Trust in Tillage

SUPPORTING SUSTAINABLE FARMING

HARVEST REVIEW

PART 1

INSIDE THIS ISSUE

ISSUE4 - SEPTEMBER 2022

www.dairygoldagri.ie

dairygold
Golden Valleys, Growing Naturally
AGRI BUSINESS

Dear Grower,

We have had a fine harvest in most cases, good crops, great weather to save it and the likelihood of favorable prices; that's near perfect and for a second consecutive year. Some would say the gamble paid off and that's one way of describing it as it is a gamble in many respects from start to finish. We set out every September on our journey, with no idea of the challenges that lay ahead but always full of hope and optimism of a successful ending. In recent years we have encountered COVID-19, poor prices, climate issues and concerns, new and restricting legislation and now the awful conflict in Eastern Europe; all major issues in their own right, yet we have come through them, maybe a bit bruised at times but survived. However, the industry is now facing into a new year, the likes that we haven't experienced before, with massively inflated fertilizer prices, indeed all inputs will be significantly higher, the threat of recession is looming with market futures on or just above breakeven in some cases. This is a serious situation and deserves to be treated accordingly. In this issue of *Trust in Tillage* we have tried to discuss and develop some of these issues, all in a way to get the grower thinking and adapting some of the ideas to their own farm; to underwrite and secure your business. I think that if I was to advice anything to growers for the coming season it would be simply; *"Manage and reduce your exposure by reducing risk at all times"*. The stakes are high, be prepared to make prudent decisions around crop choices and future sales when the opportunity arises. Know your costs, never more important; complete proper nutrient management plans as there well may be savings to be made, understand the changes in CAP that are starting from Jan 23 as these will affect all in a significant way; if possible, apply and participate in any schemes or opportunities that will support your new reducing Basic Income Support Scheme BISS, as a lot of growers are going to see significant fall off from their now old Farm Support Payments under convergence transition.

Tillage farming has become a complex business and we need to adapt and understand the consequences as all our businesses are now heavily dictated by decisions involving climate and energy costs, most of which are outside our control, but still impact us hugely. It is important to be aware of the risks presented as weigh heavily on all stakeholders within our industry. These include supply merchants, provender mills, banks, machinery providers and fuel suppliers; all are equally exposed, the difference now is that the stakes are much higher for all involved. I have no doubt we will get through the forthcoming year, but I am asking you all to be conscious and acutely aware of the exposure which the industry faces right now. 2023 is not a year for taking risks as the collateral damage could be significant for all involved.

In this edition of Trust in Tillage we look back at the 2022 season as there were many valuable learnings. In early October, we will publish a supplementary technical edition with a focus on planning for 2023 and the challenges that lay ahead.

Wishing you all a successful season ahead, we are all in it together, all relying on each other in many ways; we will weather the storms ahead with careful and prudent management.

Liam Leahy

Liam Leahy I.A.S.I.S.
DAIRYGOLD TILLAGE & BEEF AREA MANAGER

CONTACT
Trust in Tillage
086 2441370 lleahy@dairygold.ie
www.dairygoldagri.ie

dairygold
Golden Valleys, Growing Naturally
AGRI BUSINESS

WELCOME TO

Trust in Tillage

DAIRYGOLD'S AGRONOMY BULLETIN

TABLE OF CONTENTS

Edited by **Mary Deane**

A View from the Field

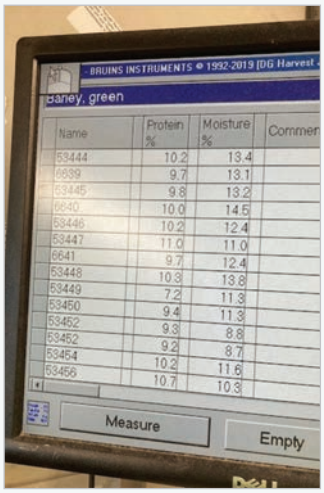
15/09/22

By **Liam Leahy** I.A.S.I.S. Dairygold Tillage & Beef Business Manager

It's rarely you get all three elements; price, yield and most importantly weather, all come good together, but then when you get two consecutive years it just adds to the rarity. It's been truly remarkable, a pleasure in every sense of the word. When you can plan a full week's work ahead, including that of harvesting, with a reasonable degree of certainty, knowing that there's no rush or panic and quality will hold up, it makes the harvest operations both pleasurable and rewarding for all involved. Both people and machines are under less pressure, you can adjust your working days to suit situations with great confidence and for contractors the phone isn't blaring with pleading calls for immediate harvesting. That was this season again, like 2021, maybe even easier in some respects. The harvest intakes did come under severe pressure at times, especially the period around 7 to 14 of Aug as deliveries poured into the silos with large yields from high output machinery; but they stood up to the challenge as were well prepared and expecting such a delivery pattern as it mirrored the Spring planting season; compact and high output machinery that just adds to the situation.

It's all saved now, dried, sorted and stored up; excellent quality with grains that will deliver both quality feeds and malting barley over the next twelve months. These stores will be monitored carefully in the interim as the aim now is to make sure that all stores are kept stable in temperatures and fans will be used to control a movement, up and down during the winter. It's also important to point out that despite what some think, very dry low moisture grains received at the silos needs as much care as any other years as they must be cleaned, any green grains dried down with a quick pass through the driers and then most important this year cooled down to the correct storing temperature, all in a very controlled and measured way.

Quality Spring Malting Barley at 13% moisture // Still green grains that need to be dried down



2 hours intake data on 11 Aug 22

The harvest started for Dairygold on 7 July, another record, with Winter Barley in the Tipperary region and followed by Mogeely 3 days after along with Minane Bridge. There was a marked difference in the quality at this early stage which we thought might level off after a few days, but not so and reality started to prevail. The yields from Tipperary were good, near usual I would think and quality accordingly, as the harvest went into full swing there; South Cork was having a poor start with both yields and quality disappointing. This we flagged in our July edition of Trust in Tillage, as we were very concerned with the level of BYDV evident in the Winter Barley crops and the damage that it was likely to do; we were proven right unfortunately, and yields were hit by up to 1 ton per acre in most cases and up to 2 ton where the virus was particularly severe on early planted crops.

However, as the autopsy commenced it became evident that there was equally a damaging issue with take-all present in a lot of crops and just adding to the disappointment as this can be a very

robbing disease to winter barley when it strikes in a particular year. It's fair to assume that Take-all is often present in the "graveyard slot" that is where winter barley is grown, second to forth crop after a break; but usually avoids the real problems that it can cause as its shorter growing pattern avoids the high infection period. This year crops were planted a little earlier as the weather was temping at that time, the winter was very mild thereafter and a-kind to the take-all soil fungus development right across the winter that caused damage to the developing root structures of the growing plant and then the perfect storm in so far as the weather was very dry with low water tables at the critical timing of grain fill and the infected barley plant hadn't a root structure to follow the receding moisture down deep into the soil. It was especially obvious in lighter earlier ground that would be more vulnerable in any case in a dry year, but this just compounded the problem I feel. The Winter barley yields in the Tipperary area were a very healthy 3.7 to 4.4 t / ac while in the southern Dairygold area ranged from 1,8 to 3.4 T / ac with exceptions above this. Mid / North Cork was also compromised, near like the South when would have expected different but there the facts.

As the winter barley crop ended, **Winter Oats** came next for harvesting. Our first deliveries were received from the Buttevant area in North Cork on July 15th, of very high-quality oats, with KPH of up to 57 at moisture of 18%. As per normal the oats were ripe, suspended on strong semi-green straws that slowed down fieldwork. However, the weather was good, a little bit of time on hand, as between crops, and growers proceeded slowly and patently delivering solid yields of high quality well coloured oatlets. There were no disease issues in this crop all year and very simple to manage agronomically. Most growers applied ~140 units N / acre, PGR worked very well as the weather was supportive to their activity, resulting in near 100% standing crops which is a huge advantage when harvesting oats. The area this year was slightly up on other years as growers hunted rotation, a good practice in my opinion. Again, as I've said in previous publications, Dairygold has no issues handling oats as they view and use them as a valuable ingredient in their feed mill. Most Winter Oats crops yield 3.5 to 4.25 with an average of ~3.7 while spring oats, just finished in recent days producing a healthy average yield of ~ 3.4 tons, excellent on all fronts.

Our first delivery of **Oilseed Rape** was received in Mogeely on 19 July, timely for this crop as was a little later last year to get going. From a very early stage, it was evident that we were having a strong harvest with yield reports of 2 ton / ac plus from early deliveries. Combine Harvester drivers commented that while the moistures were perfect at 8-11%, progress was slow as the crops were still a little green and tough. I always find these drivers are a great source of quality information on crop performances and issues as they see it all and give you a balanced and unbiased opinion. From 25 July on, we had a strong supply of seeds with the harvest near finished on ~10 Aug. The crops were very upright this year as varieties and agronomy improves. Cyrax has made a big difference it seems, but also other new traits such as TuYV and pod shatter resistance / tolerance, along with better disease control and general agronomy. It will prove to be a star performer for growers again this year after a very successful 2021 season also and has gained some new growers already for the coming season.

Winter OSR stubbles // Always check for SCLEROTINIA presence in the premature dead stems.

Harvesting OSR July 22

Spring Oilseed Rape was harvested in recent days and yielded a respectable 1.2 tons per acre. It's an interesting crop that needs a little luck to

maximize its potential, and I feel it got it this year. The idea with this crop is to plant it at a time when it will establish rapidly, outcompeting any weeds and growing into a completed and harvested crop in 18 weeks, a very short time for a crop in the northern hemisphere. This year it done exactly that, as the weather for such growth was ideal. It's a crop that's planted at a relativity high seeding rate, as it's important that its kept thick as this will reduce losses from crop shattering as its harvested at a time of expected changeable weather, often late in the season; but also thick crops keep the seed produce plant head very proud from the stems allowing the harvester to cut the crop at a very high level reducing the necessity for the stems to dry out to allow harvesting as they can be topped at a later stage; an art in its own where experienced growers become masters of the art.

Spring OSR – Ready to harvest

Spring OSR // Thick crop which is ideal when harvesting

First crops for 2023 harvest were planted into near dust-bowl seed beds on 24 Aug, perfect timing and now awaiting a little moisture to kick start them into life. Some growers have elected to hold off herbicide application for a while (now September 1st) as the soils are too dry to maximize its effect and protection going forward; that's ok as there are options over the coming weeks to get this application completed but please get advice from one of our field agronomists before application as product choice, rates and timings change very quickly in such cases as OSR is a very sensitive crop at the early emerging stages.

All crops were rolled to improve seed to soil contact while also helping to preserve moisture. Monitor slugs and fell beetle very carefully over the critical emerging stage as it will be growing very slowly in these dry conditions and that makes it a little more vulnerable to pest damage. I always find once you get OSR to the 2-4 True Leaf Stage, its safe then with the high-risk period abating. There were several different varieties planted, all well tested and approved, hybrids by choice at seeding rates of 40 to 50 seeds per square meter with view to establishing 35/40 plants next Spring. This is plenty, even a little less would do if you were brave enough but there is always a risk that pest can thin these brassica type crops early in the winter.

Winter Oilseed Rape seed ready for planting on 24 Aug 22

We received our first **Winter Wheat** on 28 July and harvest completed by 20 Aug with some late crop received along with a small tonnage of Spring Wheat. The winter crop has been a big yielding crop this year, with regular reports of 5 ton been achieved. There was a concern as to what damage that BYDV brought onto this crop this year as the early crops were quiet badly marked and a significant number of empty ears with lots of sooty mould visible at harvest. These crops seemed to have yield reasonable it seems, but I question how well. Yes, maybe they delivered 4.25-4.5 tons per acre but were they 5-ton crops; I think they were, and we did

suffer but not as noticeable as we were higher up the ladder and accept less a little easier. Disease was well control during the year with a great arsenal of PPP, being applied very correctly and astutely by well-informed growers. There were no reports of lodging, again with PGR working very well during the past season. Growers did increase nitrogen application rates as the season move forward and they were right to do so as market prices were improving which improved the BER and crops were showing real potential. This is real professional tillage farming and again shouldn't go unnoticed as its important to remember that nitrogen is being applied in a measured a proactive way, all good farming, and responsible actions. Yields ranged from 3.75 to 5.2 Ton / ac with an average of 4.4 t / ac at 16% Mst and 76PKH, real quality grains.

