



Aberdeenshire Arable Monitor Farm

**George and Andrew Booth
Savock Farm
Foveran
Aberdeenshire
AB41 6BA**

Meeting Report – 12th July 2011

Next Meeting: Tues 1st Nov 2011

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The Aberdeenshire Arable Monitor Farm Programme is an HGCA project supported by the Scottish Government SRDP Skills Development Scheme.

1. Meeting Programme

- Welcome from Chairman
- Andrew's update
- View growing crops
- Compost Trial proposal
- Foveran Hall – fly cup
- Market prospects – Trevor Harriman, Scotgrain
- Fertiliser market update – Elaine Nicol, Yara
- Group work – options for replacing the fertiliser spreader
- Project business – field trial proposals

2. Welcome

Peter Chapman, recently voted in as Chairperson for the Arable Monitor Farm programme, welcomed 36 attendees at the Foveran Hall car park. Aims of the Monitor Farm were reiterated.

3. Andrew's update – what has happened since the last meeting?

- Fertiliser purchased. A new type of protected urea (nitrosphere) has been purchased. Described by some as the most interesting innovation in fertilisers for 30 years, it has lower volatilisation losses so is less restricted in its use. Cost £329/t compared to standard urea at £315. Has 38.5% N + 18% S. Allows Andrew to cut out one of his N applications. Also bought some straights – MOP, TSP, DAP plus Bulgarian 34.5% N (£260/t).
- Not traded any more grain recently. Average selling price so far; Oats £153/t, wheat £144/t.
- Traded some Euros @ 89p. Now 75% covered.
- Not sold any barley forward – may just repeat previous years strategy of popcorn treatment and selling for feed over winter.
- Rape sold through Aberdeen Grain pool.

4. View Growing Crops

The plan in the future is to follow a number of crops over the full growing season. A standard field record sheet has been developed to gather all the key information to help members follow progress. This will all start at the next autumn meeting.

Field 1 at Westfield. Winter Oats.

- Variety Dalguise, sown on 20th September, 260kg/ha seed rate (lower germination seed) home save seed treated with Redigo at full rate
- Established by one-pass, rolled in back end, may have capped parts of field.
- 140kg N in 3 applications
- Have grown oats for 6-yrs now.

- Why grow oats? Other crops are for feed so wanted a premium crop, low growing cost and good yields.
- Can be a risky crop if don't make milling grade as low demand for feed oats
- Crop had mildew. Sprayed May, when more appeared left to spray once flag leaf out.
- Other Group member been growing W Oats for 15 yrs, on a Quaker contract. Based on wheat futures price. £10/t bonus if no chlormequat used.
- Usually harvest late August / early sept – can clash with SB harvest
- Last year sold to Scotgrain for Morning Foods. Budgeting for 3t/acre
- Use the straw for own use, surprisingly not good market for oat straw.
- Some Group members think WO more profitable than WB

Field 2 at Savoch above the road – Winter wheat

- Variety Viscont, sown on 20th September, 230kg/ha home saved seed
- Previous crop WO.
- Established by one-pass, rolled in back end
- 220kg N over 3 applications
- Sterile broom a problem – cost £55/ha for herbicide
- Brome originally arrived in seed (esp Volume WW). Exaggerated by min till OSR. Spread by combine, home-saved seed and from endrigs. Deep ploughing helps. Avadex granules after rolling but pre-emergence on inaccessible spots around telephone poles, endrigs. Cant effectively rogue it.
- If next crop WW then need control again, but not id into W Oats.
- Field had Mn spray
- Was pointed out that the dry warm spring led to rapid growth with poor Mg uptake. Even if plenty Mg in soil can have low uptake. Should use Mg lime.
- Crop looking 6 inch shorter than normal

Field 3 Savoch at roadside – OSR (18ha)

- Variety – half Cracker, other half Catana, sown 5kg/ha
- Sown mid Aug through to 6th Sept
- 210kg N over 3 applications

4 Proposed Compost Trial

One of the priorities identified by the Management Group was to conduct a field scale trial looking at assessing the impact of compost materials. With the ready availability of both green waste compost & food waste compost, plus the rising cost of fertilizer, there is a real need to evaluate the value of compost .

It proposed to establish a 3-year trial on a 18-ha field to evaluate the benefits and issues associated with using composts in an arable rotation in the heavier soils of the north-east. This will be co-ordinated by Dr Audrey Litterick from Earthcare and funded by HGCA.

