Fieldwise
AGRONOMY NEWS FROM HUTCHINSONS
Crop Production Specialists
FEBRUARY 2021

Towards a Greener future – Hutchinsons Environmental Services

Environmental Services Specialist, Hannah Joy explains how new support services from the team at Hutchinsons will work in the best interests of both the farm and the wider farmed environment.

Hannah Joy *Environmental Services Specialist*

Matt England *Environmental Services Specialist*

Hutchinsons Environmental Services offer professional, practical advice and support to both our agronomists and their growers in relation to Countryside Stewardship Schemes, Environmental Stewardship and any wider Agri-Environmental Issues.

Hutchinsons has specialists who provide training and support to all our agronomists in order to help them to understand the importance of designing and implementing Countryside Stewardship schemes on behalf of their growers that not only work in the best interests of the farm, but also benefit the wider farmed environment. We also offer management opportunities, to include record keeping, mapping and regular checks on scheme options, to provide assistance in the running of such a scheme through a system, with as much or as little involvement as is required and requested by the grower.

A new team

Hutchinsons currently employs two Environmental Services Specialists: **Hannah Joy** who joined in September last year, has already begun working closely with several of our agronomists to engage with growers in the Countryside Stewardship schemes and has now successfully signed up growers ahead of the Countryside Stewardship application window.

Matt England who joined us at the beginning of January, also offers a wealth of experience in putting together and managing Agri-Environmental schemes, as well as wider conservation work. >

Headland pollinator resources at the national Helix Farm

Dick Neale *Hutchinsons Technical Manager*

Countryside Stewardship

Agri-Environmental work is becoming ever increasingly important with the changes that agriculture faces in the coming years. The Countryside Stewardship scheme provides financial incentives to farmers and land managers to look after and improve the environment. The final year for Countryside Stewardship applications will be 2023 for a 2024 start date.

With Basic Payment rates being reduced this year, many farmers will be looking for alternative incomes and ways to potentially recoup some of this lost income. Through Countryside Stewardship, funding is guaranteed for the full five-year duration of a scheme and so is a great way to prepare for the future. For 2021 applications onwards some changes are hoped to be made, to simplify the administration process and to make the inspection process fairer.

The application window for Countryside Stewardship schemes with a January 2022 start date will open in mid-February - by May 31st an application pack must be requested, with an application for Mid-Tier schemes submitted by 31st July.

Environmental Land Management Scheme

Much emphasis has been put on how being involved in a countryside stewardship scheme now will act as a great steppingstone for the transition into the new Environmental Land Management Scheme (ELMS).

ELMS is set for roll out in late 2024 and (with the current information) will consist of three elements:

1. **The Sustainable farming incentive** – The SFI is designed to pay for environmentally sustainable land management actions that will be designed for ALL farmers to get involved with and do. Actions are to be grouped into simple packages to make it as easy as possible for farmers to identify those best suited and most achievable on their farm.
2. **Local Nature Recovery** – will focus on farms that will require work with others to provide greater environmental benefit.
3. **Landscape Recovery** – will involve bespoke agreements to support long term land use change projects, for example rewilding.

More information on the scheme is hoped to be released this year, however we do know that anyone who is entered into a Countryside Stewardship scheme which does not end until after the roll out of ELMS can, without penalty, break their current agreement and transfer into ELMS, if they are successful in obtaining an agreement and for the business, see it as a better option.

If you would like to hear more about how Hutchinsons new environmental services can benefit your business, please contact us: information@hlhltd.co.uk

Apologies if I am stating the obvious in that spring cultivations should minimise the potential of weed germination, retain moisture and provide a good tilth for germination of seeds sown into it.

Weed germination

I mentioned weed germination first because for many, the sole reason for growing spring crops is to have major impacts on weeds like black-grass, rye grass and bromes. While these weeds are dominated by an autumn germination cycle, a proportion will germinate in the spring, so spring seedbed preparation must take this into account. Minimising soil disturbance must be a key consideration if the purpose of growing a spring crop is to be realised.

Many traditional spring cropping soils that may be light in texture and readily plough and plant are increasingly at risk of weed infestation as seeds are bought from depth and, following many years of the same approach, resistance to herbicides is seeing key weeds coming to the fore. Light soils have the potential to produce good seedbeds without the plough, so consider breaking the cycle with a different approach occasionally.