Winter Wheat busting with potential

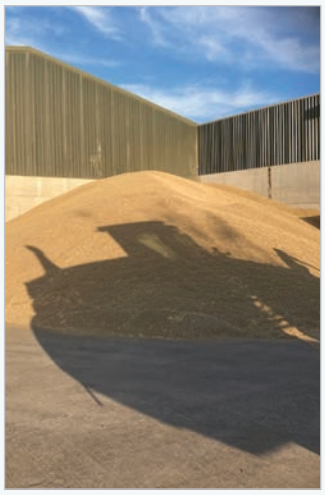
Spring Wheat is now completed also, an up and down crop as it always is. The moistures were a little high coming in, 18 to 24% as growers worked on tidying up the harvest while the fine weather lasted. Again, I think they were right as a weather event at that stage of the harvest can rob spring wheat of .5 t / ac very quickly, along with quality which was ideal this year. Yields 2.75 – 4 ton, avg 3.3 t/ac at 20% Mst and 72 PKH

A lot of straw was chopped as often part of the SIS which was wise and even some land outside the scheme was incorporated also as now of little value except to the soil where it will reward the farmer in years to come, but that will take a while to become obvious. Stubbles are now grubbed up to encouraging any nasty weeds to germinate across the winter and will be killed off in due course depending on rotation plans.

No, he is not on fire! Chopping Straw in blistering hot weather

Winter Rye is a relatively new crop on the scene, growing a little every year as it finds a place both on tillage farms as part of a rotation and in livestock farms as a valuable source of winter forage, displacing maize on some cases. It is getting even more attention this year as a possible alternative to winter barley in the graveyard slot as its largely tolerant to take-all but not a break crop which is important to understand. It can also offer you the opportunity to extend your rotation as is an EARLY autumn planted crop, hybrid technology, has high yielding capacity in both grain and straw, low inputs in both nitrogen and PPP, ideal in many ways for the envoirment that we are working in today. Care needs to be taken with its place in the rotation as volunteers need to be managed in a specific way as can become troublesome to succeeding crops if not controlled proactively. This year's crops yield a healthy 4-4.5 tons / ac, harvested from 6 Aug on, which is early for the crop as often clashes with spring barley harvest, stood very well as mostly grown by experienced growers who pay a lot of attention to the PGR programs. It's a crop that

deserves more attention I feel and maybe an area should be considered by the bigger growers as a means of extending their planting and harvesting season, trying an alternative to winter barley and simply growing a cost that cost less to grow, worth a look in my opinion.



Rye Heaped on 22 Aug 22

"A fist fill of Rye"

Spring Barley has been another real success story this year with strong yields, great quality and all harvested in ideal conditions. Some moistures that we received were very low and in truth a loss to the grower, but the weather dictated these events and we simple roll along with it. It's always worth remembering the past harvests, when we prayed and wished for dry weather as we stood outside the gate, looking at crops breaking down, loosing KPH, sprouting and fusarium threatening to fail their malting ability and not a lot we could do in such cases either. Our first Spring Barley delivery was on 22 July and very quickly developed into a steady stream to a near flood by 8 August with all systems tested to the maximum. Quality from day 1 was excellent and never deviated right through the harvest. There were no issues with the crops as most ripen in very quickly, no real effect from the abnormal dry weather with yields ranging from 3 to 4 tons, all passing for malting with ease. From the day spring barley was planted this year, it looked a picture and got no real setback right across the season. Yes, there was disease issues at times, but we have real strong PPP that dealt with this very quickly and efficiently; there were some thin crops, possibly related to nutrition or/ph. but they seem to have compensated to a reasonable degree also; there was a level of virus across many crops but again at levels that weren't damaging just a little concerning maybe. Most straw was saved but there was some chopping completed also as some growers elected to start their journeys on improving soil organic matter and biodiversity in their quest to improve the soils own ability to deliver yield and produce. The average Yield for the 2022 harvest will come in at ~3.15 t/ ac across all acres in my opinion, similar enough to 2021, but at very low moistures, often reducing adjusted yields by as much as .4 t / ac.

Another delivery of "golden Malting Barley" 11 Aug 22

Most growers have now either grubbed / disced their required stubble grounds as per the Nitrate Directive after the confusing messages were finally deciphered. It's a pity that this couldn't have been made clearer earlier on as mistakes were made by

many growers as they (and me) struggled to get our heads around it. Many choose to include cover crops with the pass, without any requirement to do so, which is a true sign of the tillage farmers commitment to improving our climate and water quality as they go about their work; let's hope that this is noticed by the people that really matter in such cases rather than an inspector who will challenge a shortfall in areas or cropping programs when it comes to the inspections that are required to validate these new environmental regulations.

Spring Protein Beans started to arrive at the intakes from 11 August despite an acreage of **Winter Beans** till growing. They looked very well through the summer but beans being beans yields are all over the place. Disease was well controlled during the year with no real issues, where well timed pro-active applications were made. Harvest was very early with yield ranging from 1.75 to 3.5 with an average of probably 2.4 ton/ acre, for spring beans; that fine as will also be supported with ~ €120 / ac protein support payment later. The winter crops were harvested from 16 Aug on with some strong yields in crops that were evenly established and didn't suffer plant losses to water or birds during the winter; this is a problem of note with beans in general they don't like their feet in the water over a prolonged period and that includes an invisible high-water table that may be lurking in some sites just below the surface. The winter crop and / or any thin crops got dirty enough before harvest as weeds started to grow in the uncompetitive areas that were tinned out or as foliage died back or in place with low plant count. They yielded well, ranging from 2 to 3 tons, probably averaging 2.75 across the total area which is small in any case. It's a crop that I think has a real future in the right free draining sites but needs good agronomy practices. It must also be noted how well beans in general yielded this year, particularly spring beans after growing through one of the driest years on record; but beans will be beans, an unpredictable crop in every sense on the word. It's also important when crop planning for the coming season that beans are likely to receive an increased support payment for the coming season with the funds rising from €3 million to €7 million divided by the planted area with a ceiling of €500 / Ha; that needs serious consideration by growers especially as the crop is a low input crop with no nitrogen applications. Also, the benefit that they bring to the ground is tremendous along with the opportunity to establish a following crop cheaply with a min / zero till operation, often the crop chosen by growers to enter these establishment methods.

Beans ripening in, 10 days to harvest

Main crop **Potatoes** are now desiccated and drying down for harvesting from early October. They have had a difficult year in many fronts, particularly down in the southern part of the country where weather seems to have been dryer which can have a big impact both on yield and skin finish which is very important for the bag trade. Disease has been largely kept under control, where despite the dry weather, growers rarely alter spray programs as the consequences of a disease breakdown can be both expensive and difficult to control. Covid19 has play games with the whole pattern of potato sales as eating habits and events play a growing importance as to the future of this crop. In the early days of C19, there was a big upsurge in home cooking and potato sales, with an equally big fall of in catering / industrial sales as events and gatherings were cancelled. On the return to the "normal" way of life again in recent months, people have dramatically reduced potato purchases, no doubt helped by the

extremely fine weather, with a gradual pickup in manufacturing sales as eventing and out-of-home dining opens again; however, the overall potato market hasn't returned to the old pattern and there is an oversupply developing in the market it seems. Some of the very big growers in the north east have established businesses to remove or use up some of these excesses as it hasn't been the first time for this event to happen as the whole potato market reacts very severely to these occasional oversupplies. These growers have developed new businesses in "Ready Prepared Meals" and "Starch Production" which is taking the whole area of large-scale potato growing to a new level. The real problem is that the more traditional market gardening type grower is becoming increasingly exposed to the financial effect of these changing habits and the green grocers scumming to the larger retail outlets who are often contracted to a single grower at the expense of all others. It's a tuff business for those that are in it and I'd always encourage householders to support the local producer as they are both committed and exposed to the local trade.

Strong sample of Potatoes from test dig.

Potato Harvesting in the Autumn 2021 - FW UK

Vegetable Growers are in dire straight for water right now as I write this. Yes, some can irrigate if water is available, but that now too is an issue. I genuinely fear that this could be the "straw that breaks the camel's back" for some, as crops are now suffering, compensating, even dying off in some cases where exposed to the real effects of the current weather. As I said in former publications, large supermarkets usually have another supply chain on hand to offer fresh vegetables rather than relying on one single native producer as empty shelves are of no use to them and its used as a means of keeping pressure on prices also which will largely prevent the native grower from getting an improved price because of the extreme circumstances. The next few weeks are going to be critical as they review their crops as they recover from the extreme heat and measure what can they salvage both from the fields and for their season. Life is strange and often the "jackal can rise from the smoke", it really needs to happen now for veg growers; god knows they have been through enough in recent years.

Maize has really shown its continental attributes this season as it powers its way through the drought conditions, no problem, bulking into fine crops. In the last few weeks, it has taken on a new value, as stocks of winter forage are now being eaten up as grass growth and supplies come under pressure; all will be wanted now and valued dearly. There is a big change this year to growing the crop in the open, i.e., uncovered, and what a year to revert. Weed control has been very good in such crops,

Broccoli and Table turnip under pressure for water Aug 22 - an irrigated Cabbage crop

but plenty of others with significant weed issues as they struggle to gain the upper hand as growers continuously use the same ground and then under plastic, a recipe for trouble in the long run. For a big proud plant, it hopeless to compete and will have serious yield losses come harvest. The early varieties will be harvest by late September this year, full of promise with impressive cobs already and will make very high-quality forages. All in all, another a success story.

A proud crop of Maize shows off her highlights as she awaits fertilization

Conveso Beet in drought conditions on 14 Aug 22

Beet has been under serious drought pressure for the month of August, recovering now as temp abate and moisture becomes a little bit more available It was a sad sight in places as it lay sprawled across the drills, purely exhausted, and dehydrated. I see this before and it will recover and compensate to a fair degree. I have no doubts that there will be a yield effect but it's a deep-rooted plant and will forage water from the depths and kept ticking over right through. Weed control has been very good this year with a lot of crops just getting 2 applications. Conveso is equally impressive, seems to have handled the drought a little better that the conventional varieties. Most growers have applied a fungicide in early August for leaf diseases and some may be resprayed in late Sept again, especially crops that are ear-marked for late harvesting.

Cover Crops are all planted at this stage after a confusing start where growers weren't sure as to what was the right or required thing to do. Eventually it was sorted out, communicated to the growers but only after a significant amount of shallow cultivating had been completed. A lot of growers had the winter barley ground tilled and, in many cases, included a cover crop which was above and beyond what the directive required. This was applied voluntary by some growers as a means of improving the organic matter and soil structure as in a lot of cases this land is destined for spring cropping and made great sense to include a species that would improve the ground; you were tilling the land in any case, also good and early with a great opportunity of growing a worthwhile cover crop.

Growers are starting to trim back **Hedge Roes and Ditches** in the last few days as the season for such maintenance is now open. The timing is from 1 September to 30 March as this is consider ideal as birds have nested and now mobile. Also, you will get most fresh growth at that timing as like all crops and grasses, the hedges have a lot of their growing done at this stage.

It's also worth considering how bare or severe that you need to cut the ditch, it is an important carbon sink, so maybe alternate between sides and top over 3 years is a good practice to consider; I think that we may well hear more on this over the coming months as the finer details of the environmental package in CAP are agreed.

25 kg Buckwheat and 1.5 kg Phacelia / ha. Planted on 22 July, great strike, 50% of seeding rate would have sufficed.

Ireland's CAP Strategic Plan 2023 - 2027

31/08/22

Direct Payment Schemes from 2023 Onwards

By **Ciara O'Donovan,** Teagasc Tillage Advisor, Midleton, Co. Cork

The purpose of this article is to provide you with a guide as to what to expect in the next round of the Common Agricultural Policy (CAP) reform in Ireland, which will come into effect on 1st January 2023.

The CAP consists of a two pillar structure. Pillar 1 provides income support, and the main schemes under this are the Basic Payment Scheme (BPS) and the Greening scheme. Pillar 2 provides infrastructure, environmental and development support, and consists of schemes such as GLAS and TAMS etc. The CAP has evolved a lot since it was established in 1962 and this time around is no different, with a greater emphasis than ever before on the environment.

Ireland's CAP Strategic Plan (CSP) 2023-2027 was first submitted to the EU Commission on the 31st December 2021, and negotiations have been ongoing during the year. The EU Commission came back to us in mid-April with 35 pages of observations on over 200 elements of the CSP. Ireland made changes to the CSP in response to these observations and resubmitted the CSP on 11th August 2022. As Ireland's CSP has not yet been approved by the EU Commission the detail discussed in this article may be subject to change. Approval of Ireland's CSP is expected in the autumn of 2022.

Direct Payments - Current Situation

To put the detail of the CSP into context, I will first summarise where we are at now in 2022 in relation to direct payments. Currently the pot of money for direct payments is split 70:30 between the BPS and Greening scheme. In the last round of CAP reform the minimum convergence agreed was that, the lowest value entitlement would reach a minimum of €110 or 60% of the average. We currently have a capping on payments, which means that no one can get more than €150,000 on a basic payment, excluding Greening.