The main benefits of compost claimed include:

- Improved soil structure & drainage, particularly useful in heavy soils

- Build organic matter in soils
- Support microbial activity & soil health
- Source of nutrients – slow release of N, P and K - so reduced bagged fertiliser requirements
- Improved water holding properties – evident this year in the dry spell
- Has a 15% neutralising value of lime
- Increased yield potential
- There is a claim compost also helps suppress disease!
- Also claimed slug numbers reduced on green waste compost

Group comments:

- Compost costing between £4/t to £7/t plus have to haul it.
- Need to analyse all the compost so know what is value of application
- Food waste looks woody because it has woody material added. Peter Chapman mixes it with hen muck so it is easier/ more accurately spread
- Need to check neutralising value of the composts
- Better deal buying food waste as it is drier – green waste is wetter and variable so may be paying for lot of water?
- Food waste must be ploughed in. SQC accepted food waste for use on fields growing milling oats, but QMS would not accept it for their farm assurance rules. Now synchronised rules.
- Chance to subsoil this year if ground very dry?
- Lot of composting expertise in the group – Stuart Davidson, Peter Chapman and others.

5. Market Prospects – Trevor Harriman, General Manager, Scotgrain, Arbroath.

If you want a copy of Trevor's powerpoint presentation please get in touch.

Scotgrain are owned by Bairds Malt and act as their buyer. Bairds are owned by Graincorp of Australia, the largest grain trader in eastern Australia, also operating in Canada and USA. Big factor in globalisation are the investment funds pumping billions of \$ into markets.

Last Year

Spectacular volatility. Not just the rise over the season by £100/t, but the massive swings each month. Makes it difficult for growers and processors to know value of their product and hence to plan. Note Paris MATIF is now the driver of the wheat price, not LIFFE. In one day last week MATIF traded equivalent of the whole UK wheat crop!

Drivers:

- Currency. Sterling: Euro fairly stable but each cent shift in Euro = £3 shift in rape price.
- Eastern Europe problems last year – drought/ fires
- North west Europe also dry
- Ensus ethanol plant closed for 4 months due to cost of feedstock
- Distilling buoyancy – this year and next
- But brewing is a mess – only 3 or 4 big brewers so holding down price, and some Asian brewers don't even use malt

Future:

- More of the same – volatility
- Fund activity a big influence – can shift prices £10 per day, so traders only price on a telephone call, not for a period. Note, if watching HGCA screen it is 15 mins delayed. Euronext is live so use it.
- East European crops are recovering and Russia has lifted embargo (1st July) on exports. Russia sold some wheat to Egypt recently and as result depressed prices generally. Russian harvest expected 81Mt (66 Mt last yr), Ukraine 43 Mt (36 Mt last yr).
- S. England and N. Europe drought effect not as bad as folk suggest. E. Anglia bad however, and 100 miles radius of Cambridge grows 70% of UK wheat crop. UK 14.9Mt wheat crop prediction? France 33 – 35 Mt (36 Mt last yr).
- USA – maize drives prices as it is the main crop.
- Scandinavia and Scotland – expected best of European crops in 2011.

Specific Crop Outlook:

Malting Barley

French and English crops struggling, when got rain, got secondary tillering. Malt barley price in MATIF rising £180 to £200/t.

Brewing weak – beer demand fall, large players

Distilling – growing. Even with the new Scottish maltings in place we are at full capacity and may need to actually import malt!

Wheat

Feed wheat futures been as high as £198/t, as low as £108. At time of meeting - £158 in morning, £161 afternoon.

Advice

- Protect a margin over your input costs, because they have increased and threaten the margin
- Use marketing tools; 1. Options. May look costly, but not in comparison to volatility (which of course is why they are expensive). 2. Trade against futures price. Set a target price for some crop and it automatically sells when it gets to that price.
- Current prices are good, so fix price on part of crop now!
- USDA reports – look out for the September one. Gives position of the US maize crop which has big impact on feed prices worldwide
- Malting premiums over feed prices are very good and likely to stay that way
- 2012/13 futures prices are £10 to £15/t below this year, but still profitable e.g. £150/t for Nov 2012 – sell some forward at this price?

November ex-farm price (estimates):

| | |
|----------------|--------|
| Feed Wheat | £160/t |
| Feed barley | £150/t |
| OSR | £380/t |
| Malting barley | £200/t |

Questions:

- How sell feed barley forward when no futures? Can do a deal against wheat price (£10/t discount this yr, £20 last yr)
- Is there a charge for the target price deal described earlier? No. Do a lot of oat and malting barley on target deals. The malting barley price ranged from £130 to £190 and most folk locked out at £180/t.
- What is the cost of a Call Option? A Nov call option cost around £30/t.

6. Fertiliser price outlook – Elaine Nicol, YARA area manager.

Yara trades 30.8Mt of fert. Yara UK is a subsidiary of Yara international and has to bid against other countries Yara subsidiaries for supplies! Sets the price.