Moisture retention

Moisture retention is all important for successful establishment of spring crops. As the days lengthen and the power of the sun increases, the risk of rapid drying becomes very real, so the relationship between autumn cultivation

Spring cultivation and crop establishment

Looking forward to improving weather, Dick Neale (Hutchinsons Technical Manager) **considers the fundamentals of success for spring cultivations and cropping.**

Growing plants strongly influence the management of water within the soil profile

A multispecies cover must be used

> and the resulting spring seedbed quality must be considered.

Producing rough and uneven 'winter stable' cultivations inevitably means that more soil movement is required in the spring to level and produce the required tilth. Weathered peaks are then dragged in to the lows, leaving raw soil at the peak and loose, rapidly drying soil in the lows, leading to poor overall crop establishment across the field.

Moisture loss is simply a result of soil movement ...often a response to the fact the upper cultivated zone of soil has sat wet overwinter. This wetness is a result of cultivations de-structuring the biopores and stable fissures within the soil and slowing the passage of water through the profile because of aggregate instability and the disruption of natural soil hydraulic functions.

As our knowledge and experience of reduced tillage and direct drilling systems progresses, it is becoming clear that seeds are more than happy in an environment that supplies adequate moisture contained within a friable natural tilth ...they do not need super fine, residue free seedbeds - far from it in fact.

Providing a good tilth

Friable, natural tilth is, not surprisingly, created by biological processes within the soil. The interaction of green, growing plants and their roots ...be they sown covers or volunteer re-growth, the biology promoted around those roots and the action of worms drawn to the biology supported by the plants growing within the soil.

Some cultivation in the autumn can be utilised to assist in opening heavier soils to weathering but those cultivations must be stabilised with new roots, usually in the shape of a sown cover crop.

Cover crops for spring drilling

Growing plants strongly influence the management of water within the soil profile and also the type of tilth produced. How many of you have ever thought about how open and friable the soil is after oilseed rape, peas or beans yet the same soil is tight and un-yielding following a winter cereal crop, you notice this rapidly if you attempt direct drilling in any form.

The reason is simply root architecture and where those roots dominate in the soil. Cereal and grass roots dominate in the upper zone of soil, drying this zone rapidly during the summer but equally holding significant levels of moisture near the surface in wet periods, brassicas penetrate deep into the soil lifting and pumping water out via their large leaves, pulses produce a mass of horizontal roots at medium depth ...to optimise the area of root in contact with nitrogen fixing bacteria.

Put together, the mix of species offers complimentary water management throughout the soil profile, preventing wet zones and optimising seedbed friability.
Time of termination for spring drilling is equally important to allow heavier soils to dry in the seedbed, whilst maintaining the friability created ...in light soils covers can be left until just pre-drilling because moisture in the seedbed is rarely an issue and more likely of significant benefit.

For successful utilisation of cover crops for spring drilling, a multispecies cover must be used. Multispecies means 6-7 species, not 2 or 3. The mix of root architectures is absolutely vital to ensure that the whole soil profile is populated by roots, not just one horizon.

Release and storage of nutrients is fundamentally different between species so the mix again balances the impacts within the soil profile.

Questions about this article?

Please contact us:
information@hlhltd.co.uk

Spring seed drilling rates:

Spring crops have limited time to grow ...plant populations are vitally important to reach full yield potential and on heavier soils the rate of sowing should be:

- **Spring barley should be circa 450 seed/m^2 ...325 plants established**
- **Spring wheat circa 600 seeds/m^2 ...500 plants established**
- **Spring beans circa 55 seed/m^2 ...45 plants established**
- **Peas circa 100 seeds/m^2 ...80 plants established**

Trials reveal starter fertiliser **benefits for maize** under film

Maize growers could see a worthwhile benefit from applying a starter fertiliser to crops grown under film, according to results from Hutchinsons trials last season.

***Jim Clark** Hutchinsons Agronomist*

Diammonium phosphate (DAP) starter fertiliser is fairly common practice in open-ground maize, but has not traditionally been thought necessary in protected crops where the warmer soil increases availability of nutrients such as phosphate. Other financial and technical limitations may also have prevented it from becoming common practice.

However, the large plot trials at the Carlisle Regional Technology Centre found tangible benefits to establishment, root development and biomass growth, that translated into higher dry matter yields last autumn.

Vigorous establishment

Plots of P7034 maize were sown on 18 April under Samco green film using a specially modified drill fitted with a micro granule applicator. This applied different starter fertilisers with seed, including the ammonium phosphate-based Primary-P, Crystal Green and a new developmental product called Biolite.

