TRUST IN Tillage

www.agritrading.ie/Tillage **Issue 5 - March 2017**

Dairygold's Agronomy Bulletin

ALSO IN THIS ISSUE

Welcome to

Trust in Tillage

DAIRYGOLD'S
AGRONOMY BULLETIN

Dear Trust in Tillage reader,

As we begin our new growing season in 2017, on behalf of our Tillage Team may I wish you all a very successful year and to let you know that we will continue working to provide you with the best service to partner your business.

We hope to make our Trust in Tillage bulletins very relevant to you the grower with up to date advice on all aspects of tillage and articles on topics of interest. This month we will be incorporating our malting bulletin also.

With the recent rainfall of over 25mm in our catchment area leading to poor ground conditions we can only plan work rather than actually doing it. Soil temperatures are 2 to 4 degrees above normal so when the weather does improve and we start to get some growth it is important to have nutrients available to crops. Beans sowing has been delayed but there is still time.

We have a packed bulletin, with some new additions like articles on beans, preparing your sprayer, malting bulletin, Spring recommended list and also some of our usual items like our crop watch.

If you have any feedback on this edition or if there is any topic you want discussed, please contact any of our specialised tillage team and we would be delighted to oblige. My email is **ngriffey@dairygold.ie**

Yours sincerely,

Nial Griffey

Nial Griffey B.Agr.Sc. I.A.S.I.S.

TILLAGE TECHNICAL MANAGER,
DAIRYGOLD AGRIBUSINESS

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CROP Watch

By MARY DEANE B.Ag.Sc

March 2017, in general, Winter crops have overwintered very well. Due to the favourable conditions last Autumn and the milder than usual winter, crops established strongly and have been given an ideal start to the season.

Overall, it is estimated the area for Winter Wheat has increased slightly while Winter Barley area has been reduced compared with last year's figures.

There is evidence of Mildew present in almost all crops and control should be considered in the first fungicide application.

Our key recommendation is get fertiliser on as soon as possible, when ground conditions and weather permit. Hopefully farmers are armed with soil results because as one farmer said to me lately, "Farming without soil sampling is like driving a car at night without your headlights on".

Farmers should select a suitable fertilizer to supply sufficient N for early crop requirements, and deliver sufficient P and K to maximise grain yield. We in the Dairygold Tillage Team have produced our own specialised fertilizer suitable for most of our catchment area, products like Winter Cereal Boost and Spring Cereal Boost to name just two, these proved very popular last year and have grown hugely this year. Our specialised tillage team would be glad to discuss your fertiliser plan with you.

Straw Removed (kg/ha)					
Soil K Index	Crops[1]				
	Winter Wheat[2]	Spring Wheat[2]	Winter / Spring Barley[2]	Winter Oats[3]	Spring Oats[3]
1	140	130	115	160	140
2	125	115	100	145	125
3	110	100	85	130	110
4	0	0	0	0	0
Straw Incorporated (kg/ha)					
1	70	70	65	75	65
2	65	55	50	60	50
3	50	40	35	45	35
4	0	0	0	0	0

1. Assumed crop yields: Winter wheat = 11 t/ha, Spring wheat = 8.5 t/ha, Winter Barley = 8.5 t/ha, Spring Barley = 7.5 t/ha, Winter oats = 9.0 t/ha, Spring Oats = 7.5 t/ha
2. For wheat and barley crops: increase or decrease K rate by 9.8 kg/ha per tonne increase or decrease in grain yield.
3. For oat crops: increase or decrease K rate by 14.4 kg/ha per tonne increase or decrease in grain yield. (Source Teagasc)

WINTER BARLEY:

Due to the good soil temperatures over the winter, there was an increase in crop growth and with the additional release of soil Nitrogen, crops appeared as strong green during the winter months.

However, over the last couple of weeks, Winter Barley has turned slightly yellow in colour.

Complete application of P and K whenever ground conditions allow. Research shows that there is no advantage or disadvantage to applying nitrogen earlier than the traditional timing early to mid-March with no more than 30% of total Nitrogen applied in the first split.

The majority of crops received weed control in the autumn with results being very good. For the remaining crops yet to receive a herbicide, attention should be focused on them early for best control. There is evidence of mildew in most crops this year but incidences of Rhynco and net blotch remain low to date. Currently, there seems to be higher levels of Rhynco in 2 row varieties of Winter Barley in this area. These disease levels should be monitored regularly and should be addressed in first fungicide application. Your local Dairygold Agronomist will be happy to advise you on which chemicals to apply for optimum results.

Winter Barley

Nitrogen	1st Application	Main Dressing		Notes
2 row varieties below 150 kg/ha N	Early March Approx. 30% 50 kg/ha N	Late March GS 30-31 Remaining N 150 kg/ha/N (120 units/ac) (split N may be advisable to reduce risk of leaching)		- Crop 9.5t/ha (3.8t/ac) - **if take-all is a risk increase the early(s) application to 70kg/ha apply all N by GS31**
2 row varieties Above 150 kg/ha N	Feb - early March Approx. 30% (50 kg/ha N)	Mid March Approx 60% of total	Before GS 32 Final 15-20%	

Source: Teagasc Crop Report

WINTER WHEAT:

Winter wheat has also established well. Generally, crops are at early to mid tillering.

