

Upper Nisbet Climate Change Focus Farm meeting



Discussion group meeting held at Whitsome East Newton Farm on Tuesday 28 January 2014 from 11am by kind permission of Alistair & John Hodge.

Meeting Theme – Improving farm productivity; another arable farmer's perspective



We have concentrated on making more efficient use of resources at Upper Nisbet for the last two years so this meeting, chaired by Moira Gallagher (SAC Consulting, St Boswells) visited Alistair Hodge, HGCA Monitor Farmer to find out about the measures he has implemented to improve efficiency on his farm, particularly changes to crop establishment and improvements in nutrient and fuel use.

Guest speaker was Fiona Burnett, SRUC Crop Pathologist.

The meeting started with an update from Alistair, the Monitor Farmer.

Grass weeds

- Autumn herbicides performance in barley good using Crystal and Fastnet pre-emergence (flufenacet/DFF + PMD). Grass weed control not so good in wheat possibly due to delay in application of Defy and Sempra (prosulfocarb + DFF)
- Kerb (propyzamide) herbicide applied WOSR headriggs, seems to have taken out grass weed.
- Oat volunteer in min till wheat starting to show signs of kill.

Drainage – cleaning drains in Heritage field.

Grain Sales

- OSR - two loads away recently and 5 t left so overall yield slightly better.
- Wheat – four loads of Cordiale on Cash & Carry @ £190/tonne including premium. Still tonnage in contract for further two loads, but no grain to sell.

Machinery

- Since November meeting have completed deal to change a 10 year old tractor MF6490 (170HP chipped to 220HP) with 4500 hours for MF7624 (220HP) ex-demo with 320 hours, auto guide ready & trimble compatible but no front power drive. Cost of change £60,000 completed on 1+3 payment 1% finance arrangement.
- The turbines shut off for 3 days due to high winds.
- Had considered a move to one tractor plus multi-drive (sprayer & fertiliser) and hire tractor at harvest. However now considering keeping two tractors and selling multi-drive.

Donald Dunbar, Monitor Farm Facilitator provided a market update.

Main points

- Bumper world harvest up 10% but demand also up 116 MT and still growing.
- World stocks recovered 40mt but still need to be rebuilt requiring several more good years or a few more record years.
- Wheat market waiting to see what happens in world. There was a drift back in price in early January but holding at £162 - £163 for February.
- Maize crop undermining wheat for distilling but should be short lived.
- Wheat forecast for 2014 harvest @ £144 - £145/tonne.
- Feed barley back to £130 since harvest but not that much coming forward.
- WOSR – lost ground, now £270. Not sure what it's going to do.
- Large spring barley area in 2013 suppressed price. Area for 2014 expected to be back 37% in UK and 10% back in Scotland so expecting spring barley malt price to improve, currently £25 over WW futures.

Gavin Dick, HGCA commented that the stock to use ratio which has a significant influence on the world grain market so price at the mercy of this data. In early January the ratio was 26% which influenced the market due to nervousness of the impact of lack of snow cover. However growing world demand is a reason to be optimistic.

Group Comments

- Water lying in fields
- WOSR starting to grow.
- W Barley greened up.
- Disease levels not up since autumn, no new disease.
- Autumn herbicide control generally good, but AMG still present.
- Pigeons appearing and starting to trouble rape crops.
- Yellow rust reported in Berwickshire, not news given current advanced season and susceptible varieties.

Climate Change

Moira Gallagher SAC Consulting gave a short presentation on the key action areas which the Scottish Government are focussed on through their Farming for a Better Climate initiative and how they are likely to be included in next SRDP programme. Key actions are:

1. Energy & fuel.
2. Renewables.
3. Locking in carbon.
4. Best use of fertiliser.
5. Optimising livestock productivity.

CAP Reform

Donald summarised the key points from the consultation paper and presented figures for Whitsome East Newton using the ready reckoner on RP website. Under current proposals the farm could see a fall of 29% but it is important to note these figures are subject to change following the current consultation phase which end in mid March.

What is known for sure is:

- IACS 2014 will remain in the current format
- There will be no further LMO (management options with 5 year commitment such as grass margins will continue to planned end date)
- A two payment regions option is favoured by Scotgov with Arable, TGRS & PGRS being one region (indicative payment rate €222/ha) and RGR being the second (€24/ha).

The big question is how are businesses going to react? For Alistair's farm the reduction is equivalent to £10/t swing in grain price. Poor crop establishment and low grain markets are Alistair's biggest threats. Alistair has already been actively trying to build in resilience so that the business income stream is not solely from his arable cropping for example B&B cattle; windmills; cottage rents.