Hutchinsons agronomist Jim Clark says all plots that received starter fertiliser established quickly and looked physically bigger than the untreated maize, with test digs revealing noticeable benefits to early root development. Crystal Green looked particularly impressive early on, but it was Biolite and Primary-P that topped the results after harvest, increasing dry matter yield by 3.2% and 3.1% respectively.

While it is important not to read too much into one years' results, the findings do indicate that it may be worth reconsidering the benefits of starter fertilisers in maize under film. This is especially true in more marginal maize-growing areas like the northwest, or where crops are sown late and need to catch-up, as research indicates maturity can be pulled forward by about a week where starter fertilisers are used, Mr Clark says.

"We've seen starter fertilisers can deliver a benefit on paper, and they are a useful management tool, even under film."

Maize comparison

Changing nutrition strategy

Phosphate is the most important nutrient for root development and maize establishment, especially in the first 30 days after drilling, Hutchinsons crop nutrition manager Tim Kerr adds.

There is only a finite amount of phosphate in the immediate root zone, which is likely to run out before maize can establish properly, so starter fertilisers ensure phosphate and other key nutrients are immediately available to the developing seed during this crucial period. This allows the crop to quickly develop a more extensive root system capable of efficiently "mining" soil nutrients and water through the season, he says.

Targeting nutrition more precisely with starter fertilisers could reduce the need for applying granular nitrogen or urea to the seedbed, Mr Clark continues. Growers can save this nitrogen for a foliar application as late as possible in the season when it is in greater demand by the crop.

This should improve nitrogen uptake efficiency and keep crops nourished further into the growing season, he says. It could also benefit early weed control as applying bagged nitrogen to the seedbed often feeds weeds as well as the crop.

Scaling-up trials for 2021

Mr Clark plans to repeat the starter fertiliser trial this year, potentially on a larger half-field scale given the encouraging results in 2020.

This will run alongside other trials, one of which will examine how starter fertilisers can be used in combination with an early maturing variety to successfully grow maize in open ground.

Another trial will investigate whether the establishment boost from starter fertiliser can offset some of the heat lost when using narrower films covering 50% of the field rather than 67%.

Keep up to date with all our crop trial activity online – see www.hlhltd.co.uk/fieldwiselive

YEN delivers amazing results

2020's Yield Enhancement Network (YEN) Awards show how crop potential can be pushed, even in the most challenging of seasons.

2020 was one that many will find hard to forget; the wettest autumn and winter in decades switched to drought conditions in spring, followed by a dull summer.

Despite all of this, crops were sown and entered into the YEN cereal competition, with surprising results!

***Iain Learmonth** Gardiner ICM Agronomist*

Aberdeenshire grower and Gardiner ICM agronomist **Iain Learmonth** won gold for his crop of **LG Skyscraper** winter wheat achieving 102% of a potential yield of 13.9 t/ha.

Peter Chapman

Iain's client **Peter Chapman** won gold for best potential yield with his spring barley crop of **LG Diablo** at 87% of 11.1 t/ha. Peter also won bronze for the best field yield of LG Skyscraper with a staggering 14.8t/ha.

Both Iain and Peter were sponsored by Hutchinsons, who have supported the YEN programme since it was launched eight years ago.

Iain believes that building and maintaining the biomass of the crop was key to the high yields achieved, starting with the foundation of healthy, fertile soils and well targeted nutrition, balanced through a wide rotation.

Looking specifically at the approach taken for Peter's amazing wheat yields, Iain explains that every arable acre on Peter's farm gets organic matter - this comes from his own suckler herd, bought in poultry muck and compost.

"Being high in organic matter means that the soils are more resilient to extremes of both wet and dry.

***Dr Bob Bulmer** Hutchinsons Trials Manager*

The wheat was grown on a field with fairly shallow, variable soils, but having 7- 8% OM meant that when the dry spring hit, the soils were able to hold onto the moisture that little bit longer. That said the rain came just in time as the crop hit growth stage 32."

Peter and Iain agree that their little and often approach to nutrition also contributed to the high yields. "We fine tuned the trace element inputs based on regular tissue analysis and a grain analysis.

"Tissue analysis highlighted copper and potash as the main issues, with grain analysis showing phosphate as being sub-optimal. Extra nitrogen was applied at GS39 based on Yara N-Tester results."