If Winter Wheat has not received an Autumn Herbicide, these fields should be assessed and herbicide applied as early as possible. Weeds such as Wild Oats, Cleavers and grass weeds rob the most yield from crops and can cause increased difficulty at harvest.

Plant Growth Regulator (PGR) should be applied at GS30/31 for maximum results. options include CCC (add an adjuvant or K2 in cold weather) or Moddus +CCC.

Teagasc research has shown that there is no significant benefit in applying a T0 fungicide at GS 30/31.

Use a compound fertilizer where P and K have not already been applied. If using greater than 150kg/ha, it should be applied in 3 splits (¼, ½, ¼).

WINTER OATS:

Winter oats have come through winter well with early sown crops very advanced at this stage.

Delay the first N application of approx. 45 units per acre until mid-March unless crops are backwards. A compound will be required in most cases. Take care not to overdo N application especially on Barra and Binary.

Consider Spring weed control products for crops that have yet to receive a herbicide.

As mildew levels are high this year, treatment should be considered when Growth Regulator is being applied to treat existing mildew and help maintain clean new growth.

PGR; consider a two spray PGR programme to prevent lodging, the first at GS30 and the second at GS32. Options include CCC, Moddus + CCC or Ceriade.

WINTER OILSEED RAPE:

Oil Seed Rape established excellently in the Autumn and with good growth continuing over the winter months, large canopies are now visible. Crops are looking well and because of lower levels of pigeon damage, crops are consistent. In general, they are between GAI 1.5 and GAI 2.5 with less Nitrogen now needed to bring to GAI 3.5 saving you money on N.

Applied N can be reduced by what you consider to be your level of soil N from experience. Hunger would take from potential yield but excessive canopy can hit yield. Crop needs 25/30 kg S/ha. Boron is also important. And have P and K at optimum levels using soil sampling.

IN THE FIELD WITH . . . .

Liam Leahy, Dairygold Agronomist visits the farm of William Tait in East Cork. William has 40 acres of Oilseed Rape that was planted on 20th September 2016 into a very good seed bed and sprayed immediately with Katamaran @ 2Lt/Ha. This worked very well except for some volunteer Charlock which became an expected issue in the early winter. These were sprayed in late October with Salsa plus a wetter and also included Stratus Ultra to clean up all volunteer cereals from the previous barley crop. The crop also received 0-10-20 at planting @300 kg/ha. In late November the crop was sprayed in a preventative way against Phoma and Light Leaf Spot (LLS) with Proline. No Plant growth regulator was used due to late planting date and normal growth stage of crop.

Growth was very forward during the winter with no slug damage and for the first time while growing rape, pigeons didn't feed on the crop at any occasion. This was probably due to the advanced growth which detracts pigeons from landing and also simply the fact that they probably weren't as hungry as other years due to the mild winter.

Over the winter months, the crop has grown at a rapid rate and on the 20th February the crop had a GAI of 2 with green buds visible and starting to extend above last leaves. A decision was made at that time to spray for LLS with Proline @ 0.3Lt /Ha and include Toprex @ 0.36 Lt/Ha to start slowing down stem extension and encourage more side shoot development. Also at this time a Nitrogen plan was discussed and a decision taken to apply a total of 155Kg/Ha of Can+S in two splits. This is probably 25kg/Ha more than recommended but given the fact that the field is in tillage for a long time and light soil by nature, the extra allowance was justified. This still represents a saving of 70kg/Ha compared to a normal crop any other year.

Liam Leahy and William Tait in East Cork.

Today March 10th, Liam and William assessed the crop and a decision was made to apply all Nitrogen in 1 split. It was felt that with the rate of crop growth, the time would be too short between the originally planned 2 splits. Weather was also a concern as it may be difficult to get a proper spread pattern in the crop if conditions deteriorated. The crop has flowers opening at this stage which is exceptionally early.

The next planned entry will be for sclerotinia control with a 1 spray program at Mid flowering in late April. There is an argument that this should be repeated 3 weeks later in a season like this as its likely that we will have an extended flowering period; that decision is for another day.

William practices a strict crop rotation plan on all his lands as he finds it very beneficial to his yields and soil health. Along with Oilseed Rape he grows Beans and Oats which are used as an entry crop for Winter Wheat or Spring Wheat which is then followed with Winter Barley followed by Spring Barley.

By TIM O'DONOVAN, B.Agr,Sc., Seedtech

Spring Beans

BEANS:

Planting has started but the weather hasn't been kind. The overall area for beans is continuing to increase as they a popular break crop and offer an attractive protein payment. Beans Contracts are available through your local Dairygold tillage ASM.

Sowing date:

- Beans have a wide window for drilling but yield is significantly reduced when drilled after early April. Drilling too early increases the risk of rook and crow damage - this can be alleviated by deeper drilling depth (e.g. to 10 cm or 4") but crows will 'improvise' and pull up emerging beans if food is scarce.

Emerging bean plants up-rooted by rooks

Sowing rate:

- Teagasc research has shown that the optimum plant population for spring beans is 30-35 plants/m2. To achieve this, you should drill 35-40 seeds/m2 assuming 90% germination and 5% field losses. These figures should be adjusted to reflect seed lots and soil conditions.