Payment Entitlements from 2023 Onwards

The direct payment schemes are all changing in 2023, with different funding allocations under each category. All entitlement values will change in 2023. There will be no new allocation of entitlements, i.e. no "reference years". The number of entitlements stays the same, but the value of each will be adjusted to match the funding ceiling, and the new average value will be in the region of €155-160. Convergence will continue in the next round of CAP and will bring the minimum entitlement value up to about €130 or 85% of the average, by 2026, in equal steps. The current maximum entitlement value of €470 will drop to €285. As was done previously, a statement of entitlements, outlining what your convergence path will be, will issue in early 2023. So all entitlement values will fall into a much tighter range from approx. €130-285 by 2026.

Transfers of Entitlements

Transfers of entitlements will still be possible in the usual ways, i.e. lease, gift, sell, etc., but a couple of changes to clawback rules have been proposed, which is aimed at encouraging those that are not actively farming to sell their entitlements to active farmers. It is proposed to lift the current 20% clawback on entitlements sold without land for 2023 and 2024 only.

Apart from predicting what your income might be next year from direct payments, changes in entitlement values may affect leases that you may be thinking about, whether you are someone who is renting or leasing entitlements in or out. In this regard, it is advisable that, if you are setting up a contract or lease agreement, it should reflect that there will be a stepped change in the value of entitlements from 2023 to 2026. There is an entitlement calculator available on the DAFM website where you can check out your own convergence path, the link to which I have provided at the end of this article.

New terminology – BISS, CRISS, ECO Scheme & CISYF

In the next CAP we will have some new terminology to get used to. The BPS becomes the Basic Income Support Scheme (BISS) and the Greening scheme changes to the ECO scheme. Some existing Greening rules will become mandatory through conditionality. Conditionality, replaces cross compliance, which sets the base line requirements for farmers in receipt of CAP Payments. This consists of Statutory Management Requirements (SMRs) and standards for the maintenance of land in Good Agricultural and Environmental Condition (GAECs).

So looking at CAP Pillar 1 payments going forward: 3% of the current annual budget will be taken to create the fund for young farmers, 10% of the pot is going to CRISS and 25% of what's left is going to the ECO scheme. The remainder goes to BISS. The capping on BISS payments will tighten from €150,000 to €66,000. In terms of convergence, entitlements will converge to within 85% of the average by 2026. Coupled supports like the straw incorporation measure (SIM) and the protein aid scheme are set to continue.

CRISS

There is a new scheme being launched in Ireland called the Complementary Redistributive Income Support for Sustainability (CRISS), which more easily understood as the front loading element, and this will be paid on the first 30 ha of your application. The front loading mechanism CRISS, is funded by taking 10% from every entitlement with the result being that the first 30 ha gets a top up. You don't have to have entitlements to draw this down and it will be worth approx. €44 on each of the first 30 eligible hectares on your application form, meaning the max payment will be approx. €1,300.

ECO Scheme

From 2023 onwards it is mandatory for EU member state to provide for an ECO scheme but it will be an optional annual scheme for farmers. The new ECO Scheme replaces the Greening payment and 25% of the Pillar 1 budget will be ring-fenced to fund this annual scheme. The payment is expected to be somewhere in the order of €63 per eligible hectare. What constitutes an eligible hectare will be amended to allow an increased percentage of beneficial features within a parcel without any deduction in the eligible area. Within the ECO scheme there are 8 measures, some of which can be doubled up on and count as 2 actions. These measures are meant to pay farmers to go beyond conditionality, i.e. baseline requirements.

The list of measures is as follows:

1. Space for Nature (non-productive areas & landscape features)
2. Extensive Livestock Production
3. Limiting Chemical Nitrogen Usage
4. Planting of Native Trees/Hedgerows
5. Use of GPS Controlled Spreader and/or Sprayer
6. Soil Sampling & Appropriate Liming
7. Planting a Break Crop
8. Sowing a Multi Species Sward

Since the most recent CAP reform in 2015, tillage farmers, with >15ha arable area, have been declaring Ecological Focus Areas (EFAs) on 5% of arable land, in order to qualify for the Greening payment. From 2023 onwards, every farmer will have to comply with this requirement, at a rate of 4% under enhanced conditionality rules, i.e. GAEC 9. These EFAs will essentially become space for nature and if you have enough, you may count them as 1 or even 2 measures under the ECO scheme, at 7% or 10% respectively.

CISYF - Generational Renewal

Another change is in the national reserve and the young farmer scheme (YFS). The YFS becomes the Complementary Income Support for Young Farmers (CISYF) and there is a bigger pot of money being allocated to that. It will be mandatory for member states to have a national reserve every year also. The CISYF scheme will be allocated a budget of 3% of the direct payments ceiling, amounting to approx. €35m annually. It will no longer be based on payment entitlements, but on eligible hectares on the application form, to a maximum of 50ha. The top up is estimated to be valued at €160-190, which is significantly higher than the current top up of circa €65. Young farmers that are currently in the YFS, who have only completed 1 or 2 years of the 5 year support period for this measure, can continue seamlessly into the new CISYF scheme.

General Picture

The following tables provide a snapshot of how direct payments will change by the end of 2026 compared to 2022. As stated previously, this is still subject to change as per EU Commission approval.

Table 1 Current minimum & maximum CAP payments in 2022

(€)	Minimum	Average	Maximum
BPS	110	179	472
Greening	48	79	208
Total	158	258	680
30 Ha	4,740	7,740	20,400
50ha	7,900	12,900	34,000

*Table 2. Future minimum & maximum payments at end of convergence path in 2026 (*based on draft CSP Nov '21)*

(€)	Minimum*	Average*	Maximum*
BISS	132 (85%)	160*	285*
CRISS (max 30ha)	44	44	44
Eco	63	63	63
TOTAL (first 30 Ha)	239	267	392
30 ha farm	7,170	8,010	11,760
50ha farm	11,070	12,470	18,720

In conclusion, while it is difficult to summarise all the key changes forthcoming in this CAP reform, as it not yet approved by the EU Commission, it is important to inform yourself and understand how you will be affected going forward. To watch back the DAFM public information webinar on the new CAP held in March 2022 or to check out helpful tools such as the CAP payment calculator, please visit the DAFM webpage **www.gov.ie/cap** for more information.

Harvest 2022 - "A Successful Year for all Involved."

By **Frances Nash** BA (Hons) U.C..C Grain Operations Agri Business

As the end of harvest 2022 is drawing to a close, we look back on what has been an excellent year for our growers. A rocky start for many, winter barley was mixed at best. Yeilds were below average as BYDV took hold. Quality too was mixed and screenings were unusually high, especially in hybrid crops. Thankfully, the spring barley crop was much better for everyone, with record yeilds and sublime quality, this was a very welcome boost for all involved. Wheat, Oats, Beans and Rye all performed very well, and with moistures low, this will add a much welcome quality bonus across all cereal crops, with Dairygold paying €3 per percent under 20% moisture.*

Super weather conditions throughout made it a very favourable harvest. As spring settings were very condenced, coupled with glorius sunshine come harvest, meant much of the total intake wasd delivered in the first 2 weeks of August. While this posed many challenges at intakes across the region, ensuring space for growers to be accommodate, all of the hard work and planning paid off, ensuring everyone was accomodated throuhout the harvsest season. Once again, sincere credit to our branch staff,who worked so hard to ensure that the season ran smoothly and of course to our grower who were patient and understanding in the busier weeks.

As mentioned, quality of all crops was excellent, especially the spring intake. Moistures were low and Hectolitres on average were awesome. While screenings were unusually high in the winter crops, this was cerrtainly not the case throughout. Traditionally as the harvest moves on, we often see a drop in quality, however, this year, it remained stable throughout. It was another a super year for malting barley, with the society reporting its lowest failure rate in history for a second year running. Last year saw a lower than norm protein level, however, this was not the case in 2022, with proteins averageing at 9.6% across the society. The star of the quality table was the hectolitre of Malting Barley, averaging at 70KPH.

This was very much evident in the crop assembled with beautiful full grain, inspite of the moisture being low – a realy sign of super quality. Planet & Gangway were once again the two varieties for malting this year with both holding up well. As always, we continue to monitor the performance of other spring barley varieties with a view of replacing when the time is right. As it stands, however, these two varieties continue to serve us well and this year proved no different.

Oil Seed Rape had an early start this and again performed very well. An average yield of 2/T to the acre certainly put a smile on many faces. For a second year running, oil seed rape has performed very well. Coupled with a high price, this is becoming an increasingly popular crop among many growers and with plantings ongoing the past couple of weeks, appears to be growing in popularity for harvest 2023.

Following last years success,many of our suppliers turned their hand at Rye this year, with our intake double that of last year. We are always looking to broaden our portfolio of irish grown raw materials in our finished feed and are delighted to offer the inclusion of rye in the coming years. Yeilds were partiuclarly good this year, and many fetched 4 ton plus per acre. Rye is a slow maturing crop and this harvest ensured optimum conditions to see the crop reach its full potential.

As the last of the beans are now being harvested, it has proved to be another good year for the protein crop. Winter beans yeilded a little less than hoped, however, much of this was down to the extraordinary warm weather at harvest time. Spring beans, which make up over 85% of the crop planted, were much more favourable, fetching on average, ~2.4 tons to the acre at an average of 17% moisture. Beans are a worthwhile crop for many reasons, many have mastered the agronomy in recent years to allow more consistant yields, coupled with the Government protein payment, and most importantly, the yeild bounce that growers will get in the succeeding crops.

As we close the door on another harvest in Dairygold, we wish to thank our staff at all intakes, drying locations and field agronomists and the laboratory for their hard work and dedication throughout the harvest. We never know what lay ahead of us at any given harvest and our staff continue to prove their knowledge,resiliance and work ethic each year to ensure all of or grain is in, dried, weighed and paid and for that, we thank them most sincerely. Finally, we wish to take this opportunity to thank all of our growers for your continued support and unwavering loyalty to the Co-Op. Thank you for your ongoing custom and we look forward once again to working closely with you as preparations now commence for harvest 2023.

Grain Type	Average Moisture			Average Screenings			Hectolitre		
	2022	2021	2020	2022	2021	2020	2022	2021	2020
Winter Feed Barley	16.9	15.4	18.5	7.0	2.7	1.3	63	65	65
Spring Feed Barley	15.2	18.9	20.2	2.4	1.8	1.6	68	65	62
Malting Barley	15.0	19.0	18.6	1.9	2.0	1.8	70	66	64
Feed Wheat	16.3	18.6	20.0	3.7	2.4	2.4	76	74	72
Oats	17.5	17.5	18.1				53	53	52
Oil Seed Rape	9.7	11.2	10.1	1.4	1.5	1.4			
Feed Beans	17.2	20.0	21.6	1.2	1.8	1.4			

The Importance of Buffers

By **Ciara Donovan**, Sustainability Advisor, Dairygold

Note: What is a buffer?
Generally, when the term 'buffer' is used, it describes the adjacent area to something. When the ter 'buffer' is used in relation to a stream or river, it is described as a Riparian Buffer, though buffers can be used in relation to hedgerows, drains or other areas. Photo below is an example of a riparian buffer recently fence off.

Whether you are motivated by protecting water quality or ensuring that your expensive nutrients remain in your soil and available for uptake by your crops, correct management of your field's 'buffer zone' is a simple and effective tool to achieve both. There is also legislation requiring that no cultivation or application of organic matter, chemical fertilizer and chemical sprays occur within certain buffers zones areas. The recommendations and regulations can sometimes be confusing and difficult to stay up-to-date with. This article aims to explain what the current regulations are, what the current recommendations are and reasoning behind them.

Current Regulations relating to Buffer Zone Protections

- An uncultivated margin of 2m must be maintained along all water bodies for tillage crop.
- Chemical fertiliser not to be applied within 2m of surface waters.
- Organic fertilisers (where used on tillage lands) must not to be applied within:
  - 5m of surface waters (extends to 10m for the first two and last two weeks of the spreading season). Remember the closing period for slurry is the 8th October in 2022!
  - 15m of exposed cavernous or karst features such as swallow holes and exposed rock,
  - 20m of a lake shoreline,
  - 25-200m of a water abstraction point for human consumption.
- Chemical spray application buffer zones from watercourses can vary from product to product. Check the label of the product to see the required buffer zone distance for the chemical being applied.

Why are Buffer Zones Important?