Crop Walk

- Winter Barley – (Broken Hill)

Small part sown with new 2 row variety Glazier with the remainder in Cassia. Sown using variable seed rate on 20 September. Up to 6 tillers could be counted, lower leaves have high mildew levels. Fiona Burnett commented that mildew stops developing below 5°C, but as no sustained cold period this winter, mildew is still active within crops. Mildewicide with knockdown and early protection required at T0.

Past trials have shown even in the absence of visible disease a yield response of 0.25 – 0.3 t from T0 spray.

- Winter OSR – (Whamley)

Dug plants revealed a well developed tap root – good spring growth potential. Folicur (tebuconazole) was applied for light leaf spot protection in the autumn. Some growers have favoured this product this season as it also gives a PGR effect which checks the growth of forward crops.

- Winter Wheat field – (Windmill)

This was the last wheat field sown (29 September). It is a second wheat established under min till; the crop has been creeping on and now has 1 – 3 tillers. Septoria tritici was evident but not at high levels. T0 spray should be aimed at yellow rust and septoria protection.

There was a discussion on the use of a T minus spray. The group consensus was to increase the dose rate of T0 spray rather than an extra timing. Exact timing of T0 not that important but aim for mid tillering and by GS30

Methiocarb slug pellets are under threat from Chemicals Regulation Directorate (CRD) and it is likely their use will be revoked - most commonly used products in UK are Decoy Wetex and Draza Forte. However this would also include other slug pellets including Karan, Rivet, Huron (all 3 manufactured by Bayer), Cobra (Interfarm) and Zeal Plus (ChemSource).

Publication of the withdrawal timetable is expected from EU in February, currently indications are that proposal will allow sales of methiocarb slug pellets for six months, and then allows a further 12-month use-up period on farms. In effect it is expected that sales will be probably permitted until the end of August 2014, with growers having until the end of August 2015 to use up stocks.

Early Fungicide Programme

After lunch Fiona Burnett developed the early spray programme for the coming season.

Crop	T ₀	T ₁
WB	Kayak (cyprodinil) for rhynchosporium protection @ 0.75 – 1 l/ha ± Corbel 0.25-0.5 l/ha (morpholine) to eradicate mildew if present. Exclude PGR if high tiller numbers present	Main spray for WB. If planning to use SHDI use here. Siltra (bixafen + prothioconazole) @ 0.4-0.6 l/ha ± mildew control or Fandango (fluoxastrobin+ prothioconazole) @ 1 l/ha Growth regulators Moddus 0.1l/ha ± Cycocel 1.25
WW	Cherokee (chlorothalonil + cyproconazole + propiconazole) @ 1 l/ha One member reported mixing problems associated with high pH water or AltoElite (chlorothalonil + cyproconazole)	If Eyespot risk high use: Tracker @ 1 l/ha + Bravo (chlorothalonil) 1 l/ha Early sowing is a relatively small eyespot risk factor but warm wet winter increases risk. Check for stem based browning. Otherwise: Adexar (bixafen + prothioconazole) @ 0.8 l/ha or Proline (prothioconazole) 0.4 – 0.8 l/ha (eyespot activity at higher rate) + Bravo 1l/ha NB limited to 2 straight hits of chlorothalonil. Important not to exceed 2,000g/ha active. Growth regulator 0.1 l Moddus + 1.25 l Cycocel
WOSR	2 nd LLS Proline 0.3l/ha (does have some sclerotina activity) If missed autumn spray and can go in early increase dose of Proline to 0.5 l/ha or Prosaro (prothioconazole and tebuconazole) @ 0.5 l/ha + Folicur (tebuconazole) @ 0.5 (mix helps get both sorts of LLS). LLS variable in its sensitivity so don't go below ½ rate.	Sclerotina Early flower x 1 or 2 if sclerotina risk A lot of choice: Filian (boscalid) 0.5 l/ha broad protectant Amistar (azoxystrobin) Spray will only provide cover for two weeks. Wet weather is a big trigger also higher if flowering over prolonged period. Action Point Recommend tissue sampling before applying any trace elements. Samples to be taken and results reported at next meeting. Boron risk factors: light sandy soils, pH 8.
WO	It's a mildew season, apply protectant before disease present Flexity (metrafenone) 0.25l/ha early	Proline or Fandango (fluoxastrobin and prothioconazole) Growth regulator @ GS30 & 31
SB	Early mildew – Flexity 0.25 l/ha Weed control: Liberator (diflufenican and flufenacet) has off label approval for pre emergent in spring barley. Good on AMG but experience of group in 2013 not so great on BL weeds but could be related to the season.	Proline 0.3 + Bravo 1.0l/ha Growth regulator unlikely, adjust N

When Should You Be Putting On Spring Nitrogen?