To calculate an appropriate seeding rate:

$$\frac{\text{T.S.W X Target Plant Population/m2 X 100}}{\text{\% Establishment}} = \text{SEED RATE (KG/HA)}$$

TSW* (g)	SEED RATE Assuming 85% Establishment	
	kg/ha	Stone/Acre
500	206	13.1
550	226	14.4
600	247	15.7
650	268	17.1
700	288	18.4
750	309	19.7

** TSW = Thousand Seed Weight in grams*

All beans will have the TSW on big bags and on each 2 ton pallet of small bags

Fertilizer:

- The optimum pH is between 6.5 – 7, however if the pH is below 6.0 then an application of lime is needed. Incorporate P & K into the seedbed – this is especially important in low index fields and may determine how you establish the crop.

- Seedbed nitrogen is not needed – it will boost early season growth but makes the bean roots 'lazy', reducing nodule efficacy and results in no extra yield (Teagasc and PGRO research).

- The most common trace element deficiencies are of manganese (Mn), magnesium (Mg) boron (B) and sulphur (S).

P and K requirements (kg/ha) for beans:

Soil Index	N	P	K
Index 1	0	50	125
Index 2	0	40	60
Index 3	0	20	40
Index 4	0	None	None

(Taken from Teagasc Green Book)

Weed control:

- Beans are very susceptible to weed competition, especially in their early stages of growth, therefore a good weed control programme is essential. Later, weeds can cause serious harvesting difficulties especially if harvesting occurs in broken weather. Uncontrolled grass weeds such as scutch and vol. cereals can carry over take-all, reducing the benefits of beans as a break crop.

- Almost all broad-leaved weed control options in beans are residual herbicides which need a level, reasonably fine seed bed for optimum efficacy. These products should be applied before the crop emerges (>13 mm soil cover).

Beans with a pre-emerge applied – note the weeds emerging from soil cracks, reinforcing the need for a good seedbed.

Broad-leaved weed control options include:

- 1.7 l/ha Lingo + 3.5 l/ha Nirvana
- Defy 4.0l/ha + Nirvana 2.5l/ha
- 2.0 l/ha Lingo + 800 g ai/ha pendimethalin
- 4.5 l/ha Nirvana
- Basagran is the only option as a post-emergence spray but is restricted to a narrow timing window.

Grass-Weed Control options include:

- Stratos Ultra @ 1.5-4 l/ha
- Fusilade Max @ 1 – 1.5 l/ha
- Falcon

How to use QR codes

Try it!

1. **Download a QR code reader onto your smart phone or iPhone – there are many free QR reader apps**
2. **Open the app and click "scan" if it does not automatically scan**
3. **Scan the QR code with your QR code reader app**
4. **Tap the web-link if your QR code reader does not automatically bring you to the specific website location you are looking for.**

http://www.agritrading.ie/Trust-In-Tillage

MALTING MATTERS

Issue 2 - March 2017

Cereal Growers at the Dairygold Malting Seminar in Fermoy

Malting Barley Seminar 2017

On Thursday February 16th, Dairygold in conjunction with Teagasc, held a Malting Barley Seminar in Corrin Mart Fermoy. There was a large attendance of growers from across the Dairygold region in attendance on the day. Speakers on the day included: Ciaran Collins, Teagasc, Liz Glynn, Teagasc, Seamus Kearney DAFM, Richard Hackett, Teagasc, Eamonn Lynch, Teagasc, Seamus O' Mahony, Dairygold and Edmund Lynch, Dairygold board member and Chairman of Malting Company Of Ireland.

L to R Gerry Galvin, Fermoy, Richard Gallagher, Glanworth, Michael English, Dairygold.

L to R Matt Lawlee, Dairygold, Derry Walsh, Coachford, Joe O' Callaghan, Dromohane, Jim and Aiden Deasy, Aherla.

Seamus O'Mahony Head of Sales Dairygold Agri business commented on the day that "our aim is to bring the various stakeholders in the Malt Supply Chain together to embrace the best technologies available today to grow Malting Barley for 2017". Seamus O'Mahony, in thanking customers for their business for 2016, assured the shareholders and customers present that Dairygold staff from branch managers to our specialised tillage team are looking forward to partnering with the Malting growers

in 2017 as well as looking for every opportunity to add value to grain through correct agronomy support.

Edmund Lynch, Dairygold board member and Chairman Of Malting Company of Ireland thanked everyone for the huge turnout and promised that Dairygold would again do its utmost the support the Arable farmers after four poor years. He cited planned field evenings, targeted communications such as Trust in Tillage adding value to grain via malting barley premia, maximising the utilisation of native grain and beans through Lombardstown Mill and the Co-op track record of supporting grain prices. He stated that Dairygold were proud to support grain price in 2016 and that the Arable Farmer would continue to be an integral part of the co-op for the future.

L to R Michael Kearney, Shangarry, John Garde, Inch, Pat O' Connor, Carrigtwohill and Liam Leahy, Dairygold

L to R Matt Lawlee, Liam Leahy, Mary Deane, Seamus O' Mahony and NIal Griffey, Dairygold

EARLY SEASON MANAGEMENT TO ACHIEVE HIGH YIELDS AND MALTING BARLEY

By CIARAN COLLINS, TEAGASC

What makes a high yield of barley possible?