Most pollution of waterbodies occur when excessive and unnatural levels of nutrients enter a waterbody and are taken up by the aquatic plants. These plants then grow at unnatural rates. They photosynthesise during the day, adding very high levels of oxygen to the water, while at night they respire and take large amounts of oxygen out of the water. These huge changes in water oxygen levels cause stress to all other organisms living in the waterbody, generally causing them to move away or die. Buffers can significantly help to prevent losses of nutrients or chemicals to waterbodies.

Preventing P & Sediment losses

If a 2-meter buffer of uncultivated land is left between your crop and a river or stream, naturally it will soon become overgrown with wild vegetation. This vegetation performs a very important job however, it can physically prevent nutrients from being washed off your field (usually being carried within sediment) when for instance heavy rains occur soon after cultivation or where soils are compacted, and water flows quickly over the surface of the land. Phosphorous can easily be lost from soils in this manner and both phosphorus and sediment are polluting to water.

Preventing Nitrogen losses

Nitrogen and potassium are vulnerable to easily being washed out of soils being soluble in water, especially where soils are free-draining. Where water movement passes through the root zone of the vegetation in the buffer area however, the nitrogen and other

polluting nutrients can be taken up by these plants and prevented from reaching the watercourse.

Preventing Chemical Losses

Groundwater and watercourse monitoring continually shows the presence of chemicals such as MCPA, 2,4-D and fluroxypyr in Irish waters. Chemicals such as these can be very detrimental to water quality and pose a risk to human health. MCPA for instance can be harmful to aquatic life even at very tiny concentrations – a single drop of MCPA lost to a stream 1 meter wide and 0.3m deep is enough to breach the legal limit for 30km distance. By having a thick 2 m buffer filled with vegetation, the possibility of spray drift losses or direct losses to water are reduced significantly.

Current Recommendations relating to Buffers

While the current regulations set out minimum requirements for all farmers to abide by, the Agricultural Sustainability Support and Advisory Program (ASSAP), which has been working to improve water quality across the country over the last four years, recommends that each farmer should take a targeted approach to water quality and take into account their own farm's circumstances i.e. consider its soil type and topography and use 'Targeted Buffers'

In relation to making best use of buffers, every farmer should consider where the most likely 'flow pathways' or route for nutrient loss might occur on their farm. For example, in Fig 1 below, in this tillage field a river flows along the western boundary (marked in green). The geology and topography of the plot means that the most likely route that nutrients will be washed off this field is from a north-east to a south-west direction as indicated by the hashed yellow and red colour below. The point at which the nutrient would enter the river from this field is at the two flow delivery points as indicated. If the farmer ensures that there is a well planted buffer between points A and B in this field i.e. he uses a Targeted Buffer here, then the farmer will most effectively protect the river and help to keep sediment and phosphorus on his field to be taken up by his crops.

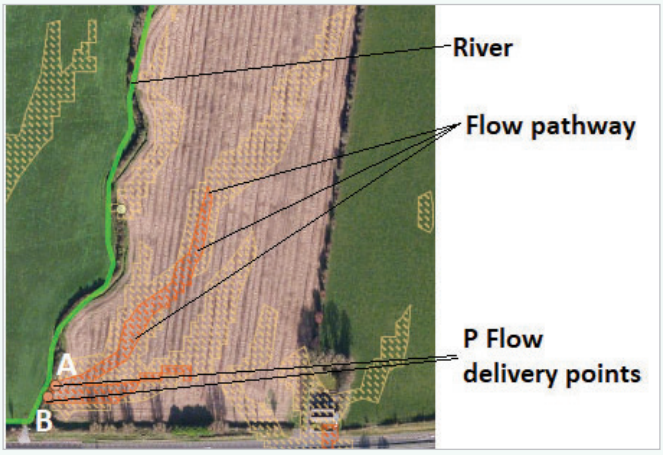
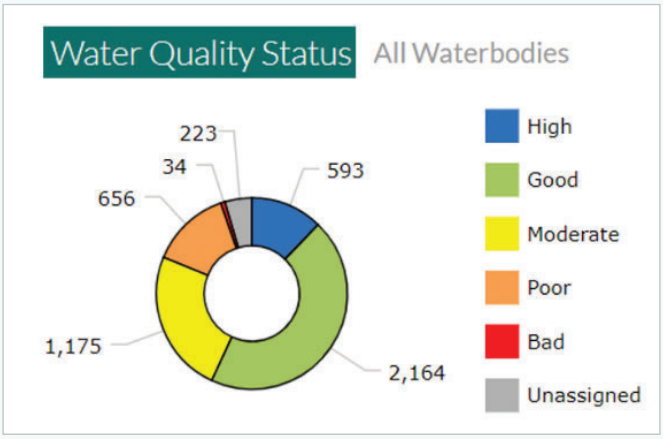


Fig 1. Flow pathway & delivery points of this tillage plot

Managing Buffer Areas

Where buffers are left to grow naturally and are filled with low growing shrub like vegetation, grass species or have mature trees present, all are beneficial. Mechanical management practices to rejuvenate the buffer area are encouraged, however. This would include cutting back grasses and trimming hedge and shrub species as it will encourage regrowth and help to increase nutrient update. This management should only be carried out out-side of birds nesting season (between 1st March – 30th August) and care should be taken not to trim invasive species such as Japanese Knotweed and Giant Hogweed if present as trimming will cause them to spread rapidly.



To see where the most likely route for overland-flow losses will occur on your farm, simply go to **www.catchments.ie**, go to the **Maps section** then click on the **Pressures and Activitites** tab. Select **Pollution Impact Potential** within this tab and then slide the on/off toggle into the on position for the **P Flow Pathway & P Flow Delivery Points** tab.

Water quality trends are moving in the wrong direction, but tillage farmers can play their part in helping to reverse this trend. By installing and properly managing the legally required buffers and with the use of targeted buffers, pollutants entering out watercourses like sediment, nitrate and phosphate can be significantly reduced.

John, Mid Cork Farmer Writes

10/09/22

By **John,** Mid Cork Farmer

As I write this piece, my last update, our harvest is finished, and we are about to plant our cover crops; whatever about being finished the harvest in August we are always struggling to get the cover crops planted, often late into September which is a real problem and often makes the exercise short of worthless. It's been an enjoyable month, or maybe I should say an enjoyable season from start to finish as we could complete most jobs at the selected time as the weather just continuously obliged. This has made the whole process of fertilizer and pesticide applications very timely and I have no doubt that this has proven very beneficial and rewarding to our crops. Our farm is very dry and free draining, and we were concerned, as we are in any dry year, as to the impact that it might have on our crops, and surprisingly, not a lot I would think. Of course, it's very hard to evaluate this, but we have had a reasonable harvest in an exceptionally dry year, and we were happy with the results, much more than that we can't say. The other big benefit of the dry harvest season is what it brings to the machinery as they operate in a much more efficient and labour-less way. There is no great pressure on them and given the time; they harvest and operate much better, producing a cleaner sample with I have no doubt a greater offtake of grains from the dry free flowing straw. We are lucky enough that our kit is well over its job and allows us this opportunity to give ample time to each chore, hopefully completing it in as a best a way as possible.

Our harvest started 29 July with our **Oilseed Rape**, a nice full crop, standing well, showing a lot of promise and we were very hopeful of it. There was an obvious level of sclerotinia in one field for some strange reason, localized to the high branches on individual plants and made the crop very speckled looking from a distance. All crops were treated with Filan for this disease, maybe a little later than advisable as the crop was well into flowering at the time and coincided with a second and final application of N 16 Liquid Fertilizer. The crop was full of bees at the time also, as the weather was very fine and we decided to leave this application a littler later than usual, a mistake probably in hindsight as we could equally have included it with our first application of N16, late in the evening when insect activity is much lower. While this may be a little early as the crop flower heads were just opened at that stage, maybe that's the correct timing rather than waiting for early / mid petal fall as its a preventative pesticide in any case.

We use a side knife on one side of the header which are essential for clean cuts and as the crop was standing perfectly upright it made it a picture to look at. We chopped the straw which certainly slowed us down a little as it was tuff and strong in places, simply meaning you slow down and allow the machine time to do its job. We cut them at about 18" off the ground, again to reduce the greener sappy part of the stem from hindering the operations. However, we had a known problem to deal with, a difficult one, and worse still due to our own carelessness; the case of a lost "Gas Crow Banger". We used this to frighten off a tsunami of pigeons in the spring, with good effect, and then with the sudden growth it got covered over and I forgot about it. I had a fair idea where it was, so nothing more only "hands and knees" where I felt we were close to it; luckily enough I was close, and with patience and God I found it; the consequences could be serious if I was to drive into it.

The crop yielded a healthy 2.06 t / ac with the disease-free crop yielding a little better than the other but is also a better field: probably 2.1 and 2 respectively at moistures from 11 falling to 8.9 as the harvest progressed. The straw was chopped and included in the Straw Incorporation Scheme.

They received 100 un–K at planting, Nitrogen brought to 170 un with 38% Protected Urea plus S7 in the spring as was well grazed, and toped-up with 2 final dressing of N16, bring a total applied Nitrogen to ~ 185 un elemental or 215 after allowing for the efficiency factor of the N16 portion.

Got sprayed with Kataraman Turbo at planting, Stratus Ultra and Proline in Oct for vol cereal and Phomo / LLS; in the spring Proline and Cyrax PGR, Filan for sclerotinia in early summer and finished off with Roundup Flex and Pod-stick.

Oilseed Rape Harvest

Our next crop up was **Spring Malting Barley**. This we started into on the 6 Aug, very early like most, with ripe grains and tuff straw but changing by the day. We completed it on 13 Aug, nice and steady, all standing and simply a pleasure to be harvesting. The crops were nice all year with the distinct exception of 1 block of land. It was on the thin side and not overly impressive all season and yielded accordingly, 2.9 tons per acre; disappointed but expected, but all passed with honours for malting, so that's a bonus and would gladly have settled for this last March. Our other blocks averaged a respectable 3.37, bring a total farm barley average of 3.13 ton / ac at low moistures which is well above our normal averages and delighted with it as our land is in constant tillage, very dry and this year was extra concerning. We have never reached the dizzy heights of other reported yields of up to 4 t / ac, but we will keep trying and we will achieve some day when weather obliges us a little differently with timely rains I feel. All the straw was baled and sold to our usual local customers and now about to plant our cover crops. Our average yield were ~ 3.13 t / ac, PKH from 69 to 72 with moistures from 10.5 to 13% with our malting contracts filled with ease and all straw sold. We applied 2 x 50 kg 28/2.5/5 + S / Mg / Ca into the seed bed as P and K are good and we decided to be a bit conservative for a year due to prices; pity we didn't know what was coming. All crops were top-dressed with 38% Protected Urea plus S7 to bring to a total of 130 units / acre.

We applied our herbicide program / wild oat spray and insecticide, all together at GS 13 as we were planted early, and crops / weeds came very quickly. We used Galaxy plus Hurler to stay on top of a niggling Marigold problem and it worked very well. We applied a timely 2 spray fungicide program with Decoy / Comet at T1 followed by Decoy/Priaxor at T2 plus Arizona multisite. We also used Manganese and Copper routinely as very low locally and our soil test supported this. This year we included Phylgreen also as we are starting to look at some of the biological compounds as they are likely to become increasingly important. I was glad to hear from Michael, our Dairygold agronomist, that these compounds are now also going to be regulated as they need to be, and to start building real and quantifiable facts about their effectiveness.

During our spring barley harvest we took out our **Winter Wheat** as it saved us shifting gear which is a troublesome enough task depending on where you farm. This is a crop that had a lot of BYDV in it all year and I mentioned it specifically in my last piece as Michael English (Dairygold agronomist) was very concerned about it as he, nor I, had never experienced this level of infection before. There was a lot of flag leaf" tipping" in the crop also, easily confused but while looking nasty, but of no real significance. We harvested these crops over 2 long days, on the 8 and 9 Aug, yielding a strong 4.6 tons / acre; very happy, in line with our normal yield but just wonder if it didn't have the BYDV. The one notable thing about the crop was that it had screening levels of 6 to 9% and this was purely a direct result of the Aphid damage we feel. Would I have joined the 5-ton club if these creatures had decided to fly-by me, I wonder? it really looked a smashing crop. Another point of note with this crop is that we used a top of 30 lt of Liquid N16 foliar Nitrogen and I feel it gave it a great boost. We chopped this crop also for the SIS, which is a great scheme to be involved in, not just because it sorts out your straw issues, but it also starts us all on the journey of rejuvenating our soils.