Best use of fertiliser is a key action point of the Farming for a Better Climate initiative because emissions of nitrous oxide from nitrogen fertiliser are 310 times more potent than CO₂.

Applying the right amount at the right time will help to mitigate these losses and save on costly fertiliser.

What are the factors to consider?

- Is it after Lothian & Borders NVZ closed period? (31st January for slurry, 15th February for bagged fertiliser)
- Is it dry enough to travel/soil not waterlogged?
- Is soil temp >4°C at root depth and crop will respond to nitrogen?
- What is the predicted Soil nitrogen supply (SNS)?

Soil Nitrogen Supply (SNS)



SNS	Previous Crop	Soil Type	Winter Rainfall	Nitrogen Timing
Low	Cereal (take-all risk)	Sand	Wet	Early
	Rape	Loam	Average	
	Beans			
High	Grass 3 – 5 years	Clay	Dry	Delay

- Organic manure - planned and previous FYM/slurry applications
- Crop Potential Green Area Index – effectively the number of plants/m² x number of tillers
- Applying N when crop tillering i.e. before GS30 will encourage tillering.
 - 500 stems/m low GAI = early N at higher rate
 - 1000 stems/m moderate GAI = early N at low rate
 - 1500 stems/m high GAI = delay N till after GS 30/31
- Lodging risk – check recommended list variety score, plus or minus PGR use
- Type of nitrogen fertiliser – speed of action, urea slower than ammonium nitrate, liquid v solids
- Take all risk in second wheat.
- Weather forecast – windy, wet
- Work load pressure, total area of crop
- How much Nitrogen in early application? 40 – 80 kg N/ha.
- Aim for all wheat crops to have some nitrogen by mid to late April.
- Main application timing after GS31 can put up 120 kg N/ha in one application but check heavy rain is not forecast.
- Last application before flag leaf emergence unless aiming for high protein market.

Key fact to remember: **Wheat crop takes up 30% of total N demand by start of stem extension (GS30) and 90% by flowering.**

Other Topics Discussed

As mentioned earlier in a move to reduce fixed costs Alistair had considered going to one tractor plus multi-drive and hiring in a tractor at harvest. However he is now considering keeping two tractors and selling multi-drive which applies sprays & fertiliser. The existing fertiliser spreader can be tractor mounted but the sprayer would need to be changed. A tractor mounted sprayer is limited to a 1800 litres water carrying capacity so a front tank would also be required if field work rates are to be maintained.

Some members advocated going for trailed sprayer with steering axle and quick hitch coupling. This would also potentially allow liquid fertiliser to be used for nitrogen applications.

The group then discussed liquid nitrogen fertiliser which can be made up from urea, ammonium nitrate or ammonium sulphate.

Benefits claimed by group members who use liquid N:

- Faster response from crop
- Accuracy of application
- One machine for spraying and fertilising
- Large 3000 litre tank
- Bulk storage tank simplifies delivery, storage and handling
- Option to prepare own liquid fertiliser using lower cost prilled or granular nitrogen

Potential pitfalls:

- Restricted suppliers in market
- Harder to store different products
- P & K can settle out in tank

Summary

Key points from the meeting included

- Think about how your business is going to react to CAP reform. Can you build in resilience? Biggest threats to arable unit are poor crop establishment and low grain price.
- T₀ (tillering) spray timing will be important in 2013/14 season.
- T₁ (GS31-32) main thing for WB disease control, T₂ (flag leaf) for winter wheat.
- Take tissue samples before applying trace elements.
- Applying the right amount of nitrogen fertiliser at the right time will help to mitigate emissions of nitrous oxide.
- Wheat crops take up 30% of total N demand by start of stem extension (GS30) and 90% by flowering.

Moira thanked the group and speakers for their input.

Further information was provided at the meeting, including the following Farming for a Better Climate practical guides http://www.sruc.ac.uk/downloads/120198/improve_farm_efficiency

Do you farm and would you like to attend to future meetings?

The meetings provide sensible ideas for the farm business, from invited speakers and other farmers, to improve efficiency whilst reducing the loss of greenhouse gases. It's free to come along and you will be able to influence the topics, recommend speakers and location of future meetings.

Contact SACs Moira Gallagher for details of the next Upper Nisbet event at moira.gallagher@sac.co.uk or telephone the SAC St Boswells office on 01835 823322.

If you want to keep up to speed with what's happening at Upper Nisbet but don't want to attend all the meetings, ask to be added to the Upper Nisbet email list; you will receive notification of future events and meeting notes.

Visit the website at www.farmingforabetterclimate.org or email climatechange@sac.co.uk