prices (€265) and increased fertiliser costs. The protein payment is available again in 2022. Beans are an excellent break crop and are profitable in their own right, but also increase profitability across the rotation.


*Beans are an excellent break crop.*

The yield potential of beans is reduced after mid-March sowing, so aim to plant beans as early as possible in March but get your seedbed right. Aim to plant 40-45 seeds/m$^2$ to establish 30-35 plants/m$^2$. A thousand grain weight (TGW) of 550g will need a sowing rate of 210kg/ha (13.4st/ac). Take note of the TGW on the bag, as big seed requires high seed rates.

P and K must be incorporated into the seedbed in P Index 1 and 2 soils to avoid additional yield loss, but low-P soils could lose 1.5t/ha, irrespective of fertiliser application method. There is no benefit from seedbed N.

It is essential that pre-emergence residual

HEALTH & SAFETY

## Tractor/machine overturning dangers

With slurry and fertiliser spread in March, there is a lot of high-injury-risk movement. Farm deaths have occurred due to overturning of tractors, loaders and trailed equipment, including slurry tankers and cattle trailers/boxes. Tractors can overturn due to speed, slopes and driving over rough ground. The number of slurry tankers on farms has increased with low-emission slurry spreading (LESS), with many 2,500-3,000-gallon (c. 11-14k-litre) slurry tankers used on farms. These tankers can weigh over 16 tonnes when fully laden. Tankers overturning on slopes or into drains or rolling in farmyards has occurred.

The highest risk of overturning is on hillsides or descending slopes. With tankers it is imperative to have a tractor with enough power/weight to control the tanker. A four-wheel drive tractor of about 110 horsepower (HP) on level ground (30HP higher on sloping ground) is required for a large tanker (consult manufacturer specifications).

*There is an overturning risk with machines.*

When in the farmyard, make sure the tractor and tanker are parked securely on stable ground to prevent crushing. To reduce musculoskeletal injury risk, empty and clean filling pipes before moving or lifting. Wear protective gloves (e.g., nitrile) when handling equipment and use washing facilities after slurry work.

herbicides are used, as Basagran is the only approved post-emergence herbicide which controls emerged broadleaved weeds and it has a very limited weed spectrum. Pre-emergence residual products work best on fine seedbeds with some moisture after spraying. Rolling post sowing helps the activity of pre-emergence herbicides by breaking up the clods.

The main pre-emergence herbicide options are: Nirvana 4.0-4.5L/ha; Nirvana 2.5L plus Defy 4.0L/ha; and, Stallion 3.0L/ha.

### Spring barley

Consult the 2022 recommended list for variety characteristics. Seed rate should be calculated based on the TGW, which is normally printed on the bag. Sow 350 seeds/m² to establish 300 plants/m² in good conditions. Be realistic about establishment percentage and adjust seed rate for soil conditions (**Table 1**). In Teagasc experiments across three sites and three seasons (2011-2013) the average establishment rate was 78%.

**Table 1: Spring barley seed rates to establish 300 plants/m².**

| Variety | TGW* | kg/ha | st/ac |
|---|---|---|---|
| Gangway | 48.6 | 172 | 10.9 |
| RGT Planet | 49.6 | 175 | 11.2 |
| SY Errigal | 47.8 | 169 | 10.7 |
| Geraldine | 50.4 | 178 | 11.3 |
| Skyway | 49.1 | 173 | 11.0 |
| SY Amity | 53.6 | 189 | 12.1 |
| SY Tungsten | 47.8 | 169 | 10.7 |
| Laureate | 48.4 | 171 | 10.9 |
| SY Splendor | 47.8 | 169 | 10.7 |

**Department of Agriculture, Food and the Marine (DAFM) harvest trials 2021. Large variations in TGW are common, so check seed bag before sowing.*

# Sprayer testing

One of the key elements of the Sustainable Use Directive (SUD) is that sprayers must be tested and certified. A properly functioning sprayer is essential to get the best response from plant protection products (PPPs) and to protect the environment.

Following the introduction of the SUD, all boom sprayers wider than 3m needed to be tested by November 26, 2016 and the test was valid for five years. Therefore, there are a large number of sprayers that need to be tested ahead of the 2022 season.

A farmer can find out when the test is due by looking at the sticker placed on the sprayer at the time of initial test (**Figure 1**). The interval between inspections shall not exceed five years until 2020 and shall not exceed three years thereafter:

- tests completed before January 1, 2020 will be valid for a maximum of five years and will expire, at the latest, by January 1, 2023;
- tests completed after January 1, 2020 will be valid for a maximum of three years; and,
- the date (i.e., day and month) of retesting will be the same day and month as the previous test with the exception of those completed in 2018 and 2019, all of which must be retested by January 1, 2023.


*FIGURE 1: Test sticker.*

**Table 2** shows the dates when the next test is due for a sprayer tested between 2014 and 2022.

**Table 2: Next retest dates for sprayers.**

| Date tested | Date next test is due |
|---|---|
| 2014 | 2019 |
| 2015 | 2020 |
| 2016 | 2021 |
| 2017 | 2022 |
| 2018 | January 1, 2023 |
| 2019 | January 1, 2023 |
| 2020 | 2023 |
| 2021 | 2024 |
| 2022 | 2025 |

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