We had to make some adjustments to our machine to achieve what I consider an acceptable chopping residue; we had to adjust and reset a "Disruptor Bar "in the outshoot just before the straw meets the choppers and what a difference it made. It slows down and evens out the flow and allows the machine to deal with the straw in a much more complete way. It was our mechanic pointed it out to me as I didn't realize that this was possible or that such a piece existed. We then travelled slow and fought our way through the dust, like a Sahara at times, as there was no rush in the backing hot weather with great forecasts. Our yields over the total area were 4.61 tons at 13.5% moisture with an avg screening of 7% and KPH of 79.

Herbicide and Mn in the Autumn PLUS APHACIDE on ~10 Oct 21. Got PGR plus Liquid Sulphur in late March. Received 2 full rates of Fungicide, Peacoq / Pontoon followed by Revystar plus Arizona both times. I also included the Phylgreen biological product with each application. The crop was finished off with Prosaro and Combitop. The fertilizer program was like our spring barley, starting with 28/2.5/5 plus S, MG, Cl and

completed over 2 more applications with Protected Urea 38% S7 and a top-up of N16 foliar Nitrogen to a total adjusted of 190 units / acre.

Harvest Winter Wheat

Winter Beans were our final crop to get harvested, on 19 Aug, again in a blaze of sunshine. We are relatively new to beans and decided to follow the crop for several reasons. Firstly, they were planting in the winter which is a big attraction to us as should have most of their growing done before the water table starts falling in late spring. Also, they are a low input crop, no expensive nitrogen required as they produce their own and very cost effective from that point of view, have the support of a significant protein payment and offer a lot to the ground as a rotation crop. In our system we can plant directly in this open loose soil structure if we wish; we still give it a quick run of the disc to knock down the stubble and level the ground. Despite our early planting the drought did affect them; the slack and short patches were very evident from the harvester with a distinctly quitter sound behind me when I met such places in the fields.

Their total fertilizer application was 50 un of K per acre, maybe another bag might have been beneficial as we worked low index 3 soils. We sprayed for weeds immediately after planting on the 10 Oct 21 with Nirvana and sprayed them 3 times for disease, twice with Signum and finally with Elatus Era. They yielded exactly 2 t /ac at 13% moisture.

We have in recent days sub-soiled all our tramlines and some consolidated field areas and over the next few days, we'll plant our cover crops, Vetch and Phacelia for one block and simply Oats and Vetch in another. Last year we had a very bad establishment, and we are making greater efforts this year to get it right; early planting and hopefully some rain to get them going. There's a lot of confusion around what and how much you are required to do which all make the whole project a bit negative in some people's mind; as they wonder what thought and purpose was put into the whole concept; it's a pity as truly it's a very worth while operation especially if min or zero tilling, as it helps open the ground along with soaking up any expensive and damaging excess nutrients floating around in our soil banks and brining the whole area of rejuvenation farm systems a big step forward when committed to at farm level.

Also, on 30 Aug, we planted this year's crop of OSR, Aurelia Hybrid at 50 seeds per sq. meter. We planted it this year into the farm that had the lower spring barley yield, all to improve crop rotation and to start building some organic matter. It's a risky enough site as very low lying and in exceptional years can be subject to flooding, but we have taken our chance as its crying out for rotation. We thought about winter beans but by all accounts, in heavy ground they will be challenged, and this put us off.

The ground was pepper dry when we worked it; deep harrowed it and planted directly into the stubbled bed, in a min till fashion, and rolled it immediately. We have held off on the herbicide as the ground was very dry for a residual type of compound; now we are about to get very heavy rain which can create issues for the tiny emerging seedling also, so we have decided to hold off until expanded cotyledon stage. It will be sprayed then with the same program, Katamran Turbo or Belkar at a slightly later stage if weather beats us. Michael will keep an eye on this as he is very conscious of the spray effects of the different programs at different growth stages and something that needs to be got right and allow the crop the best possible start with no setbacks. I'll leave it to him for the judgement call, he has the experience.

Finally, I would like to take this opportunity to thank all who have read, complimented, or criticized our articles over the last twelve months; that is part of the course and if for the right reasons that's good because we do make mistakes, bad decisions and as you can see produce ordinary enough yields despite our best efforts. I like to thank Michael for his professional help and is always available to me, even for a second opinion at unsociable hours. Most of all I'd like to thank my wife for putting up with me as I write these pieces and trying to phrase and explain our decisions in a meaningful way; hopefully we achieved this. I'd also like to wish all my fellow farmers, especially tillage farms, many successful years ahead as we grow and nurture our crops often in an uncertain time but always with great love for the land and of what we do; all we ask for back is a secure and sustainable way of living that rewards us with both financial and emotionally.

Dry Stock Options on Arable Farms

By **Ger Hanley** I.A.S.I.S. Dairygold Tillage & Beef Area Manager

Many tillage farms in Ireland carry some beef cattle on them. While even the best of Tillage districts has excellent quality land, there is always a small percentage of ground that cannot be tilled. A typical 100-acre farm may be lucky to get 90 acres on the drill meter. The next 4-5 acres lost to wide hedgerows, yards, sheds and passages. The remaining 4-5 acres may have a steep glen, narrow strips by a watercourse or some rock protruding from the surface. All these reasons make it uneconomical for modern machinery to work on these plots. A useful alternative is to graze cattle on these plots, as they will keep it clean and prevent them from going wild.

Traditionally on tillage farms, cattle would be purchased in the Autumn time, grazing off any remaining grass on farm, housed and Winter finished in the Springtime. Work on the land was all done for the year, so attention could be turned to feeding the cattle. This generally involved a large financial investment in stock, feed inputs and resources. This system always carried risk as the forward price of cattle is rarely known, but equally the risk was often rewarded too. For this reason, some farmers have explored other options in livestock farming in recent years.

STORE CATTLE - The option of purchasing lighter 18-month-old animals for lower money made it easier to enter market. Catch crops sown after winter barley could be grazed with this stock, as could later sown catch crops. This provided an excellent way of increasing organic mater in soil. Cattle could be overwintered on silage with 1-2 kg of concentrate for 60 days. Early turnout to grass in Spring gave best liveweight gains and finished in May/June. While this system wouldn't suite everybody, it provides lower financial risk, but it totally depends on the type of grazing ground available to you.

WEANLINGS - Younger 8 to 10 month-old Continental weanlings are an option. Continental bulls 320-370kg may be expensive to buy initially, but these stocks can deliver significant liveweight gains on an intensive feeding system. Where under 16 months finishing of bulls has come under pressure on the market in the past, this was particularly the case with the dairy bred Friesian bulls. Continental bulls still sell well on this market and yield big carcasses, that do well on the grid system, and tend to hit the markets when price is highest in late Spring.

Weanlings of traditional breed also are an option. Angus and Herefords tend to be born in March/April/May. Would be lighter in weight 180 – 220 kgs and more affordable to buy. Again, these animals can graze cover crops well into the Winter and can be supplemented with silage/concentrates outdoors, without any damage to soils. Investment is lowest here with low risk on entry, but dependent on a buoyant market for cattle in Springtime. Stock can also be carried through to following Autumn. To get these cattle to finish in Autumn is probably wishful. Only the very forward ones will make it, with most having to be rehoused. Availability of housing might be an issue especially if previous years stock must come off the catch crops.

CULL COWS - At late Autumn many cull cows become available to the market as cows deemed no longer suitable for milk production enter the departure lounge. As the name suggests they are culls, and can come with issues, mastitis or lameness. Purchasing the right cow is critical, and management on farm also. Straw bedding can help as these animals have no hope of thriving if they are housed on slats or dirty floors. A mature cow has a huge capacity to consume fodder and concentrates. While investment initially may be attractive, feed costs can be excessive and thrive may be varied. But it is still widely practised as approximately 20% of the national dairy herd gets culled every year and some finishers have secured good consistent markets for same.

STORE LAMBS - Late born lambs that need more time to achieve their carcass weight are often purchased by tillage farmers to graze out catch crops like fodder rape or stubble turnips. Investment is low, housing is not a requirement generally and concentrates can be fed outdoors. Fencing may be an issue. Damage to soil is rare, unless in excessive rain feeding areas may puddle.

AUTUMN REARED CALVES - With the move away from Winter milk on Dairy farms, calves are hard to get in October/November. However, a limit amount is available to regulars. This market is mainly Friesian bulls and they tend to be a Holstein nature. Large numbers can be accommodated for small money with simple buildings. These calves can utilise grass well the following Spring and can benefit from a full season of grazing. This system is in decline as availability is an issue.

Tillage farmers can maximise their land to the full of cattle. Every farm has those awkward paddocks or sometimes may be deemed waste ground. Cattle can often do well in these plots as often they provide shelter and may have rock for a dry lie in Winter. Equally in Summer low lying ground of a callow or inch nature can grow grass well in droughts.

Coupled with availability of Catch Crops on farm, production of Organic Matter and an outlet for any straw that may be short on quality for the marketplace, there are many benefits. On large scale farms the cattle enterprise may be a means of holding onto a full-time employee that would be essential to the business in Spring and Autumn. Although the nature of cattle farming tends to be of low financial margin, it can add value to your enterprise overall.

"Cattle integrate well on arable farms"

The Winter Barley Dilemma

By **Liam Leahy** I.A.S.I.S. Dairygold Tillage & Beef Business Manager

CROP	YEAR			
	2019	2020	2021	2022
Barley - Spring	96,060	141,237	116,077	116,694
Barley - Winter	82,457	51,299	67,307	73,605
Barley - Total	180,536	194,555	185,405	192,320

While Winter Barley has had a difficult year, particularly in the southern area of Dairygold; let's not over-react; it's a valuable crop both to the growers and industry alike and deserves to be respected for what it offers to the whole tillage and livestock industry. Yes, yields disappointed, leading growers to ask questions as to its future as a preferred crop in the rotation and more puzzlingly as to what went wrong. That's a difficult question to answer with complete authority as to what caused the big falloff on yields as there are many factors that have contributed, and some were well flagged before any harvester entered the field; some even written about in our July edition of Thrust in Tillage; the Aphids Issues. In recent years Winter Barley has grown to be the automatically chosen crop for the "graveyard" slot, appropriately named as the slot that exposes such crops to the real threat of "take-all"; that is the second crop grown after a break crop, when such a crop is sensitive to the take all fungus.

Teagasc has always argued that while there is a risk with this crop been infected, its generally at a level that doesn't warrant any precautionary actions to be taken, but 1 year in 10 there may be severe infection which may be very damaging to the crop. I think it's fair to accept this 2022 was one of these years as the weather pattern was perfect for this robbing event in so far as that you had high soil temperatures across the winter that allow the fungus to develop quickly and damage the plants root structure much more than would be the case in more normal winter weather and then an exceptionally dry April and May which starved the plant of moisture especially with compromised roots that couldn't follow the moisture down deep into the soil; that's the theory and make perfect sense for 2022 cropping year.

Then of course we had the issue of Aphids, again caused by the mild winter weather which allow the insect to fly right across the winter months when in another year when temperatures would be lower, they would be forced to stay dormant or very localized presenting a much lower risk to crops across the winter. This is a serious issue and concern as we are also struggling to control these creatures with our present arsenal of chemicals as we await progress in plant breeding techniques to bread tolerance and / or resistance in gene pools; again, this topic was well covered in the July edition of Thrust in Tillage. Other reasons for lower yields may be as simple as poor or inadequate nutrition as growers reacted to the rising fertilizer prices, but I think that this is a minor contributor as most growers commit themselves wholeheartedly once crops are planted and strive to maximize yields. In any case it would take very drastic cuts in fertilizers to cause some of the yield losses experienced this year and that didn't happen.

However, despite some logical explanations for the poor crop performance this year, some growers are seriously considering significantly reducing Winter Barley planting or even dropping altogether in some cases; totally overreacting in my opinion and

Severely infected crop of Winter barley in 2022 Spring (Teagasc Crop Report)

Winter Barley crop with sever take-all

Area and Yield Data sourced from CSO and Teagasc publications

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Avg	
9.5	9.3	10.2	8.6	10	8.8	9.4	8.3	9.5	8.6	Ton / ha	9.22
36,000	60,000	70,000	74,000	63,000	57,000	83,000	51,000	67,000	74,000	Area	63,500

deserves a much more reflective and constructive debate before any drastic decisions are made. Yes, these actions may be right for some people, growers with very high areas of the crop and may well be better served if they were to practice a more rotationary type of farming with a reduced W Barley area but that's part of the debate.

