

Tillage from Grassland – Spring Barley agronomy

Ploughing grassland to plant a tillage crop is being encouraged in 2022 by the Department of Agriculture Food and Marine with the introduction of the Tillage Incentive Scheme worth €400/ha for qualifying farmers. The incentive is to offset the increased costs in 2022 compared to 2021.

Before considering ploughing land farmers should ensure there is sufficient materials (seed, fert and agrochemicals) before planting the crop. Access to machinery, particularly a combine needs to be thought through very carefully in terms will it be available when needed and are the access points to the field sufficiently wide enough.

Soils and soil fertility

Spring barley prefers a pH 6.5 or greater. Crops will grow poorly in pH 6.3 or less. Consider planting oats at pH lower than this however planting oats from mid-April will push its grain harvest into September. In low pH soils an application of 5.0 t/ha of ground limestone worked in will help pH in the year but will not be sufficient to grow barley where soil pH is very low.

If there is only a grassland soil test available consult with your advisor for the correct lime advice.

A soil index 3 for P and K will deliver high yields but soils are likely to be lower. See the following recommendations for different soil P&K indexes

Soil index	P Kg/ha (units/ac)	K Kg/ha (units/ac)	Recommendation (bags/ac)
1	45(36)	105(85)	445 kg/ha (3.6 X 10 – 10 – 20)
2	35(28)	90(73)	432 kg/ha (3.5 X 12 – 8 – 20)
3	25(20)	75(60)	408 kg/ha (3.3 X 13 – 6 – 20)
4	0	0	-

Where fertility is low (soil index 1 or 2) ideally combine drill the fertiliser with the seed and at a minimum spread the fertiliser to the ploughed ground and work in.

Watch out of Potassium deficiency especially in fields where silage has been repeatedly cut for the last member of years. The plant symptoms will be visible around the two to three leaf stage and will be exacerbated by dry conditions. The visual appearance is white paper like tips to the leaf.

Seeding rate and seedbed

Ideally apply Glyphosate at 3.5L/ha (360 g/L product) the grass and plough 7-10 days later. Turn over the sod so that all grass is covered. Apply lime and fertiliser where necessary before cultivating in and before sowing.

Higher than normal seed rates should be used if pest problems are anticipated or the crop is late sown. A seed rate of 190kg/ha is required to establish 325 seeds/m² for seed with a TGW of 50g and @ 85% establishment.

Ensure to consolidate the seedbed, i.e. ring roll (perhaps twice if conditions are dry) or flat roll (don't flat roll if rain imminent) or use a flat roller after emergence). Good consolidation will help to reduce the impact of pests such as slugs, leatherjackets and wireworm. Good soil consolidation is the only control for wireworm and leatherjackets. Use slug pellets where slugs are a problem (and very limited control of leatherjackets).

Apply nitrogen top dressing as soon as the tramlines are visible. Nitrogen rates will vary depend on the ley ground management before planting

Index 1	Index 2	Index 3	Index 4
Any crop sown as the 5 th or subsequent tillage crop following permanent pasture	Any crop sown as the 3 rd or 4 th tillage crop following permanent pasture. If original permanent pasture was cut only, use index 1	Any crop sown as the 1 st or 2 nd tillage crop following permanent pasture (see also Index 4). If original permanent pasture was cut only, use index 2	Any crop sown as the 1 st or 2 nd tillage crop following very good permanent pasture which was grazed only
Total Nitrogen rate kg/ha – spring barley			
135	100	75	40

Spraying application through the season

Spring barley will require approximately three passes of a sprayer for optimum yield.

Application 1 <i>+Additions</i> <i>Growth stage</i>	Herbicide – Weeds <i>+Aphids*</i> <i>+Trace Elements</i> GS 14
Application 2 <i>Target</i> <i>+Additions</i> <i>Growth stage</i>	Fungicide: For <i>Rhyncho</i> , <i>Net blotch</i> , <i>Mildew</i> <i>+Trace Elements</i> GS 29
Application 3 <i>Target</i> <i>Growth stage</i>	Fungicide For <i>Rhyncho</i> , <i>Net blotch</i> , <i>Ramularia</i> , <i>Mildew</i> GS 37 -49 <i>(early awn emergence)</i>

* Aphicide only needed where crops are emerging after mid April.

Please consult your advisor/agronomist for more details on the exact timing and product types to use.