A high yielding barley crop will produce more grains per unit area. This is in contrast to wheat where the size of the grain as well as the number of grains is important. So to have the best possible chance of achieving a high yield of barley, you should ensure that your barley is thick, in other words that you end up with >900 shoots/m²at harvest. This principle applies to both malting and feed barley. Working the soil in the right conditions, adequate soil nutrition and using the correct seed rate are the other important early season factors to achieving high yield and quality.

During the period from 2011 to 2013 Teagasc had spring barley reference crops at three locations, (Cork, Wexford and Carlow) where the growth and development of these nine crops was monitored. The outcome of these trials was that final yield of the reference crops was very closely related to the grain number per unit area as in figure 1, whereas the main factor affecting grain number was ear number per unit area, so to maximise the yield of a barley crop the number of ears per unit area must be high, figure 2.

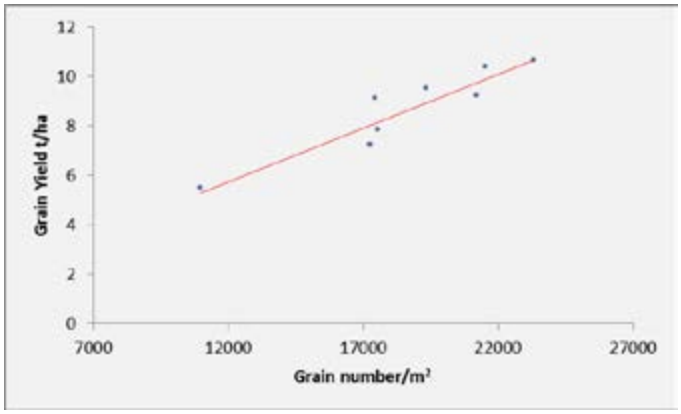


Figure 1.

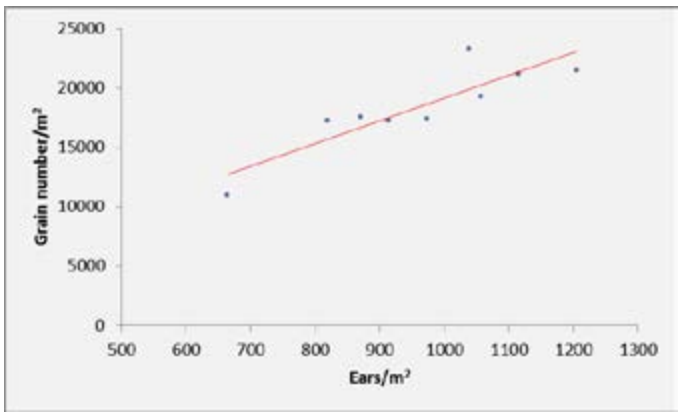


Figure 2.

Achieving a high ear number per unit area starts with sowing the correct number of seeds in conditions conducive to good establishment. Good seed establishment will not be achieved when sowing in poor conditions so while early sowing is desirable for malting barley the seedbed conditions must be right first.

It is important to check the thousand grain weight (tgw) of the seed before you plant as there can be large variations in tgw between different varieties and this will greatly influence sowing rates. Table 1 has suggested sowing rates for the malting varieties Planet and Propino at different establishment percentages. It is important to alter seed rates depending on field conditions. Teagasc spring barley trials (2011-2013)

Table 1. Seed rates at different establishment %

	Kg/ha (st/ac)			
Establishment / variety / tgw	70%	80%	85%	90%
Planet (53.9)	231 (14.7)	202 (12.9)	190 (12.1)	180 (11.4)
Propino (54.7)	234 (14.9)	205 (13.1)	193 (12.3)	182 (11.6)

recorded average establishment rates of 71%.

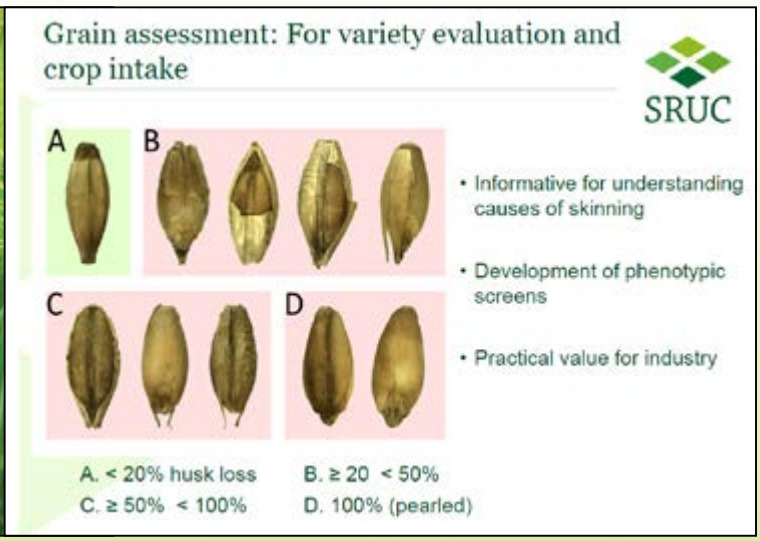
Early sowing (but conditions must be good) is an important factor in achieving quality malting barley. Firstly it allows for an earlier harvest which gives the grower a better chance of achieving the quality specifications of malting barley particularly in relation to skinning. Recent research carried out by the SRUC in Scotland indicated that even when varieties susceptible to skinning were harvested early there were much lower incidences of skinning compared to the same variety harvested two weeks later.