Items to be considered as you review a place for Winter Barley for 2023

- How did the crop perform in real monitory term in the poorer 2022 year, know the facts?
- What's your five-year average and / or how often have you experienced reduced yields like 2022?
- What's the likelihood of a repeat of 2022 in the coming year; it could happen.
- If I was to drop or reduce the area planted, what would take its place.
- What crops will my land support best?
- Look at the bigger picture examining such things as:
  - My spread of workload.
  - My cashflow
  - The land I'm farming; can you risk leaving extra plots got later for planting or would you work them in a difficult spring.
  - The importance of straw in my budgets.
  - My planting and harvesting kit; could they complete a more compact planting and harvesting program
- Can or should I consider introducing some new crops into my rotation; to improve the soil structure and yield potential. This will also reduce your dependence on W Barley in some situations.

Winter Barley with Strong healthy root mass - July 22

Winter barley with badly effected Root mass from Take-all - July 22

What can I do to reduce or remove the risks associated with W Barley in the graveyard slot?

- Delay planting is the most important action both to reduce take all effects and reduce exposure to aphid infection. Try and delay planting until mid-October, especially in high-risk areas.
- Plant the intended plots in a more organized way, starting with the cold more exposed fields, finishing with the higher risk low-lying warm land often with tree on the boundary, a haven for aphid infection.
- Consider dressing seed with Latitude; this will help reduce the Take-all effects on crops.
- Make sure PH and P, K are in good status as this will encourage rapid and strong root development which is critical to winter crops as they site in waterlogged soils across the winter.
- Remove W Barley from this slot altogether and replace with Rye; similar planting date, good yield potential, Take-all tolerant and a huge straw yield. However, the harvest date is later and will clash with Spring Barley and you need to pay attention to volunteer as can be a nuisance in following crops.

From an industry point of view it's important that Winter Barley remains a major crop in cereal growers' rotation for both logistical and feed availability reasons; this crop has developed into a real corner stone for both assemblers and millers and important that this is preserved if possible. The effects of a significantly reduced W Barley area with some assemblers may include

- A lack of the preferred cereal for ruminant nutrition, i.e., Barley, if a lot of the area were to change to "other" crops.
- Some millers, like Dairygold, are 100% native cereal inclusion in their feeds and barley is their main ingredient, important to preserve this.
- Drinks industry are putting increasing pressure on feed barley availability and while that's fine it is putting growing pressure on supplies without any reduction on W Barley area.
- Put tremendous pressure on the current facilities when asked to handle a similar harvest in a shorter time or with more newer products which take up extra time and space.
- Storage facilities would be further stretched.
- Winer Barley has developed a valuable slot as an early available feed ingredient as stocks of old barley run out.
- The industry can store barley with acid treatment as well as drying, a great advantage for some assemblers

We're not saying that some growers shouldn't reduce or exit winter barley production; what we are asking is that these same growers need to reflect and make informed and calculated decisions rather that overreacting to one poor winter barley harvest, a crop that has serve us well for many years for many good reasons.

Maybe growing the crop in a different rotation or different place in a rotation; maybe reducing your area for spring barley instead if your workload and land type allows; maybe delaying planting and then choosing varieties that suit your situation better such as Aphid tolerant Joyua or latitude dressed seed. I think that in recent years we all, yes agronomists and growers alike have become a little complacent in some ways with winter barley agronomy and maybe set ourselves up for a fall in some cases.

Take-All

Gaeumannomyces graminis var. tritici

By **Tim McCarthy** B.Agr.Sc I.A.S.I.S Dairygold Agri Business

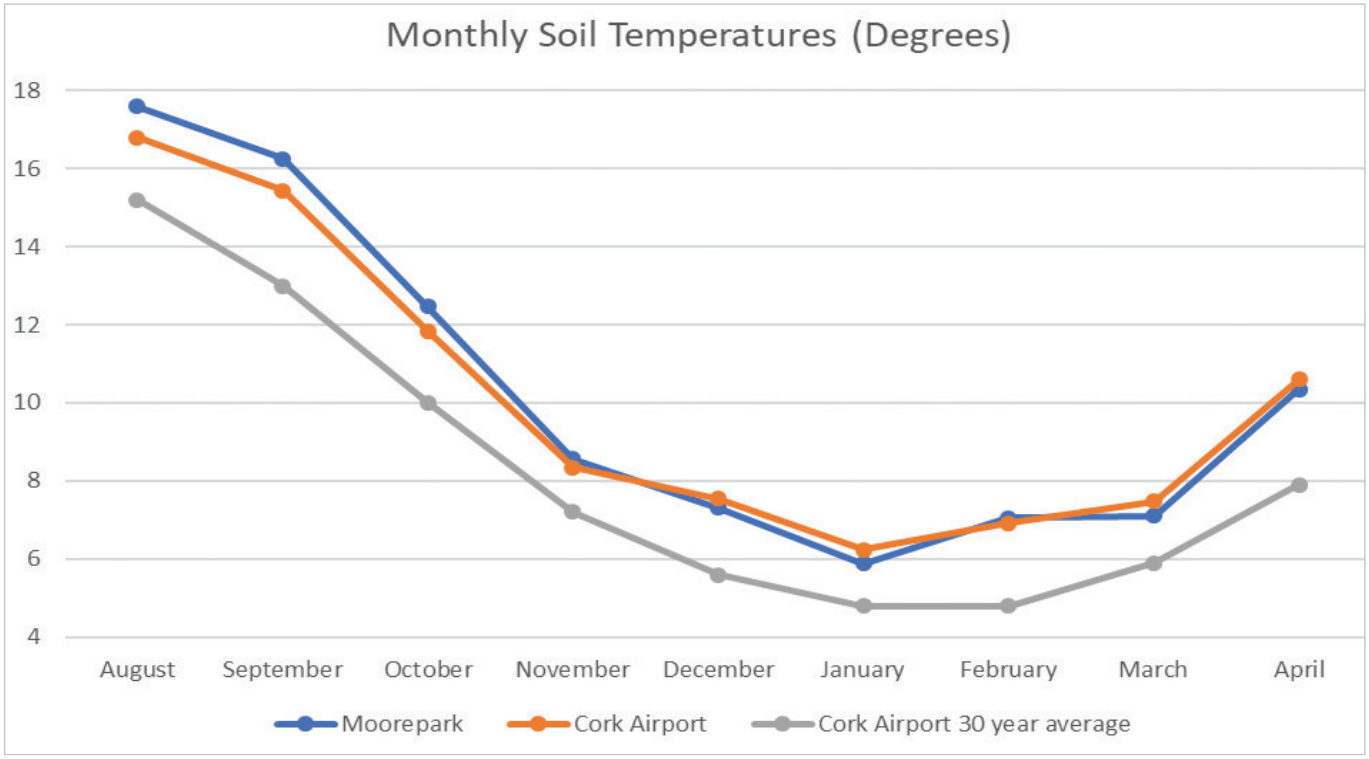
As the end of harvest draws to a close and all the grain dockets are totaled up, now is a good time to evaluate field performance on the farm. Thankfully it was a relatively good harvest, but winter crops have been disappointing, especially winter barley. Farms that were consistently producing 4T crops struggled to return 3T/acre in 2022.

There are many theories to explain the yield losses but there is a strong possibility that the presence of Take-All had a significant impact in a lot of cases, especially in winter Barley. Winter Barley has often been planted in that "Graveyard slot" in rotations and can be very easily exposed to the Take-All fungus from previous cereal crops.

In recent years, many growers have been keen to make an early start to planting winter cereals due to fear of poorer soil conditions in October. This was also the case last year, as planting was carried out in late September and early October to take advantage of the good weather. As soil temperatures are still quite warm at that time, Take-All risk is very high.

Furthermore, as we moved into last winter, both air and soil temperatures remained higher than normal. In normal circumstances, the colder temperatures during the winter months kill the Take-All fungus in the soil, whereas last year the temperature did not go below 4 degrees, and allowed the fungus to survive and grow over the winter. Looking at historical weather data, soil temperatures were between 1.5 and 2 degrees above the 30 year average (see graph below)

We then experienced a very dry spring/summer growing season leading to a summer drought during the grain fill period. Plants infected with Take-All then began to struggle for access water, as their root system had been compromised by the fungus. At harvest this can be easily identified by shriveled grains with high screenings in the sample.



What is take-all?

Take-all is a soil borne fungal disease that attacks the root system in cereals and grasses. Oats are unaffected by this strain of take-all, however there is a much less prevalent strain called Gaeumannomyces graminis var. avenae which can affect oats, but this is uncommon in Ireland. Plants become infected in the Autumn from the inoculum in the soil and from residues left behind after the previous crop.

As the take-all colonises the roots of the plant, the roots cannot develop sufficiently and turn brittle with a black colour. Root development is compromised by the fungus, and this has an effect on tillering which leads to stunted plants. Levels of infection increase in the spring as plants go on to infect the roots of surrounding plants with take-all, leading to patches of take-all in the crop. The restricted uptake of water and nutrients from the roots then disrupts grain fill in infected plants which leads to white heads and poor grain fill. In lighter soils during drought conditions it can become more severe due to limited access to water from the roots which can cause the crop to ripen early. Yield reductions of 10-20% in wheat are common and can rise to 50% in following crops if left uncontrolled.

Year 2-5 are high risk in poor rotation

Take-all decline

Where cereals are grown continuously without a break crop, the levels of take-all increase year on year causing further infection until about the fourth year, when the levels of infection start to decrease again. This is due to the build-up of beneficial pseudomonads bacteria in the soil that suppress take-all fungus levels by protecting the roots of the plant. After this occurs, yields can return to 80% of that expected from a crop in a well managed rotation.

Take-All control Rotations

Without the roots of a cereal plant in the soil, the take-all fungus cannot survive. It takes 2 years for the fungus to disappear in the soil but by growing a non-cereal crop as a break for one year, take all levels are dramatically reduced to a level where infection is minimal in the following cereal crop. A one-year break of Oilseed Rape, Beans, Maize, Beet or grass will reduce the risk of take all in the following cereal crop. However, switching from a winter cereal to a spring cereal will not break the cycle as the fungus can survive over the winter.

Sowing

Warm conditions favour the spread of take-all and generally when soils are above 10-12 degrees, there is a greater risk of infection. Early sowing should be avoided for this reason. By sowing mid-late October when soil temperatures drop, the infection period is shorter. Where possible drilling crops after a break crop should be completed first before moving on to continuous cereal fields. Paying attention to seedbeds is also important to give the crop an advantage. A well consolidated seedbed following sowing will help reduce fungal growth and avoiding heavy compaction will improve root growth.

Seed Treatment

The use of Latitude is commonly used when sowing second wheat or winter barley following a cereal crop. It provides a protective barrier around the seed and prevents infection at the early stages of growth. However, it should not be relied upon to give full control, and the best advice is to it in addition to cultural control methods.

Nutrition

Good soil fertility is vital to encourage root development at emergence and tillering. As take-all affects the efficiency of root uptake, an application of nitrogen in early spring will encourage roots to expand rapidly and may reduce the severity of the disease in the spring.

For root development and tillering, phosphorus levels are important and should be corrected to adequate levels. Manganese, potash and sulphur are also linked to take-all so should be addressed in fertiliser plans for the crop through the growing season.

Visibility of Agricultural Equipment on Public Roadways

By **Jennifer Owens** B.Agr.Sc, Dairygold Agri Business

Every year we hear of horrific road accidents caused by people running into the back of poorly lit trailers, so make sure the indicators and lights are working properly before you attempt to drive on the road. Farmers and contractors must ensure that vehicles, machinery and trailers are adequately insured and maintained in a roadworthy condition, in particular that lights, indicators, mirrors and braking systems are maintained in safe working condition

Is it vital that both self-propelled and towed equipment is adequately lit up especially going into the autumn when the evenings are getting shorter.

Self-Propelled Equipment

- **Headlamps and taillights:** Equipment should have two headlamps and two taillights. At each end of the equipment, the lights should be mounted at the same height and spaced as far apart as possible on either side of the center line of the equipment.
- **Work lamps:** Equipment should have work lamps, but rear-facing work lamps should not be used while on roadways.
- **Warning lights:** Any vehicle or towed equipment with a width of 12 ft. or more should have flashing amber lights located on its sides. The lights should flash in unison at a rate of 60 to 85 flashes per minute.
- **Turn indicators:** Equipment should have turn indicators in addition to red taillights.

Towed Equipment

- **Rear reflectors:** The widest part of the rear extremities of the equipment should be outfitted with red reflectors to ensure visibility from up to 600 ft. behind the equipment.
- **Front reflectors:** The front left and right sides of the equipment should have yellow reflectors.
- **Reflective and fluorescent material:** Equipment should be marked with a combination of reflective and fluorescent material. Yellow conspicuous material should be used in the front, and red-orange reflective material should be used to outline the back.
- **SMV emblem:** An ASAE-approved SMV emblem should be attached at the center, or slightly to the left of the center, of the back of the equipment.

