

TILLAGE

March 2023

Winter cereals

Fertiliser application will be the priority this month. There are large differentials in nitrogen (N) cost this season, depending on time of purchase and N type. Many farmers will opt for urea, as the current 33% price differential with CAN is difficult to ignore in a season of tight margins. Where phosphorous (P) and potassium (K) are required, the first N application will be in a compound fertiliser. Based on the Teagasc costs and returns figures, if a winter wheat grower switched from CAN to urea for the N top dressing, this would represent a saving of over €7,000 for a 40ha grower. The equivalent saving for a spring feed barley grower would be over €3,000 for 40ha.

Teagasc research has shown that there is no significant difference in grain yield whether a farmer uses protected urea or CAN. However, sulphur application needs to be planned and spreading at wide bout widths is more difficult.

Edited by
Ciaran Collins,
Tillage Specialist



Ensure fertiliser spreader is correctly set up.

Spreading urea

Urea is less dense than CAN, typically 75-80% of standard fertiliser, which makes it more difficult to spread evenly at wide bout widths. Think of applying the same force to a table tennis ball and a golf ball. Urea will also be more impacted by wind; therefore, good quality urea is essential when spreading at wide bout widths and it is essential that the fertiliser spreader is set up correctly for spreading urea. The settings for spreading urea will be different

to those for spreading CAN, so consult the spreader manufacturer's recommendations for the specific product being spread.

Once fertiliser calibration is complete, it is important to use trays or mats to check the spread pattern in the field.

Break-even ratio

The break-even ratio (BER) is the point on a graph called the economic optimum rate, where the additional yield will not cover the cost of the N applied. The cost of N and the price of grain will dictate whether an adjustment to the optimum N rate is required or not. Based on the BER, a grain price of €240/t for wheat and an N cost of €3.00/kg (CAN €810) would require a 39kg/ha reduction from the optimum rate. However, very little adjustment is required when N is costing €2.00/kg (urea €920), where a 14kg/ha adjustment is required.

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.

P and K

Recent soil test results and a nutrient management plan are essential to target fertiliser use. Recent changes to the Nitrates Directive mean a soil test report is required for every 5ha, otherwise there is no P allowance. P and K need to be applied to match offtakes but it may be uneconomic to apply P and K for build-up in 2023. A 10t/ha crop where the

straw is removed will require 38kg P and 100kg K or the equivalent of 4.25 bags of 10-7-20/ac.

Winter barley

Apply the first split of N at 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 also low. Sulphur (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.

It is now too late to control annual meadow grass in crops that did not receive a herbicide last autumn. Where a tidy up is required after an autumn herbicide, use a sulfonyleurea/Zypar/Galaxy/Hurler, etc., depending on weeds present. Active growth and high rates are needed to control overwintered weeds.

Winter wheat

There are a number of thin crops this season, so increase N rate at the first application to 75kg/ha for these crops, second wheat or where take-all is a risk. For crops with satisfactory plant counts apply 40-50kg/ha of N as the first split in mid March or by GS30. 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 the weed spectrum. Pixxaro and Zypar at 50% rates are now approved for winter oats.

The most successful plant growth regulator (PGR) strategy in Teagasc trials is a two-split

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 to only apply PGRs when there is active growth and avoid frost and large tank mixes.

Winter oilseed rape

There are large variations in green area index (GAI) in oilseed rape crops this season. There are large savings on N in crops with large canopies, so avoid early application and high-N rates, as excessive N will result in a reduction in yield. A GAI <1.0 will require 225kg/ha (first application as soon as growth commences), whereas a crop with a GAI of 2.0 will only need 130kg/ha and the first split can be delayed till mid March.

HEALTH & SAFETY



Check gates and fences

Are your fences stockproof along public roads? Animals getting onto roads is a major hazard to traffic with high potential for serious injury. The Animals Act 1985 places a strong duty on farmers to prevent stock from getting onto roads. March is an opportune time to check fencing along public roads ahead of turnout of stock. Hedging cannot be relied upon to keep stock contained in all cases, so fencing may be needed. If growth conditions are poor at this time of year, a 'hungry



period' can arise causing animals to stray. Use of a gate-stopping device (see picture) to stop a gate swinging outwards is also a worthwhile safety device along public roads.

March is undoubtedly one of the busiest farming months, so work organisation and getting adequate rest are crucial to prevent rushing and farm injuries. Take particular care around tractors and machines, and cows calving or with calves.

Spring crops

Spring beans

There is good interest in spring beans again this year due to the increased protein payment, favourable contract prices (€285), and increased fertiliser costs. The protein payment rate will depend on the area planted, but will be in the range of €350-€583/ha. Beans are more profitable than spring barley, but also increase profitability across the rotation.

The yield potential of beans is reduced after mid-March sowing, so aim to plant as early as possible in March but get your seedbed right. Aim to plant 40-45 seeds/m² to establish 30-35 plants/m². A thousand grain weight (TGW) of 550g will need a sowing rate of 210kg/ha (13.4t/ac). Take note of the TGW on the bags 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. However, 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 herbicides are used as Basagran is the only approved post-emergence herbicide, which controls emerged broad-leaved weeds and has a very limited weed spectrum. Pre-emergence residual products work best on fine seedbeds,

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

Variety	*TGW	kg/ha	st/ac
Gangway	49.7	175	11.2
RGT Planet	53.2	188	12.0
SY Errigal	52.8	186	11.9
Geraldine	52.3	185	11.8
Skyway	53	187	11.9
SY Amity	56.1	198	12.6
Rockway	52.5	185	11.8
Gretchen	55.3	195	12.4

**Department of Agriculture, Food and the Marine (DAFM) harvest trials 2022. Large variations in TGW are common, so check seed bag before sowing.*

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/ha plus Defy 4.0L/ha; Stallion 3.0L/ha; and, Chanon/Emerger 2.5L/ha plus Defy 2.5L/ha.

Spring barley

Consult the 2023 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 (Table 1). Be realistic about establishment percentage and adjust seed rate for soil conditions.

Teagasc tillage podcast

For all the latest tillage news, the Teagasc tillage podcast is available on the Teagasc website, Apple Podcasts, Spotify or through the QR code here.