KEY POINT: The second factor favouring earlier sowing of malting barley is that these crops have a better chance of achieving the lower protein specification.

An up to date soil test result is critical to determine the amount of phosphorus (P), potassium (K) required and to ensure the field is at the correct pH, ideally 6.5. A 7.5t/ha (3.0t/ac) spring barley crop will remove 29kg/ha P (23 units) and 86kg/ha K (68 units) at harvest so this is the minimum fertiliser requirement for a high yielding spring barley crop. This P and K should be incorporated in the seed bed along with 45kg/ha (36 units)

Ciaran Collins, Teagasc Specialist provided the audience with an update on skinning in barley (where the grain loses some or its entire outer husk) from research by SRUC, Scotland's Rural College. Ciaran pointed out the factors found to contribute to skinning which included variety, nitrogen, harvesting and environmental factors. "There is no easy solution to the problem. Early drilling, avoid excessive nitrogen and ensure the correct combine settings, especially where skinning susceptible varieties are grown," added Ciaran.

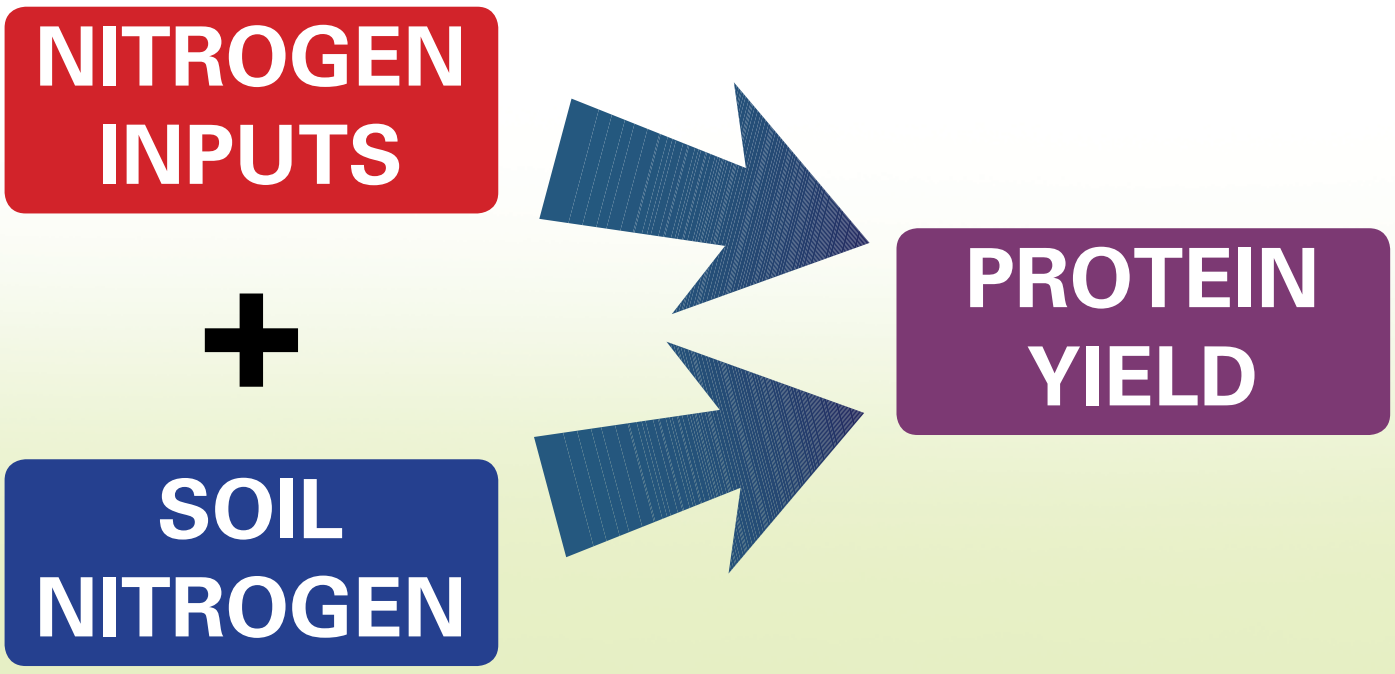
KEY POINT: Sowing from mid-March when conditions are right gives the best balance between yield and protein and remember *'well sown is half grown'*.



By RICHARD HACKETT, TEAGASC

- **Use past data to identify need for change**
- **Take site history into account**
- **Manage crop for good yield**
- **Sow early but in good conditions**
- **Ensure adequate lime, P, K and other nutrients**
- **Ensure good weed, disease and pest control early for best control**
- **Use previous protein to help gauge fertiliser N inputs**
- **Protein reduces by ~ 0.2% per 10 kg N/ha**
- **Must take N in organic manures into account**

WHAT INFLUENCE PROTEIN YIELD



EFFICIENT USE OF FUNGICIDES ON MALTING BARLEY

By LIZ GLYNN, TEAGASC

Yield Formation and Leaf Emergence

- Leaf emergence is controlled by thermal time
- Each leaf emerging at a set number of day degrees after the previous one-PHYLLOCHRON
- Average phyllochron-82 degrees days
- Generally the earlier a crop is sown the longer its phyllochron
- Later sown crops catch up with earlier sown ones by producing less leaves and having a shorter phyllochron

