

TILLAGE

February 2023

Beans

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The new Protein Payment Scheme 2023, which has an increased budget of €7m, will make beans and other protein crops much more attractive to tillage farmers this year. In 2022, approximately 11,000ha of protein crops were grown. This year it is hoped to increase this to somewhere near 14,000ha, which would give a payment of €500 per ha. When this is added into the margins in the recently published Teagasc Costs and Returns booklet, we can see that at target yields beans compare very favourably with other combinable crops (**Table 1**). The Costs and Returns booklet is available at: <https://www.teagasc.ie/publications/>. When you compare the potential gross margins from all the crops, only winter oilseed rape

(WOSR) performs better than beans. Malting barley is the next best.

The performance of beans has been variable on many farms over the last few years but some farms seem to get consistently good yields. Beans like moisture-retentive soils or soils that don't dry out during the spring or summer. Soils that are drought prone rarely perform well unless we get a damp summer. In lighter soils, peas can often perform better, but they are risky to harvest. Beans perform well where the soil indices for phosphorus (P) and potassium (K) are high. Trials from Oak Park have clearly shown that where beans are sown in index 1 or 2 soils for P and K, they never yield as well as those sown in index 3

Table 1: 2023 Teagasc gross margin per ha at target yields (€/ha).

Crop	Winter wheat	Winter barley	Spring barley	Malting	Winter oats	WOSR	Beans	Peas
Gross margin at target yields	690	626	501	706	558	828	768	755

soils, regardless of how much fertiliser is used. Ideally, beans should only be drilled in the same field every five to six years, and from a disease point of view, the longer between crops the better. Plan to drill as early as conditions allow; however, soil conditions are as important as planting date, especially if you are using a direct drill or min-till system. Drilling into wet soils can

reduce root development and nutrient uptake. Aim to establish 30 plants/m² and try to complete drilling by early to mid March, as beans don't perform well when planted late in the season, i.e., in April. Remember, later planting also results in later harvesting, which can cause a number of problems, such as increased moisture and reduced quality.

Winter cereal crops

Now is the time to assess your winter crops to see how they have emerged from the winter. Many have escaped the worst of the heavy rains last autumn and are relatively unscathed, while others have lower plant numbers or bare patches. Critical decisions will have to be made before you order seed and fertiliser for the spring, given the cost of inputs this year relative to grain prices. Some areas within fields may have to be either redrilled or left fallow. Economics rather than pride need to be the main driver of the decision-making. **Table 2** shows the break-even yield, i.e., the yield needed to cover variable costs for different crops this year, and this should be used to guide your decisions. Don't forget that where crops are redrilled, the costs that have already been incurred (e.g., seed and cultivation) need to be included in the calculations. Where winter barley crops are thin or have low tiller numbers, have a compound fertiliser ready to apply by late February if conditions



Some winter crops have poor establishment.

allow; this will help tiller survival. Remember though, there is no point in applying fertilisers if there is no growth or crops are waterlogged. There is no panic in applying fertiliser to wheat or oats yet. For those few winter barley crops that still haven't received a herbicide, grass weed control will now be very difficult, as most crops will be past the final application date for winter herbicides. The only options for these are spring herbicides, which work best in warm conditions. However, be aware that where oilseed rape is due to follow the winter barley,

Table 2: Predicted break-even yield for cereal crops 2023.

Crop	Winter wheat	Spring wheat	Winter barley	Spring barley	Malting	Winter oats	Spring oats
Break-even yield (t/ha)	9.2	7.5	8.6	6.9	5.8	7.6	7.1
Break-even yield (t/ac)	3.7	3.0	3.5	2.8	2.3	3.1	2.9

you need to choose a herbicide that will not have a residual effect, especially if you are in a direct drill situation. Read labels carefully. In wheat, there are still options for grass weed control such as Alister Flex, Pacifica Plus, Broadway Star or Monolith. Chose whichever option best suits your situation as each

product has its own strengths and weaknesses. Winter oat crops for the most part have had no herbicides applied yet, so again spring cereal herbicides will be the choice. Again, check labels for products that are approved for oats and use them when conditions are suitable.