Surprise surprise the fert price is linked to the grain price – legitimately as both driven by commodity demands.

Nitrogen

Driven by cost of energy to produce it. Principle N source is urea. China and India lead the price. Big growing Brazil demand. £270/t last yr, £410/t last month. New urea factories have come on stream but demand has grown at same pace.

Phosphate

Rise of \$100/t. Limited mining capacity, strong demand

Potash

Rise of £50 to £60/t in last few months. India still to buy.

If it's any comfort P & K are still below 2008 peak prices.

Exchange rate £: \$ very important as most fert traded in dollars. For example if we were at 2:1 not 1.7:1 this would knock £70/t off urea price.

No fert futures market so no means to hedge, and no investment fund involvement influencing price movements. Cooperative/ group buying is one option.

Is fert expensive? When start cutting back N use?

To produce a tonne of grain, require;

- 20 kg N £19 cost
- 8.4 kg P and 10.4 kg K
- Together P and K cost £19
- So total fert cost is around £38/t of grain produced.

Prospects

P and K very firm so expect current prices or higher.

N much less clear as driven by oil price. Urea looks very expensive at moment and oil price may ease back as Libya conflict ends and world economy slows.

Factories work 24/7 so have build up in low demand periods so generally pays to buy out of season. 90% of N is traded early.

7. Fertiliser spreader replacement options.

The current fert spreader getting old and possibly inaccurate. Heavily used as often doing 3 dressings per crop. No GPS vari-spreading facility.

The Options? (Group feedback)

- Do nothing
- Replace with similar or even cheaper model
- Replace with vari-rate spreading model
- Go to liquid fert system
- Contractor or neighbour share to get benefits of scale

Comment from some that there is a more pressing need to get placement of P and K in the seedbed by combine drilling.

How do we lay out the costing of pluses and minuses?

Use a partial budget:

| ANNUAL PROFIT GAINS | £ | ANNUAL PROFIT LOSSES | £ |
|---------------------|----------|----------------------|----------|
| Extra Revenue | | Revenue Foregone | |
| | | | |
| | | | |
| Costs Saved | | Extra Costs | |
| | | | |
| | | | |
| | | | |
| Total Gains | £ | Total Losses | £ |

Net Gain/ Loss/ Cost of this option = £

Now compare this to other options.

Other Considerations:

| Pluses? | Minuses? |
|---------|----------|
| | |

This looks at annual gains and losses. How do we cope with items which have a longer life than 1 year i.e. machines and buildings?

Example

Buy a machine for £10,000, trade in worth £2,000. Net cost £8,000.

Annual cost = depreciation plus interest on the capital outlay.

Depreciation;

Expect 4 year life before change the machine, so annual cost is $\text{£}8,000/4 = \text{£}2,000$

Interest;

Take interest at bank rate, say 4%, on half the capital outlay (as we assume the machine is paid back over the 4 years so only half the capital is outstanding on average) = $\text{£}8,000/2 @ 4\% = \text{£}160/\text{yr}$

Total annual cost = $\text{£}2,000$ depreciation + $\text{£}160$ interest = $\text{£}2,160$.

The meeting then split into groups to look at each option. Their feedback was as follows.

Option 1. Do Nothing.

| GAINS | LOSSES | £ |
|--------------------------------|---|---------------|
| Avoid more capital expenditure | 1. Say strip 50 ha of N application each year 10% loss of yield @ 3t/ac = 37 t grain @ £150/t | 5,550 |
| | 2. Extra annual repairs for old machine | 500 |
| | 3. More time in operation | 50 |
| | 4. P and K inaccuracy – long term impact | ?? |
| | | £6,100 |

Net Loss = £6,100

Other considerations:

- Difficulty of different types of fert material is increasing so getting accurate spread more difficult
- More hassle for Brian (tractorman)
- Lower priced blends are not so easily spread

Option 2. Replace with similar but new machine

| GAINS | £ | LOSSES | £ |
|--|--------------|--|--------------|
| 1. Increased yield due to less stripping 20t @ £150/t | 3,000 | 1. Cost of new machine £8,000 Interest £240 Depreciation £800 | |
| 2. Work rate improved – overtime, etc | 250? | Repairs £200 Total | 1,200 |
| | 3,250 | | 1,200 |

Net Gain = £2,050

Other considerations:

- No benefit of vari rate, etc

Option 3. Same type of machine but with vari rate technology

| GAINS | £/ha | LOSSES | £ |
|--|--------|---|-------|
| 1. Savings in fert and time Estimated at £20/ha UK wide? | 20? | 1. Machine cost Depreciation 1,000 Interest 330 Operating costs 400 Total 1,730 = £5/ha over 340 ha | 5 |
| 2. Yield benefit P,K, lime accuracy worth 2 to 3% yield gain Vari N worth 2% Total 5% @ 7t/ha @ £150/t | 52.50 | 2. Cost of mapping whole farm £4.50/ha | 4.5 |
| | £72.50 | | £9.50 |

Annual gain potentially around £63 per ha?