Tiller Production and Ear Number

- Tiller production and survival are the most important factors determining yield in spring barley
- Maximum tiller number usually occurs just before stem extension
- Final ear number is set by flowering,thus crops with low ear numbers will generally have a low yield potential
- Target ear number is approx. 950 ears/msq

Optimim Timing of Application

- Tillering and awn emergence gave best response
- No benefits from more than 2 applications
- Apply a mixture of two half rates for best response

Product Choice

- SDHI products-plenty to choose from
- Triazoles-good disease control spectrum
- Strobilurins-good mix partner
- Multisites-Always included @GS39/49
- Morpholines/Mildewcides-when required

Summary

- No benefit from more than 2 applications
- Use a minimum of 2 actives at each timing
- Equal spend at each timing
- No more than half rate doses of each mix partner required with a minimum of 2 partners

PROGRAMME FOR 2017

	Tillering GS <30	Awn Emergence GS 39/49
Target Diseases	• Rhynchosporium • Net Blotch • (Mildew) • (Rust)	• Rhynchosporium • Net Blotch • Ramularia • (Mildew) • (Rust)
Programme	**Mixtures** SDHI/azole/Strob/multisite Mildewicide where required	**Mixtures** SDHI/azole/Strob Mildewicide where required Chlorothalonil needed here for Ramularia control

GREENGROW TOP DRESS CEREAL

PASTURE BOOST

26% Nitrogen + 4% Sulphur
+ Wolftrax Magnesium

Greengrow Top Dress Cereal Boost is a top dressing Nitrogen fertiliser for use instead of Sulfa CAN. With added Wolftrax Magnesium, it provides a readily available source of Magnesium for the rapidly expanding crop.

dairygold
Golden Valleys, Growing Naturally

wolftrax
INNOVATIVE NUTRIENTS

GOULDING

What is Wolf Trax Magnesium?

Wolf Trax Magnesium DDP (Dry Dispersible Powder) micronutrient is a patented formulation technology which allows individual fertiliser granules to be coated with individual micronutrients such as Magnesium, Manganese or Zinc. In practice this means that the trace element is carried into the soil with the dissolving fertilizer granule and so is readily available to plant roots.

IMPORTANCE OF MAGNESIUM:

- Magnesium is the key component of chlorophyll.
- Chlorophyll is vital to the rapidly expanding new leaves in growing crops and for the formation of subsequent grain sites. The key to yield and quality.
- Magnesium is a stress reducer. An early application of magnesium taken up by the plants root system is vital in times of stress and drought. This is particularly important in grain crops.
- Proactive is better than reactive where magnesium is involved.
- Magnesium will activate more of the plants enzymes than any other micronutrient.
- With Wolf Trax Magnesium, the plants root system can access the micronutrient efficiently and effectively through the dissolving fertiliser.

Product	Rate	Nitrogen	Sulphur	Magnesium
Sulfa CAN	3 Bags/ac	79.8	15	✗
Top Dress Cereal Boost	3 Bags/ac	78	12	✓

dairygold
Golden Valleys, Growing Naturally

wolftrax
INNOVATIVE NUTRIENTS

GOULDING

fanfare
SPRING B EAN

Fanfare Spring Bean

No. 1 variety in Irish trials. Unbeaten for yield & disease resistance.

fuego
SPRING BEAN

Fuego Spring Bean

Reliable & proven variety. Consistently most popular Spring Bean with Irish farmers over the last 5 years.

Buy Irish certified seed to ensure the highest purity and to avoid quality issues

SEEDTECH
An Arvum Group Company

Available in all Dairygold Branches

KEY POINT: You must Target good Yield & Quality, To Achieve this; choose a good site, Plastic cover where appropriate, the most suitable variety for your site, and follow best practice crop nutrition and weed control Recommendations.

- **Site:** Your Choice of site is critical to giving you an economic return to growing maize (growing maize on margin sites is high risk). Choose a sheltered south facing field (warmest on farm) with light to medium soil type and good drainage as maize will not tolerate compaction. Site Altitudes should not exceed 100m.

- **Plastic:** Plastic covers help to deliver consistent yield and quality and crops under plastic are also likely to mature earlier which can enable early harvesting which can also be important. Plastic is likely to consistently deliver an economic return as sites become more marginal.

- **Varieties:** Use varieties from the Irish recommended list as they are proven independently under Irish Conditions. Match your choice of Variety to your site (choosing a slightly earlier maturing variety may mean marginally less yield but will deliver a more reliable maturity, quality & suitable harvest date). Contact your Dairygold Tillage ASM for further advice.

- **Weed Control:** Controlling weeds early is very important for successful maize crop. Do not skimp on rates under plastic and consider a good wetter which can significantly improve weed control (Particularly in less than ideal conditions) but proper seedbed preparation is vital (fine & firm). A follow up overspray of an appropriate post emergence product may be necessary if weeds come through (between the rows). Weed control in uncovered crops is best done early around the 2-4 leaf stage of the crop but may have to be delayed if the crop is struggling.

Maize Gold Boost

- Maize is a high output crop and requires significant soil nutrients to support yield.
- An up to date soil analysis is vital to ensure proper crop nutrition.

Nutrient Requirements for Maize (units/ac)

- Chemical Nitrogen fertiliser is best applied before the last cultivation and incorporated in as top dressing Nitrogen fertiliser after emergence can cause scorch
- Zinc is the most important trace element deficiency in maize and most likely to elicit a yield response when applied however Magnesium and Manganese deficiencies are very common also.