Weather Review

These statistics pose a lot of questions and supprised us when we studied. Note the rainfall amounts , we werent that far behind, if at all, the North East. Soil and ambient temperatures are also very close or was there some thing else. Our Autumn soil temperatures were significantly higher than normal and also higher than the North East.

MET éireann

TOTAL RAINFALL IN MILLIMETRES FOR CORK AIRPORT

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2022	38.3	112.3	61.9	64.9	35.7	84.1	28.1	14.2	139.5				579.0
2021	121.8	235.9	67.5	18.2	172.7	37.4	60.7	65.0	85.4	197.6	34.2	148.0	1244.4
2020	112.2	199.3	64.7	72.3	68.8	94.1	97.6	175.0	58.2	118.6	160.8	185.4	1407.0
2019	74.3	81.5	128.6	135.8	41.0	110.5	43.9	107.6	91.1	179.2	145.0	125.6	1264.1
LTA	131.4	97.8	97.6	76.5	82.3	80.9	78.8	96.8	94.6	138.2	120.0	133.1	1228.0

MEAN TEMPERATURE IN DEGREES CELSIUS FOR CORK AIRPORT

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2022	6.5	7.0	7.3	9.0	12.1	13.4	16.1	17.1	15.1				11.3
2021	4.7	5.8	7.3	7.7	9.5	13.7	16.6	15.4	14.6	11.3	8.2	7.7	10.2
2020	6.2	6.0	6.1	9.6	11.4	13.6	14.8	15.5	13.5	9.7	8.3	5.5	10.0
2019	6.4	7.3	7.2	8.9	11.1	12.5	16.0	15.2	13.6	9.8	6.6	6.2	10.1
LTA	5.6	5.7	6.8	8.2	10.7	13.3	15.1	15.0	13.2	10.3	7.7	6.1	9.8

MEAN 10CM SOIL TEMPERATURE FOR CORK AIRPORT AT 0900 UTC

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2022	5.7	6.2	5.8	9.1	13.2	14.6	16.7	17.2	n/a				11.1
2021	3.4	4.8	6.3	8.0	10.4	14.6	17.2	15.6	14.5	11.0	7.5	7.2	10.1
2020	5.1	5.0	4.9	9.1	11.9	14.1	14.9	15.3	13.2	9.2	7.7	4.7	9.6
2019	6.0	6.3	6.4	8.7	11.8	13.3	16.6	15.0	13.5	9.1	6.2	5.2	9.9
LTA	4.8	4.8	5.9	7.9	11.3	14.1	15.7	15.2	13.0	10.0	7.2	5.6	9.6

TOTAL RAINFALL IN MILLIMETRES FOR DUBLIN AIRPORT

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2022	14.4	88.5	45.6	28.1	48.4	43.6	29.6	34.6	94.2				427.0
2021	115.1	55.0	32.1	10.8	83.5	12.6	72.9	65.3	42.0	79.8	11.7	85.8	666.6
2020	36.0	130.4	31.8	12.8	9.3	69.6	98.9	87.1	60.9	80.6	48.1	83.1	748.6
2019	26.8	30.5	92.5	74.6	33.4	82.9	41.0	91.9	104.6	77.2	173.0	57.7	886.1
LTA	62.6	48.8	52.6	54.1	59.5	66.7	56.2	73.3	59.5	79.0	72.9	72.7	757.9

MEAN TEMPERATURE IN DEGREES CELSIUS FOR DUBLIN AIRPORT

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2022	5.4	6.7	6.6	7.6	11.9	13.6	16.3	15.9	14.9				10.7
2021	3.9	6.2	7.2	5.6	9.2	13.7	16.1	14.7	14.7	11.9	7.6	6.5	9.8
2020	6.3	5.8	5.8	8.5	10.9	13.4	14.4	14.7	12.8	9.5	8.2	4.9	9.6
2019	5.1	7.0	7.3	8.0	10.2	12.5	15.9	15.4	13.0	9.1	6.0	5.9	9.6
LTA	5.3	5.3	6.7	8.1	10.7	13.4	15.4	15.1	13.1	10.3	7.3	5.6	9.7

MEAN 10CM SOIL TEMPERATURE FOR DUBLIN AIRPORT AT 0900 UTC

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2022	4.4	5.2	5.3	7.8	12.3	14.4	17.0	16.2	15.0				10.6
2021	3.0	4.1	5.9	7.0	9.7	15.6	17.6	15.0	14.5	10.5	6.9	5.5	9.6
2020	4.4	3.9	4.5	8.9	12.9	14.4	14.6	15.0	12.2	8.6	7.1	3.8	9.2
2019	4.7	4.9	5.8	7.7	11.1	13.4	16.8	15.0	12.5	8.1	5.6	4.2	9.2
LTA	4.1	4.1	5.5	7.9	11.5	14.6	16.2	15.4	13.0	9.7	6.6	4.8	9.4

Measures to Reduce the Risk to Tillage Farms of High Input Costs in 2023

By **Ciaran Collins** B.Agr.Sc I.A.S.I.S Teagasc Crops Specialist

I can clearly recall the first line of an article I wrote after last year's harvest, 'the previously elusive trinity of good yields, high prices and excellent harvest weather all combined in the one season to give us an excellent year'. Nobody could have envisaged that 2022 could be better, but it was. Average yields of winter wheat in 2021 were 10.8t/ha and spring barley was 7.9t/ha, both have been surpassed in 2022. Average green barley price in 2021 was €212 and that will be well exceeded in 2022. And finally it is hard to imagine that we could ever get better harvest weather than we had in 2021 but the weather for harvest 2022 was near perfect. Costs did increase in 2022 particularly fertiliser but many tillage farmers avoided the worst of these as a lot of business was done in the early part of the spring before the spike in prices came in March/April.

Input Costs 2023

But what of 2023? Everybody is starting at the same point with expensive fertiliser while seed, chemicals and machinery costs have all increased substantially over 2022.

The Teagasc costs and returns book is published every January and outlines the expected costs and returns for tillage crops based on current input costs and the grain price on offer.

The provisional costs for 2023 indicate that fertiliser will be at its highest point in the 45 year history of the publication with CAN+S at €860 and 10-10-20 included at €975 in the costings. Cereal seed is up €130/t, machinery +5% and chemicals +10% on 2022.

The provisional costs and returns for 2023 show that the cost of growing a crop of winter wheat and spring barley in 2023 has increased by 65% and 56% respectively when compared to 2021. Based on current figures a tillage farmer with winter crops can expect a 62% increase in input costs from 2021. The equivalent figure for a tillage farmer with spring crops is a 48% increase in costs for 2023 when compared with 2021.

Breaking Point

Based on these input costs for 2023 a tillage farmer would need €216/t for spring feed barley to breakeven on the grain in 2023. This does not include straw which would add €250/ha under the straw incorporation scheme. The corresponding figure for winter wheat is €222 with €250 also available under the straw incorporation scheme.

Beans

The input costs for beans have had a relatively modest increase of 21% compared to 2021 largely due to low fertiliser input. A major income boost for farmers growing beans in 2023 is that under the new CAP the funding for protein crops has increased from €3m to 7m. As a result the minimum protein payment for beans will be €350/ha and could rise to €500/ha if the targeted area of 20,000ha is not realised in 2023. As a result beans will potentially be the most profitable crop in 2023.

Table 1: Provisional Teagasc Costs & Returns 2023, costs/t @ 5 year average yields

Crop	[1]5 year average yield	Cost/t @ average yield (excl. straw)
Winter wheat	9.9	222
Winter barley	8.9	221
Winter oats	8.7	190
Winter oilseed rape	4.5	306
Spring wheat	7.9	227
Spring barley	7.3	216
Spring oats	7.2	216
[2]Spring beans	5.4	206

[1]2018 – 2021 CSO data, 2022 Teagasc estimates
[2]10 year average. 5 year average disproportionally affected by 2018 drought.

How can we reduce risk in 2023?

Having a **spread of crops** is crucial to reducing risk. We experience more weather extremes now than in the past and having a spread of crops helps to mitigate against this risk. Winter barley was disappointing in the south this year and it is tempting to throw all the eggs in the spring barley basket but what if we get a late wet spring? And how often has winter barley been harvested and straw baled while rain has delayed spring barley harvesting and the subsequent losses that occur.

Make cropping decisions based on the 5 year average yield for the farm rather than the previous harvest.

The biggest source of the increase in input costs is fertiliser. Make sure there is an up-to-date nutrient management plan in place for the farm so no excess fertiliser is used. Remember phosphorus cannot be spread on a tillage farm in 2023 without a soil sample result showing that it is required. **Organic manures** can be used to replace chemical fertiliser and were very successfully used in 2022, both ploughed in and spread in crop. 1,000 gallon of cattle slurry is worth €50 at today's fertiliser prices. Currently **protected urea** is significantly cheaper than CAN and Teagasc trials show that it is equally effective once spreaders are set up correctly and tramline widths are not wider than 24m.

Many tillage farmers are reluctant to forward sell grain, understandably everybody wants to sell at the top of the market but if you are making money based on average yields for the farm at the price on offer this will reduce financial risk to the farm. As fertiliser is the biggest input cost outside of machinery and is often linked to grain price maybe selling some grain when purchasing fertiliser could be worth considering.

As previously mentioned beans can be very profitable in 2023 due to the increase in protein payment. Aside from the profitability growing beans will reduce the fertiliser bill on the farm both for 2023 and 2024 where there is a lower nitrogen requirement for crops following beans. Some of the best crops in harvest 2022 came after beans.
Engage with your suppliers. Availability of some farm inputs can be limited and the logistics of getting them on farm are now more difficult so plan in advance.

As we start the cycle again we are facing unprecedented cost increases and are extremely vulnerable to a fall in grain price and below average yields therefore take every opportunity to reduce risk. Finally I hope that the trinity of good yields, high prices and excellent harvest weather all combine again and follow the trend of the previous two seasons in 2023.

Recommend List 2023

By **Michael English** I.A.S.I.S. Dairygold Agri Business

WINTER BARLEY

As a result of very dry weather in August the harvest was completed earlier. It's now time to decide what crops and rotation you intend to have for 2023. Variety and field selection so important, as some crops this year had symptoms of BYVD or Take All.

The just published 2023 DAFM recommended list is out to help with crop and variety selection, with a minimum of three years of trials to get fully recommended.

We have two varieties upgraded to fully recommended list, KWS Joyau and KWS Tardis, four of the nine varieties on the list are six-row, of that three are hybrid varieties.

Also, two new varieties, Bordeaux and SY Armadillo have entered the provisionally recommended list for the first time.

Pixel, Kws Kosmos and Valerie all are no longer recommended.

Notes on Winter Barley varieties.

BAZOOKA: An early maturing hybrid six-row variety with very high yield potential. Very long straw with moderate resistance to lodging. Moderately susceptible to straw breakdown. Very good resistance to Rhynchosporium. Moderate resistance to brown rust and mildew. Good resistance to net blotch. Small grain size with a good hectolitre weight.

BELFRY: An early maturing hybrid six-row variety with very high yield potential. Long straw with good resistance to lodging and moderate resistance to straw breakdown. Very good resistance to Rhynchosporium. Moderate resistance to mildew. Good resistance to brown rust and net blotch. Small grain size with a good hectolitre weight.

KWS CASSIA: A moderately early maturing two-row variety. Short straw with good resistance to lodging and moderate resistance to straw breakdown. Moderately susceptible to mildew and susceptible to Rhynchosporium. Good resistance to brown rust and net blotch. Very good grain quality with a very good hectolitre weight.

KWS INFINITY: A moderately early maturing two-row variety. Short straw with good resistance to lodging and moderate resistance to straw breakdown. Moderately susceptible to mildew. Good resistance to Rhynchosporium and net blotch. Moderate resistance to brown rust. Large grain size with good grain quality.

KWS JOYAU: A very early maturing conventional six row variety with very high yield potential. Moderately short straw with good resistance to lodging and straw breakdown. Moderately susceptible to mildew. Moderately resistant to Rhynchosporium. Good resistance to brown rust and net blotch. Good grain quality. There is a breeder claim that the variety is tolerant to Barley Yellow Dwarf Virus.

KWS TARDIS: A very high yielding two row variety. Moderately early maturing. Short straw with good resistance to lodging and moderate resistance to straw breakdown. Moderately resistant to mildew and brown rust. Good resistance to Rhynchosporium and Net Blotch. Good grain quality.

LG CASTING: An early maturing two-row variety with high yield potential. Short straw and moderately susceptible to lodging and straw breakdown. Moderately susceptible to Rhynchosporium. Good resistance to brown rust and net blotch. Very good resistance to mildew. Good hectolitre weigh.