Other considerations:

- Above overestimates gain? Is the P and K saving a one-off or every 5 years, not every year?
- Gain is difficult to quantify until done soil analyses. If not much variation, then not so much gain?

Option 4. Contract or Neighbouring

Group felt this was not a good option

If contractor took £4 per acre and covered 1,500 acres (twice over farm area), the cost = £6,000

This exceeds the annual cost of a new machine (say £3,000 max).

However, it frees up labour and a tractor. But these are both needed for all the other crop and stock operations – they are sunk costs.

Conclusion: to make neighbouring or use of a contractor profitable you need to share or contract out more than just spreading fert e.g. drill as well. Then can restructure labour and tractors to suit.

Also pointed out that for fert application timing is critical – don't want to be waiting.

Option 5. Change whole system to liquid fertiliser.

Detail:

Need to replace sprayer in 2 or 3 yrs as well – chance to change whole system

Use contractor with low ground pressure pre-emergence and to desiccate rape. Do rest yourself.

Say 500 ac of contract off-farm.

Preference self propelled so not tie up a tractor plus do hi clearance work off farm

Chance to go to 36m tramlines

2ndhand self propelled machine cost £50,000 at 5 yrs old, say £47,500 net.

| GAINS | £ | LOSSES | £ |
|--|---------|--|-------------|
| 1. 500 ac contract | 2,000 | 1. Machine cost | |
| 2. Increase yield by accuracy plus gain cropped area with wider tramline (1% land area), total 6% gain | 20,000 | Depreciation 6,250 | |
| 3. Workrate improved – reflected in contract income above | | Interest 750 | |
| 4. No hire of extra tractor or use of contractor | 3,000 | Operating cost 3,000 | |
| 5. Liquid N better in a dry year | ? | Total | 10,000 |
| | | 2. Contractor brought bin to do vari rate (£5,000) or own machine (£1,700) | 1,700 |
| | | 3. Tank cost rent (but free shed from storing solid fert) | ? |
| | | 4. Extra fuel if go contracting | ? |
| Total Gains | £30,000 | Total Losses | Say £15,000 |

Gain from this option is around £15,000

Other considerations:

Needs more labour if have to also do vari rate spreading – not costed above.

The yield gain is ambitious (£20,000 every year).

Some members doubt you would get a good self propelled machine for £50,000?

More capital expenditure and financial risk – is this correct for this business?

Option 6. Simpler option brought up by some members.

- Need P and K down the spout – big yield effect, esp. on SB which has performed relatively poorly here.
- Therefore spend the money on putting a hopper on the front of the tractor to allow fert down spout when drilling.
- Get a contractor to do the vari rate spreading to correct the imbalances shown up by the soil maps. You don't need a vari rate spreader every year.

- Just replace your own spreader with a simple model. Option 2 shows that will have a benefit in itself.
- Thereafter just keep checking the soil analyses and maps – can bring contract vari spreader back again in say 5 years to correct imbalances again if required.

OTHER PROJECT BUSINESS

Arable Business Groups

In addition to the Monitor Farm, the project will also establish an Arable Business Group (ABG). The aim of the ABG is to form a small closed group of progressive growers (10-14 members) with a clear focus on the business /marketing. Benchmarking will form a key part of the ABG's with members expected to share production costs, gross margins, yields, prices, etc. to look for improvements. Use will be made of HGCA's 'CropBench' to provide the standard benchmarking tool. The ABG will meet 3 times per year and receive professional support.

Anyone wishing to find out more about the Arable Business Group please contact Jim Booth, Tel 01651 – 843607 or jim.booth@saos.coop

Management Committee

Remember this is a farmer led and owned project. A small Management Committee has been established to represent the Community Group. Their role includes:

- to advise facilitators and the Monitor Farmers on any aspects of the project
- appoint a Chairperson
- provide feedback on the project
- provide an independent point of contact for Community Group members
- and generally to represent the Community Group

| NAME | MOBILE NO |
|------------------------------|--------------|
| Peter Chapman Jnr - Chairman | 07711 347735 |
| Bryan Chalmers | 07801 296811 |
| Stuart Davidson | 07885 232401 |
| Robert Drysdale | 07753 929248 |
| Phil Smith | 07900 991196 |
| Willie Willox | 07778 110937 |
| Andrew Booth | 07970 767071 |

Date of next meeting?

Tues 1st Nov, 2011, 1pm