Winter oilseed rape

Many oilseed rape crops had relatively good canopies before Christmas, but many of these are now smaller and have a lower green area index (GAI). This is due to either the plant growth regulator (PGR) effect, pigeon grazing, or both. All efforts to stop pigeons grazing in the coming weeks need to be deployed or the canopy will be grazed further. The effect of pigeon grazing will determine how much nitrogen (N) is needed for the crop in the coming weeks. Remember that N is stored in the leaves of oilseed rape and when pigeons graze it, they are taking away that N, which is vitally important this year given the price of fertiliser. The size of the canopy can be measured by using the GAI app on your iPhone. On Android smartphones you can use the BASF GAI website. Where crops have a GAI of 1.0, you have approximately the equivalent of 50kg/ha



GAI 1.0.

of N already in the crop. That is worth approximately €150/ha at the current N price. Over the coming weeks, assess your canopy size before deciding on a fertiliser regime. **Table 3** shows the N requirement and strategies at different GAIs. Sulphur is often forgotten when fertilising oilseed rape crops, even though they have a relatively high requirement of 30-35kg/ha. Use N fertilisers that have a relatively high level of

Table 3: N requirement for crops with different GAIs.

Crop GAI	Total N (kg/ha)	Early split (late February or early March)	Main split (mid March)	Seed fill (late March/early April)
2.0	130	0	70kg/ha	60kg/ha
1.5	190	40kg/ha (March)	90kg/ha	60kg/ha
1.0	210	50kg/ha (March)	100kg/ha	60kg/ha
<1.0	225	70kg/ha (February)	120kg/ha	35kg/ha

Note: You can add 30kg/ha for a target yield of 5.0t/ha where farm fertiliser plans allow.

sulphur, e.g., ASN (if available). Apply sulphur in the first two splits if possible. Only a few crops received a fungicide before winter, so it is highly likely that light leaf spot is present in most crops. Take samples of leaves and put them in a plastic bag and then put the bag in a warm room (e.g., a hot press) for 24-48 hours. You should then see the tell-tale

signs of little white salt-like lesions on the leaves. Where you see light leaf spot lesions, use a fungicide containing prothioconazole (e.g., Proline), metconazole (Sirena) or tebuconazole (Fezan) for control. Note that prothioconazole-based products will not have a growth regulator effect, whereas the other two actives will have some level of effect.

Upcoming events

February is a busy month with many events around the country. Our series of spring seminars continues in various locations, while a number of crop walks will also take place during

the month (**Table 4**). These will give advice on the different tasks to be completed on winter crops over the coming weeks. Contact your local Teagasc office for details of these events.

Table 4: Teagasc tillage events in February.

Event	Location	Date	Time
Spring seminar	Mount Wolsey Hotel, Carlow	February 7	7.30pm
Crop walk	Vincent Macken, Brownstown, Navan, Co. Meath	February 8	11.00am
Spring seminar	Teagasc Office, Kells Road, Co. Kilkenny	February 8	7.30pm
Crop walk	Teagasc Oak Park, Co. Carlow	February 14	2.00pm
Crop walk	Wexford (TBC)	February 15	11.00am
Crop walk	DAFM Ballyderown, Co. Cork	February 16	11.00am
Crop walk	Derek Keeling, Oldtown, Co. Dublin	February 16	2.00pm
Crop walk	Teagasc, Kildalton, Piltown, Co. Kilkenny	February 17	11.00am
Spring seminar	Tullamore Court Hotel, Tullamore, Co. Offaly	February 22	8.00pm
Crop walk	Michael Grace, Ovidstown, Donadea, Co. Kildare	February 23	11.00am
Spring seminar	An Grianan Hotel, Burt, Co. Donegal	February 23	8.00pm
Crop walk	Donegal (TBC)	February 24	11.00am

Teagasc tillage podcast

For all the latest tillage news, the Teagasc tillage podcast is available on the Teagasc website, Apple Podcast, Spotify or on the QR code shown.