Interested in entering your own cereal crop in a YEN project this season? Please read updates on our website www.hlhltd.co.uk and email Dr Bob Bulmer at information@hlhltd.co.uk

YEN reports contain valuable information and highlight areas of improvements, so read them thoroughly is the advice from Dr Bob Bulmer, trials manager for Hutchinsons.

- **Look through yield maps** to identify areas with poor yield performance. Inspect these areas to identify any underlying problems with pH, nutrients, drainage and soil structure.
- **Test wheat grain for nutrients.** This is a useful check on last years nutrition programme which can help identify nutrient deficiencies.
- **Soil nitrogen reserves** will be difficult to estimate this year- consider a soil nitrogen test. Crop removal is likely to be have been low, increasing reserves. High winter rainfall will reduce nitrogen reserve.
- There are indications that **magnesium is being applied too late** in the programme. Bring this forward where magnesium deficiency has been identified.
- **Calculate plant establishment**, this improves the accuracy of seed rate calculations.
- **Assess tiller numbers**. High yielding crops produce high biomass which is related to plant, tiller and ear numbers. The AHDB wheat growth guide benchmark for an 11 t/ha crop at growth stage 30, is 940 tillers/m^2. Growth stage 30 is usually towards the end of March.
- **Prioritise thick crops for early nitrogen**, they will have a higher demand. Thin crops have weak root systems and early nitrogen can be lost through leaching. Phosphites have been found to be beneficial on thin crops to increase root development and tiller survival.
- **Check soil structure for soil compaction** and root development before soils dry out, or if waterlogged, delay this inspection. The main aim is to identify structural problems so that they can be corrected after harvest.

Launch of Oxbury Bank Plc – dedicated to British Agriculture

Oxbury
The Agricultural Bank

Hutchinsons is very pleased to be working with a new UK bank, Oxbury, and to be able to offer its services to our customers in these challenging times.

Launching at the start of this year, Oxbury Bank Plc (Oxbury) is the only UK bank 100% dedicated to British agriculture. Built for farmers with farmers as partners, each product is attractively priced and designed for ease-of-use for the forward-thinking, innovative farm business.

Oxbury prides itself on its customer focus and will reignite service-led banking, building trusted relationships with customers through a knowledgeable and experienced team of Relationship Managers.

If there was a positive highlight from 2020, it would be the recognition of UK Agriculture as being vitally important to our food supply, with the industry continuing to function as the bedrock of the economy day-in and day-out.

In these challenging and unusual times there are and will be many opportunities arising for dynamic and forward-thinking farmers across the country. Together with Oxbury, Hutchinsons is confident in the ability of British farmers to adapt and innovate and understand that doing so may require additional investment and specialised lending. Whether it is finance for improved efficiency, diversification or consolidation, Oxbury wish to be a key banking partner of British farmers.

Understanding that farmers have always adapted their farm businesses to stay competitive has been key from the initial concept of Oxbury. Starting in early 2021, Oxbury offers a range of lending products to flexibly meet the needs of farmers, as well as providing market-leading savings accounts.

Oxbury Farm Credit

Allowing you to purchase inputs when you need them and pay for them when it suits your farm business cash flow. Oxbury Farm Credit is a competitive, technologically advanced and easy to use alternative to a bank overdraft or other credit sources.

Working in partnership with leading input suppliers such as Hutchinsons, Oxbury Farm Credit reduces administration and allows transparent supplier invoice management, where farmers can manage all their supplier payments in one simple online banking platform.

Oxbury Farm Loans

Longer-term lending of 6 months to 25 years, fully adaptable to a specific farm business proposal. Oxbury's lending focus is in six key areas: investing in carbon reduction or renewable energy, improving productivity, land acquisition, succession planning, loan consolidation and on-farm diversification.

Farm Business Bonus Savings Accounts

Exclusively offering British farmers attractive interest rates on a range of deposit accounts including, where applicable, paying a fixed Farm Business Bonus over the first 12 months. To qualify for this bonus, all you need to be is an active farmer structured as a sole-trader, partnership or limited company.

Please contact your Hutchinsons agronomist or account contact for more information on the Oxbury Bank schemes, or email us: information@hlhltd.co.uk.

More details can be seen here: www.hlhltd.co.uk/products/oxbury-input-finance

For more information on any of our products or services, please contact your local Hutchinsons agronomist, or contact us at:

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2020/21 CPD Points Allocation reference numbers:
NRoSO NO468211f • **BASIS** CP/100416/2021/g