

TILLAGE

December 2021

Crop management

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Above normal temperatures in most areas during the month of November have resulted in cereal crops continuing to grow quite rapidly and they are dense and more forward than would normally be the case at this time of year. We have seen this before and when crops are this advanced in mild conditions diseases start to appear. This year net blotch is evident in many barley crops and this will have to be closely monitored during the early spring. A few years ago we saw crops that had fairly high levels of mildew in December and January, and while some growers sprayed fungicides in January others didn't, simply because treatment at this time of year or early in the new year will not pay as these leaves will not contribute to yield. Continue to monitor crops for pest damage such as slugs but again in most cases there are enough tillers and leaves to survive most attacks. Oilseed rape crops are also very forward and in many cases are quite tall, this should help to ensure that pigeon grazing should be limited,



Many OSR crops are very advanced.

but where they start to graze every effort must be made over the coming months to scare them off as they will remove valuable nitrogen (N), which is stored in the leaves. Some crops are still to receive herbicides for weed control, so inspect the crop first and establish how much contact the herbicide will have with the weeds before applying. If the canopy is preventing the herbicide hitting the weeds or soil, there isn't much point in applying it.

Curtailing the impacts of high fertiliser prices



Organic manure can help replace expensive fertilisers.

Fertiliser costs increased in early 2021 but in the last six months, prices have escalated to all-time highs. Nitrogen (N) has doubled in cost due to the limited supply and rising costs of natural gas. Fertilisers are one of the largest costs in cereal crop production and now is a good time to plan to reduce price effects in 2022. The following are a number of steps to consider over the coming weeks:

- 1. Soil analysis** – the Teagasc soils database shows that ~31% of tillage soils are at phosphorus (P) and potassium (K) Index 4. Identify these fields and make savings on P and K applications in 2022. Where soil results are over four years old, re-sample fields over the coming weeks.
- 2. Lime and soil pH** – apply recommended lime rates based on recent soil analysis. This is the first step to increasing the availability of soil nutrients and increasing the utilisation of applied N, P and K as either organic or chemical fertilisers.
- 3. Organic manures** – where organic manure supplies are available they will replace expensive fertilisers and are a cost-effective source of N, P and K. To maximise the recovery of N from high N manures (pig and poultry) it is important to apply and incorporate within three to six hours of application. Ideally, test manures in advance of application to know their nutrient values and adjust application rates to supply ~50% of the crop's P and K requirements. For example, an application of 25m³/ha of pig slurry (2,200gals/ac) can supply 52kg N, 20kg P and 50kg K/ha, which is ~30% of N and ~50% of P and K requirements for a crop of spring barley. Now is a good time to look at local sources of organic fertilisers and plan for spring crop utilisation.
- 4. Straw incorporation** – straw contains approximately 10% and 50% of total crop P and K, respectively. For example, the straw from a 10t/ha grain crop of winter wheat will return ~4kg P and 50kg K/ha. This offers significant savings of ~€80/ha in fields

where straw was chopped.

5. **Beans and peas** – where N-fixing crops are grown in a rotation the following crop's N requirements are reduced, as they fix atmospheric N thus increasing soil N supply. Cereals grown after legume crops have an up to 30kg N/ha lower N requirement, which reduces N costs by ~€75/ha.
6. **Urea v CAN** – further savings can be made by selecting urea (46% N) over CAN (27% N). At present urea is up to 20% cheaper than CAN. Save €20/ha on every 100kg N/ha applied. Urea can be more difficult to spread but with good particle size distribution, a good spreader and accurate setting of the spreader, good spreading can be achieved across a range of even bout widths. Urea can also be subject to ammonia loss, which is increased by rising temperature and under drying conditions.
7. **Combine drilling P** – at sowing time, placing P fertiliser with seed will increase the

efficiency of applied P. Research evaluating P fertiliser application methods for spring barley clearly shows the importance of delivering P fertiliser close to the germinating seed on low-fertility soils (Index 1 and 2).

8. **Grow crops with lower N requirements** – grow crops where possible with lower crop N requirements such as beans/peas, spring barley or spring oats depending on crop rotations and market requirements
9. **Economic optimum N rates** – with N fertiliser price increasing threefold, adjusting N rates will be required to maximise the return on investment. Contact your local advisor to discuss economic optimum rates for the soils and crops on your farm.
10. **Complete farm fertiliser plan** – contact your local advisor now to update your farm fertiliser plan to put in place a strategy for lime, organic fertilisers and fertiliser requirements for 2022.

HEALTH & SAFETY



Prevent fire deaths in the farm home

Irish research has shown that farmers and agricultural workers account for 20% of all fire deaths. Almost all fires occur in dwelling houses. This level is proportionately higher than other sectors. Contributory factors include smoking, high alcohol consumption, plugged-in or faulty electrical devices, open fires, frying or chip pans, and a small number of fires are linked to candles.

Give preventing fires in your home and on your



Fit and test smoke detectors.

farm your attention over the coming months.

Fire safety advice is available at:

<http://firesafetyweek.ie/>. Farm workplace

deaths have declined so far in 2021, with seven occurring to November 4 (Health and Safety Authority provisional data). While the decline is welcome, one

death is one too many. Analysis of farm fatal

injury trends indicates that they can occur at

any time, but particularly during busy

periods. Are there any changes that you

need to make to prevent an injury?

Signpost Programme

The Teagasc Signpost farms will focus on practices to reduce emissions and nutrient losses, understand and improve soil carbon, while enhancing biodiversity and water quality. There are six tillage farmers who have signed up for the programme and this month's profiles are of Don Somers and Vincent Macken.

Don Somers



Don is a tillage farmer from Monroe, Enniscorthy, Co. Wexford who farms collaboratively with his uncle James Somers. Crops grown on the farm include winter and spring cereals in a rotation with winter oilseed rape and spring beans.

The establishment system on the farm is predominantly non inversion with a tined cultivator. One of the main focus points on the farm is soil health and sustainability. To address these issues a number of measures are being implemented, including the implementation of a detailed liming and fertiliser plan, the importation of farmyard manure, the importation of dairy sludge, straw incorporation and drilling cover crops on all fields that will be spring cropped. There is also three years of yield maps on the farm. These will be utilised to have a more targeted soil sampling approach and fertiliser input strategies in the future.



Vincent Macken

Vincent is a tillage farmer from Brownstown, Navan, Co. Meath. Vincent farms owned and rented land. He also farms collaboratively with a neighbour, sharing both machinery and labour. He carries out some hire work too. Crops grown on the farm include winter and spring cereals, winter oilseed rape and spring beans. Crops are largely established via min-till using various different implements; however, ploughing is carried out in certain situations and years. Vincent's philosophy is to move the soil as little as possible. Green Low-carbon Agri-environment Scheme (GLAS) and non-GLAS cover crops have been planted for the past five plus years, mainly as soil conditioners. Straw is chopped and incorporated in certain instances and years but there is also a good market for straw in the area, so the majority is baled. Vincent is interested in using less total fertiliser nitrogen (N). Some liquid N has been used recently (depot nearby) especially on headlands to avoid unnecessary application beyond the crop boundary. Also, early drilling of oilseed rape this year has allowed uptake of more soil residual N over the winter period. A more tailored use of aphicides has been employed in recent years backed up by on-farm tramline experiments.

To see more details on the Signpost Programme visit:

<https://www.teagasc.ie/environment/climate-change--air-quality/signpost-programme/>.