	N Allowance	P Allowance	K Requirement
Index 1	144	56	200
Index 2	112	40	180
Index 3	88	32	152
Index 4	60	16	96
Typical nutrient value 5000 gallons/ac Slurry	-30	-21	-127
Field Requirement = Requirement - Slurry			

Dairygold Maize Gold Boost

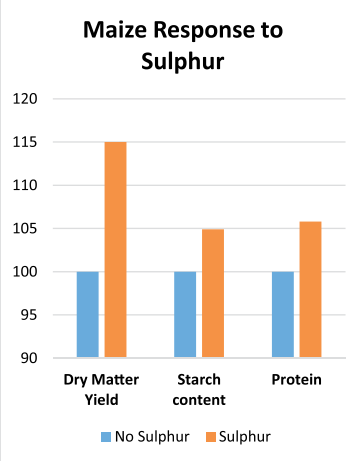
19 – 4 – 19 + 1.3% Sulphur + Wolftrax Zinc

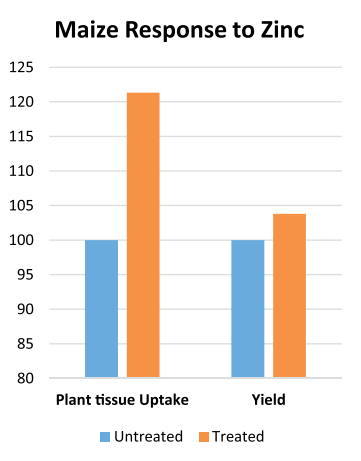
Dairygold Maize boost is specifically formulated to meet maize nutrient requirements in the South West of Ireland. It should be applied at a rate of 8-9 bags/ac and incorporated into the soil prior to sowing.

	Bags to the acre	Nitrogen Index 1	Phosphorus Index 3	Potassium Index 3	Sulphur	Zinc
Crop Requirements		144	32	152	16	Yes
16-4-20	9	144	36	180	0	✘
Maize Gold Boost	8	152	32	152	10.4	✔

Features & Benefits:

- The Nitrogen in Maize Gold Boost is Urea based. As the product will be incorporated into the soil there are no issues or fears with regard ammonia losses.
- Nitrogen from Urea is held longer in the soil and provides a prolonged release thus feeding the crop later into the season.
- Sulphur – Maize Gold Boost supplies much needed Sulphur to the plant that can increase Dry Matter Yield by up to 15%. Sulphur applications can also increase starch levels and protein content





- Wolftrax Zinc – Zinc is the most common trace element deficiency found in Maize grown in the South West of Ireland. Early intervention with zinc coated fertiliser can prevent yield penalties from the outset.

Sulphur:

Trials by the Maize Growers Association in the UK have shown:

- Up to 15% increase in DM Yield
- Increase in starch content
- Increase in crude protein

Zinc:

- Trials have shown DM Yield increases of between 3.8% & 8%
- Better emergence and more uniform crop size
- Zinc application through fertiliser when soils are cold and roots are small is much more timely that through foliar applications (warmer soils, larger roots)

PREPARE SPRAYER FOR NEW SEASON

- Dairygold recommends that sprayer operators are wearing PPE (Proper Protective Equipment) when handling agrochemicals. Safety is vital. These are available at all our chemical stocking stores. Always remember that chemicals can be very corrosive and can burn skin and damage eyes. For safety have tractor switched off and check PTO.
- If your sprayer has a boom width over 3m under the Sustainable Use Directive it has to be inspected and certified. They have to be tested every five years until 2020 and every 3 years after that.
- Clean your sprayer properly before new season, power-washing inside as well as outside to get rid of all contaminants that may have lodged in or stuck to it in previous season. Rinse out tank properly away from open water courses
- Check all nozzles by running machine, if some are damaged it is best to replace them all for a uniform spray pattern, also choose nozzles that suit type of spraying you will be doing.
- Make sure all controls whether manual or electronic are working properly.
- Check pump for blocked valves and falling pressure, if pump is failing it may need to be reconditioned.
- Check pipes and hoses for wear and frost damage.
- Check booms, break-back mechanism and that boom pipes are attached properly.
- Check the tank and sprayer body, watch for any cracks.
- **SAFE SPRAYING.**

GREENING ASSESSMENT

Is your farm 100% grassland?	Yes /No
Is your farm greater than 75% grassland and less than 30 Ha Tillage?	Yes /No
Is your entire farm Certified Organic?	Yes /No
Do you have less than 10 ha arable land?	Yes /No

If you answered "Yes" to any of the above, you are exempt From Greening
If you have answered "No" to ALL of the above, continue to calculation below:

CROP DIVERSIFICATION CALCULATION

Your tillage crop area		A. _____
Your temporary grassland area + arable Fallow		B._____
Total Arable area	(A+B) =	C._____
If "C" is 10 ha to 30 ha →	2 crops needed	
Largest crop area must be less than	(C x .75) = _____ha	
If "c" is over 30 ha →	3 crops needed	
Largest crop area must be less than	(C x .75) = _____ha	
Total of your 2 largest Crops area must be less than	(C x .95) = _____ha	

ENVIRONMENTAL FOCUS AREA CALCULATION:

If "C" is over 15ha	5% EFA needed
	Ha EFA you require (C x .05) = _____ha

Source: Teagasc
Further information available at **www.teagasc.ie**

Make sure your seed drill is calibrated correctly:

SPRING BARLEY					
Sowing Date (Week)		Up to Mid March	Mid to Late March	Early to Mid April	Late April
Target plants per m²		280	300	300	325
% Establishment		85%	85%	85%	90%
	TGW*	**Kg/ha**	**Kg/ha**	**Kg/ha**	**Kg/ha**
Irina	52.4	173	185	185	189
Mickle	51.8	171	183	183	187
Propino	54.7	180	193	193	198
Sanette	53.9	178	190	190	195
Paustain	53.7	177	190	190	194
Planet	53.9	178	190 1	90 1	95
	TGW*	**Kg/ha**	**Kg/ha**	**Kg/ha**	**Kg/ha**
Irina	52.4	11	11.8	11.8	12.1
Mickle	51.8	10.9	11.6	11.6	11.9
Propino	54.7	11.5	12.3	12.3	12.6
Sanette	53.9	11.3	12.1	12.1	12.4
Paustain	53.7	11.3	12.1	12.1	12.4
Planet	53.9	11.3	12.1	12.1	12.4

* DAFM recommended list 2017. Please check each seed lot

Use the following calculation to set your drill:

$$\frac{\text{Target Plant per m}^2 \text{ X TGW}}{\text{Estimated Plant Establishment\%}} = \text{SEED RATE in Kg/ha}$$

Example:

$$\frac{280 \text{ X } 54.7}{85} = 180 \text{ Kg/ha}$$

RECOMMENDED LISTS 2017

SPRING OATS 2017				
AGRONOMIC & QUALITY CHARACTERISTICS*	RECOMMENDED			PROVISIONALLY RECOMMENDED
	BARRA	BINARY	HUSKY	KEELY
Relative Yield ❋	94	109	106	108
Straw height	110.8	105.4	107.3	107.6
Resistance to lodging	4	5	7	(5)
Straw breakdown	4	6	5	(4)
Earliness of ripening	6	6	8	(7)
Resistance to:				
Mildew	3	7	6	(6)
Crown Rust	4	5	4	(5)
Quality:				
1,000 grain weight (g)	41.0	44.7	42.0	40.8
Kernel content (%)	70.5	71.5	70.9	70.5
Hectolitre weight (kg/hl)	56.3	53.7	54.4	55.5
Year First Listed	1985	2011	2009	2017

* Based on trial results from 2014, 2015 and 2016.

❋ Yields are expressed as a percentage of the mean of Barra and Husky (100 = 7.7 t/ha @ 15% moisture content)

RECOMMENDED LISTS 2017

SPRING WHEAT 2017			
AGRONOMIC & QUALITY CHARACTERISTICS*	RECOMMENDED		
	QUINTUS	RBT DOUBLESHOT	SPARROW
Relative Yield ♦	106	102	98
Straw height	75.8	70.9	71.4
Strength of straw	5	5	8
Earliness of ripening	7	6	5
Resistance to:			
Mildew	7	5	5
Septoria spp.	6	6	6
Yellow Rust	8	5	7
Sprouting	#	-	6
Quality:			
Grain protein content (%)	11.5	11.9	11.8
Hagberg falling number ♣	282	345	327
1,000 grain weight (g)	48.1	42.6	47.2
Hectolitre weight (kg/hl)	76.2	76.9	76.6
Hardness index (kg/hl)	Hard	Hard	Hard
Year First Listed	2015	2015	2010

* Based on trial results from 2014, 2015 and 2016.
♦ Yields are expressed as a percentage of Sparrow and RGT Doubleshot (100 = 8.7 t/ha @ 15% moisture content).
♣ Based on results from 2013, 2014 & 2015.
- No Data.
Limited data suggests that Quintus can be susceptible to sprouting.

RECOMMENDED LISTS 2017

SPRING BARLEY 2017						
AGRONOMIC & QUALITY CHARACTERISTICS*	RECOMMENDED					PROVISIONALLY RECOMMENDED
	KWS IRINA	MICKLE	PAUSTIAN	PROPINO	SANETTE	RGT PLANET
Relative Yield ♦	103	101	101	99	102	105
Straw height	73.6	69.9	75.2	79.1	73.5	76.3
Resistance to lodging	7	7	6	5	6	(5)
Straw breakdown	7	7	6	5	5	(5)
Earliness of ripening	6	7	5	6	5	(5)
Resistance to:						
Mildew	8	5	8	6	8	(8)
Rhynchosporium	6	7	7	6	7	(7)
Brown Rust	6	5	7	5	5	(6)
Net Blotch	8	5	6	5	7	(5)
Quality:						
1,000 grain weight (g)	51.9	51.4	52.1	52.4	52.0	53.4
Hectolitre weight (kg/hl)	63.5	66.2	65.9	65.6	64.7	65.1
Screenings% (<2.2mm)	2.7	1.7	2.4	1.3	2.0	2.1
Year First Listed	2014	2013	2015	2011	2014	2017

* Based on trial results from 2014, 2015 and 2016.

♦ Yields are expressed as a percentage of the mean of Propino and Mickle.

DAIRYGOLD AGRI DIVISION TILLAGE TEAM

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