PROVISIONALLY RECOMMENDED

BORDEAUX: An early maturing two-row variety. It has short straw with moderate resistance to lodging. It is moderately susceptible to straw breakdown. Good resistance to brown rust. Moderate resistance to net blotch. Moderately susceptible to mildew and Rhyncosporium. Good grain quality.

SY ARMADILLO: An early maturing six row hybrid variety with very high yield potential. Very long straw with moderate resistance to lodging. It is moderately susceptible to straw breakdown. It is moderately susceptible to brown rust. It is highly resistant to Rhynchosporium. It is moderately resistant to mildew while it has good resistance to net blotch. Small grain size with a good hectolitre weight.

WINTER BARLEY 2023

AGRONOMIC & QUALITY CHARACTERISTICS*	RECOMMENDED							PROVISIONALLY RECOMMENDED	
	BAZOOKA	BELFRY	KWS CASSIA	KWS INFINITY	KWS JOYAU	KWS TARDIS	LG CASTING	BORDEAUX	SY ARMADILLO
Relative Yield ▲	**106**	**105**	**98**	**97**	**105**	**103**	**99**	**100**	**108**
Varietal Type	6R(H)	6R(H)	2R	2R	6R	2R	2R	2R	6R(H)
Straw Height (cm)	111.6	105.6	89.7	88.9	93.9	86.9	84.3	87.5	111.3
Resistance to Lodging	6	7	7	7	7	7	5	(6)	(6)
Straw Breakdown	5	6	6	6	7	6	5	(5)	(6)
Earliness of Ripening	7	7	6	6	8	6	7	(7)	(7)
Resistance to:									
Mildew	6	6	5	5	5	6	8	(5)	(6)
Rhynchosporium	8	8	4	7	6	7	5	(5)	(8)
Brown Rust	6	7	7	6	7	6	7	(7)	(5)
Net Blotch	7	7	7	7	7	7	7	(6)	(7)
Grain quality:									
Screenings % (<2.2mm)	3.4	4.3	2.0	2.8	2.4	2.2	2.4	1.3	2.4
1000 grain weight (g)	47.6	46.6	53.5	53.1	48.9	55.9	52.0	54.0	47.7
Hectolitre weight (kg/hl)	68.8	68.1	70.9	67.9	69.2	69.4	69.1	69.2	67.8
Year First Listed	**2019**	**2019**	**2011**	**2016**	**2022**	**2022**	**2020**	**2023**	**2023**

*Based on trial results from 2020, 2021 and 2022. *Yields are expressed as a percentage of the mean of KWS Cassia, KWS Infinity an Belfry (100 =10.28t/ha @15% moisture content). () Limited Data.

The 1000 gr weight on all recommendation sheets is a 3-year average and one should always take the calculable figure from the actual seed purchased as stated on each pack.

Please see th following 3 tables that will act as the base for you seed calculations with target plant populations and expected field losses after including the stated 1000gr weight from each pack.

IMPORTANT CALCULATION						
Target No seed / Sq. MT	**Multiply**	**TGW of seed per pack**	**Divided**	**Expected Establishment**	**Equals**	**Kg seed / Ha**
260	**X**	**48**	**/**	**90**	**is**	**139**

WINTER BARLEY

Sowing date (week)	Sept- 3rd Week	Sept – 4th Week	Oct – 1st Week	Oct – 2nd Week	Oct – 3rd Week	Oct – 4rd Week
Target plants m2	260	270	280	290	300	310
….Sowing seeds m2	289	318	329	387	400	443
% Establishment	90%	85%	85%	75%	75%	70%

WINTER WHEAT

Sowing date (week)	Sept- 3rd Week	Sept – 4th Week	Oct – 1st Week	Oct – 2nd Week	Oct – 3rd Week	Oct – 4rd Week	Nov – 1rd Week
Target plants m2	230	240	250	260	270	280	290
…Sowing Seeds m2	256	282	313	347	360	400	446
% Establishment	90%	85%	80%	75%	75%	70%	65%

WINTER OATS

Sowing date (week)	Oct – 1st Week	Oct – 2nd Week	Oct – 3rd Week	Oct – 4rd Week	Nov – 1rd Week	Nov – 2rd Week
Target plants 350 m2	300	310	320	330	340	350
…Sowing Seeds m2	353	388	427	471	523	583
% Establishment	85%	80%	75%	70%	65%	60%

DAFM RECOMMENDED LIST FOR WINTER OATS

Both Husky and Isabel are the two variety's again this year, they can be drilled from mid Oct to mid-April. Just a note of caution that all the varieties are spring but preform very well as Winter also. Husky have a DAFM rating of five for winter hardiness. They all had very good yields and KPH this year with very little lodging.

HUSKY: An early maturing spring type variety with high yield potential. Short straw with good resistance to lodging and moderate susceptibility to straw breakdown. Very good grain quality. Moderately susceptible to mildew and susceptible to crown rust.

WPB ISABEL: A high yielding, moderately late maturing, spring type variety. Good resistance to lodging and straw breakdown. Moderately susceptible to mildew and crown rust. Very good grain quality with a very good hectolitre weight.

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine

WINTER OATS RECOMMENDED LIST 2023

AGRONOMIC & QUALITY CHARACTERISTICS*	RECOMMENDED	
	HUSKY	WPB ISABEL
Relative Yield ♦	**101**	**99**
Straw height (cm)	111.6	114.7
Resistance to lodging	7	7
Straw breakdown	5	7
Earliness of ripening	8	5
Winter hardiness**	5	-
Resistance to:		
Mildew	5	5
Crown rust	4	5
Grain quality:		
Kernel content (%)	74.0	75.0
1000 grain weight (g)	39.8	42.1
Hectolitre weight (kg/hl)	57.9	59.9
Year First Listed	**2010**	**2020**

ORDER YOUR WINTER SEED IN TIME TO AVOID DISSAPPOINTMENT.

WINTER WHEAT

The Winter wheat list is out with seven varieties fully recommended and one provisionally recommended. Spearhead have moved to the fully recommended list, as KWS Dawsum makes its way on to the provisional recommended list. KWS Conros have being removed from list.

DAFM WINTER WHEAT RECOMMENDED LIST

COSTELLO: A moderately early maturing variety with very good resistance to lodging and good resistance to straw breakdown. Very good resistance to mildew and yellow rust, good resistance to fusarium ear blight and susceptible to Septoria tritici. Very good resistance to sprouting. Very good hectolitre weight.

GRAHAM: A very high yielding early maturing variety with good resistance to lodging and moderate susceptibility to straw breakdown. Very good resistance to mildew. Moderate resistance to Septoria tritici. Good resistance to yellow rust. Moderately susceptible to fusarium ear blight. Moderately resistant to sprouting. Good hectolitre weight.

JB DIEGO: A moderately early maturing variety with moderate resistance to lodging and good resistance to straw breakdown. Moderately resistant to mildew and fusarium ear blight. Susceptible to Septoria tritici and yellow rust. Good resistance to sprouting. Good grain quality with a good hectolitre weight.

SPEARHEAD: A very high yielding moderately early maturing variety. Moderate resistance to lodging and straw breakdown. Very good resistance to mildew. Moderately susceptible to Septoria tritici. Good resistance to yellow rust. Susceptible to sprouting. Moderate grain quality.

SY INSITOR: A very high yielding moderately early maturing variety with moderate resistance to lodging and straw breakdown. Good resistance to mildew. Moderately susceptible to Septoria tritici. Good resistance to yellow rust. Moderately resistant to fusarium ear blight. Susceptible to sprouting. Good hectolitre weight.

TORP: A high yielding, moderately late maturing variety. Good resistance to lodging and moderate resistance to straw breakdown. Moderate resistance to Septoria tritici. Moderately susceptible to mildew. Susceptible to fusarium ear blight and yellow rust. Moderately resistant to sprouting. Moderate grain quality with a low hectolitre weight.

PROVISIONALLY RECOMMENDED

KWS DAWSUM: A moderately early maturing variety, with good resistance to lodging and straw breakdown. Very good resistance to mildew and yellow rust and moderately susceptible to Septoria tritici. Very good resistance to sprouting. Low thousand grain weight with a very good hectolitre weight.

An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

WINTER WHEAT RECOMMENDED LIST 2023

AGRONOMIC & QUALITY CHARACTERISTICS*	RECOMMENDED						PROVISIONALLY RECOMMENDED
	COSTELLO	GRAHAM	JB DIEGO	SPEARHEAD	SY INSITOR	TORP	KWS DAWSUM
Relative Yield ♦	**95**	**103**	**97**	**104**	**103**	**103**	**102**
Straw Height (cm)	71.5	79.2	80.0	79.1	78.9	79.5	73.4
Resistance to lodging	8	7	6	6	6	7	7
Straw breakdown	7	5	7	6	6	6	7
Earliness of ripening	6	7	6	6	6	5	6
Resistance to:							
Mildew	8	8	6	8	7	5	(8)
Septoria spp.	4	6	4	5	5	6	(5)
Yellow rust	8	7	4	7	7	4	(8)
Fusarium ear blight	7	5	6	-	6	4	-
Sprouting	8	6	7	4	4	6	(8)
Quality:							
Grain Protein % (15%MC)	10.5	10.2	10.2	9.7	9.7	9.9	9.8
Hagberg Falling No.♠	360	276	330	133	225	224	359
1000 grain weight (g)	47.8	52.0	49.6	51.1	47.9	48.8	47.0
Hectolitre weight (kg/hl)	80.5	77.6	78.1	75.7	78.1	75.1	79.6
Market +	F	F	F	F	F	F	F
Year First Listed	**2017**	**2020**	**2010**	**2022**	**2021**	**2018**	**2023**

*Based on results from **2020, 2021** and **2022**.
♦ Yields are expressed as a percentage of the mean **JB Diego and Graham** (100 = 11.49t/ha @ 15% moisture content).
- No data.
♠ Based on results from harvests 2019, 2020 & 2021.
+ **F** - Feed quality.
( ) Limited Data.

Dairygold Biodiversity Tree Project

In partnership with..... **Trees on the Land**

Dairygold have AGAIN partnered with *Trees-on-the-Land* to supply 50,000 Native Broadleaf Trees FREE to Dairygold Milk and Tillage Suppliers this autumn!

Last year the Biodiversity Tree Project was successfully launched and saw over forty thousand trees being quickly taken up by Dairygold suppliers. This year's program will offer 50, 000 trees, completely free to any active milk and tillage suppliers to plant on their farm.
Any Dairygold Milk and Tillage supplier who wishes to receive free trees to plant on their farm, simply needs to complete an online application form. All eligible suppliers will receive a text message with a link to this online form over the coming weeks!

"We recognise the role that we must play in protecting and enhancing nature and biodiversity. Our suppliers are guardians of their land and we are delighted to partner with Trees on the Land to provide this opportunity to obtain trees to plant on your own land. An initial programme of 20000 trees, we hope to extend this offering in the coming years."
Orlaith Tynan, Head of EHS and Sustainability, Dairygold

""We are delighted to be working with Dairygold again to offer packs of native Irish trees to Dairygold Milk and Tillage Suppliers. The project was such a success last year and we look forward to packing up more trees for Dairygold suppliers this winter."
Imogen Rabone, Trees on the Land

Terms & Conditions:

- Minimum of 25 trees and Maximum of 100 trees allowed per milk or tillage supplier.
- Trees packs available in 25, 50 and 100 trees.
- Trees will be delivered to the Dairygold branch of your choice between Dec 2022– End of January 2023.
- Trees must be collected within a week of delivery to the branch. (A text will inform you of their delivery)
- The trees must be planted on your own land and Dairygold staff may visit to check their progress
- Trees must be fenced from livestock (a single line electric fence will be adequate on a dairy only livestock farm).
- Participants must provide consent to allow Dairygold to include the planted trees in future biodiversity initiatives. (Map area and mark on map anonymously to showcase biodiversity initiatives).
- Tree numbers are limited and suppliers will receive trees on a first-come-first-serve basis.
- Closing date for application is ***30th September 2022.***

Benefits of Planting Trees

- ✔ Shelter for your livestock – Health & Welfare
- ✔ Increase Biodiversity
- ✔ Mitigate Carbon Emissions
- ✔ Helps to Protect Water Quality
- ✔ Improve Soil Quality
- ✔ Social & Mental Benefits

The trees are small forestry grade whips between 40cm and 60cm tall and sometimes a little larger being one or two years old. They are very tough and hardy at this size and tend to settle in and take off far more quickly than a larger tree even if they look like tiny twigs when first planted

Photo above shows an oak tree planted in it's first year.