Using eProfit Monitor to make cropping decisions this spring

Assess your crops now if you had rough weather conditions during planting

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Autumn 2019 was one to forget for tillage farmers. Wet conditions resulted in a 50% fall in winter cereal plantings compared with autumn 2018. The consequences didn't end with the reduced area, because many of the crops were sown into less than ideal seedbeds, resulting in poor establishment and slug damage.

A survey of winter cereal growers by Teagasc advisors last autumn indicated that only half of the previous year's winter cereal area was planted by early November. There is a wide variation across the country, with up to 80% planted in parts of the south to less than 30% in parts of the north-east.

The default cropping option in such situations has been spring barley, but all options should be considered. Long-term benefits of rotational crops like beans should also be examined, but pay attention to local markets. Before spring cropping plans are made, carefully assess your winter crops.

Winter crop assessment

A good look at your crop stands will establish the management required this spring and, in some cases, whether a crop needs to be replanted. The key crop assessment tool is plant count. For winter wheat and barley, the ideal target is to have 250-300

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plants after the winter, (higher end for barley). Hybrid barley can produce a high yield from 175-200 plants.

Wheat can compensate for plant counts, with as low as 100 plants/m² generating full yield, provided the plants are evenly distributed. Winter barley yield potential is compromised once plant count drops below 250 plants/m².

Managing winter wheat and winter barley crops with low plant populations

•**Nitrogen:** Crops with low plant counts (wheat < 150 plants/m² or barley < 200 plants/m²) should get the first split of nitrogen as soon as growth commences. This should be followed by the main nitrogen split at growth stage 30-31. To reduce nitrogen losses, divide the first split on these thin crops. Nitrogen demand is low at this time of year, so feed thin crops little and often.

•**Canopy structure:** K2/Chlormequat (CCC) may help promotion and survival of tillers, but the response is not always clear. Apply 1.0l/ha CCC 750g/l at tillering, ideally after nitrogen application and during a period of growth.

•**Remove the competition**: Take the first opportunity to complete weed control to remove competing weeds.

•**Crop nutrition:** Ensure that crop nutrition is corrected based on recent soil test results, especially Phosphate (P), Potassium (K) and Manganese (Mn).

Spring sowing of winter wheat varieties

All winter wheat varieties are safe to sow until mid-February, but only faster developing varieties are suitable for late February. Do not sow in March. Establishment percentage can be as low as 65%, so seed rates need to be increased to compensate. Target establishment of 300 seeds could mean seed rates of 235kg/ha (15 st/ac) or higher, depending on Thousand Grain Weight.

Teagasc research carried out in the 2000s showed that yields of winter varieties are similar to spring wheat when sown up to mid-February, but drop off thereafter. Some growers in the south of the country have achieved better yields from winter wheat, but winter varieties sown in the spring will have a later harvest date.

Any crop sown after December 31 is regarded as a spring crop for Basic Payment Scheme (BPS) purposes, regardless of variety.

TIP

- To measure plant stands, use a 0.2m² hoop.
- Construct a 0.2m² hoop by connecting/looping 158cm of stiff wire or 12mm 'Wavin' pipe.
- To get the numbers per m², count the plants inside the hoop and multiply the number by five.
- To assess plant populations, walk the entire field in a W pattern, taking random samples.
- Average all samples to give an overall plant stand for the field.
- Take note of areas where populations are lower or higher than the average, as these areas may require specific management.

Table 1: Speed of development of winter wheat varieties (Source DAFM)

Speed of Development		
Fast	**Medium**	**Slow**
Cellule	JB Diego	KWS Conros
	Bennington	Costello
	Torp	
	Graham	

Spring cropping decisions

Profit monitors (ePM) from your farm are invaluable when attempting to predict the likely outcome of cropping decisions. Elaine Clifford, a tillage advisor based in Midleton, has completed over 50 eProfit monitors per annum for her clients from 2016-2018 and is using this information to advise farmers on the most profitable crops for their farms.

Based on the ePM results 2016-2018 (Table 2), winter wheat and winter barley have been the most profitable crops during this period, so the reduced area of winter cereals for the 2020 harvest could lead to a loss of income for tillage farmers in East Cork.

Alternatives

While spring feed barley is usually the default crop for growers, there are increased opportunities to grow malting barley this season, with attractive forward prices available for a proportion of the crop.

The average profitability from spring malting barley between 2016 and 2018 is marginally less than feed barley. This is due to the fact that where a crop of barley was grown as malting barley in the ePM, all the returns are entered under this category, regardless of whether it was sold as malt or feed. Rejections will reduce output and consequently the net margin. Initial results from the 2019 ePM indicate a reversal in this trend, due to the low level of rejections.

Spring beans have the lowest margin over the three years, where the drought in 2018 had a major impact, with many crops struggling to achieve 2.5t/ha. It's noteworthy from the ePM analysis that the most profitable growers are those with break crops like beans in the rotation. The break crop facilitates more profitable crops like winter wheat, so a multi-year perspective is needed. In addition, remember that the protein payment is available for 2020.

Table 2: Cork East average ePM yield and net profit 2016-2018

	Winter Wheat	Winter Barley	Spring Malting Barley	Spring Feed Barley	Spring Oats	Spring Wheat	Spring Beans
Av. yield t/ha	10.65	9.12	7.61	7.47	7.45	7.9	5.5
*Net Profit €/ha	973	760	629	651	607	562	457

*Note: for crop comparisons net profit excludes land rent and BPS but includes protein payment for beans.