

**Peter Cook  
P & L Cook and Partners**



## **Buchan Monitor Farm**

Monitor Farmers:  
Messrs Patrick Dickson  
Acrestrype  
Fyvie  
Tel: 01888 511392

**Meeting Report Thursday 11 February 2010**

Provisional date of next meeting: late May 2010

Facilitators: Peter Cook Tel 01467-642802 [cooknewton@btopenworld.com](mailto:cooknewton@btopenworld.com)  
Jim Booth Tel 01651-843607 [jim.booth@saos.co.uk](mailto:jim.booth@saos.co.uk)

## TOP TIPS FROM MEETING

1. A cow starting the winter with an extra unit of condition score, can save at least one tonne of silage. Trials show that cows which are one condition score too thin at bulling produce 17% less calves. Managing a cow's condition is vital to ensure good physical and financial performance.

2. Where wheat straw is available, ammonia treatment can produce a cheap feed for dry cows (say 55p/head/day), and a low cost wintering system (50% less bedding required, a complete feed which can be stored outside, no expensive feeders/machinery).

### Meeting Structure

1. Dickson's Update
2. Cow Condition Scoring practical
3. Sheds and Sna' discussion
4. Fly Cup
5. Is Ammonia Treated Straw good value?
6. SNH Trial update

### 1. Dickson's Update

- **Ewe scanning results.** See Appendix 1 for results comparison 2007 to 2010. Ewe scanning percentage continues to improve; 215 % this year, 198.5% last. Barren rate also very low at 1.15%. Hoggs scanned at 159%. 5.5% barren.
- Group comments – very good grass growth last year, scanning rates generally high in the area, more even scanning this year with more twins, concern over ewe condition given continually snowy weather, more supplementary tubs fed due to increased pregnancy toxemia risk, need to split off and feed multiples/ thin ewes sooner, concern over managing triplets/ orphan lambs (see Cairngorm Monitor Farm sheep meeting report December 2009 for Dunecht Farms system and costs).
- **Liver fluke sampling results.** At a previous meeting the reasons for a number of cows being barren were discussed. Had done all blood and physical tests possible and no reasons identified. One member had same issue, but did fluke test and discovered some of the barren cows had fluke and this may have had a "sub-clinical" effect on the cows at bulling. Therefore Patrick did tests on range of cows and ewes – see results Appendix 2. One cow positive. Previously thought were clean. Despite the farm not being particularly wet, this result shows we all

need to check our fluke status. Note all the dung samples taken were less than the 40g min required by the lab – make sure you supply quantity required to get a valid test.

## 2. Cow Condition Scoring (Jimmy Hyslop, SAC Beef Specialist)

### Key points:

- A critical management tool and, very importantly, one which is easy to use as it is mostly visual.
- Best done by visual and if possible hand assessment of the spine – feeling for level of fill and fat cover between the lateral and vertical processes of the spine. Fat on tail head is a less accurate guide to overall condition.

Condition score	Description
1	The individual spinous processes are sharp to the touch and easily distinguished
2	The spinous processes can be identified when touched, but feel rounded rather than sharp
3	The spinous processes can only be felt with very firm pressure and the areas on either side of the tail head have some fat cover
4	Fat cover around the tail head is easily seen as slight mounds, soft to the touch. The spinous processes cannot be felt
5	The bone structure of the animal is no longer noticeable and the tail head is almost completely buried in fatty tissue

- Aim for specific body condition targets over the year

	Spring Calving Cows	Autumn Calving Cows
At calving	2.5	3.0
At service	2.5 – 3.0	2.5 – 3.0
At housing	3.0+	
At turnout	2.5	2.5

- Condition has major impact on barren rates;

### Relationship between body condition and reproductive performance (MLC, 1980)

Herd Average Condition Score	Calves weaned per 100 cows
Below 2	78
2 – 2.5	85
2.5 – 3	95
Over 3.5	93

- Have to be careful if very fit (fat) cows → more calving problems, assisted calvings and deaths. At other end of scale very thin cows take longer to get in calf and have higher barren rate.

Breed	Body condition scores				
	2.0	2.5	3.0	3.5	4.0
HXFr dam, Ch bull	6.7	7.7	8.0	10.1	14.3
Blue Grey dam, Ch bull	4.0	5.9	6.3	7.0	10.1

- Producers should ideally split herd into 3 groups (fat cows, average cows, thin cows) to manage condition and to make better use of feed - same total amount of feed, just allocated differently. First and second calvers are often the ones losing most condition as they are still growing as well as producing a calf, so may need to get priority feeding.
- Note value of condition in reducing wintering costs; 1 body condition score = 13% Liveweight → ~ 80 kg wt (600kg cow). 1 kg weight loss = 23-36 ME. So can save 2,400 MJ or 200kg barley, or 1t of silage.

### 3. Sheds and Sna'; Issues following collapse of roofs due to recent snow.

(Mike Strachan, SAC Senior Consultant Environment and Design).

#### Background

NFU Mutual reported to have 550 pending claims for roof damage resulting from snow, so national total likely to be much higher. Noted that it was not old buildings which collapsed, but often modern steel clear-span sheds. Why ask Mike Strachan along? Many folk will be reconstructing collapsed sheds and significant numbers have plans for new sheds, including the Buchan Monitor farm. We therefore need to learn any lessons from the recent problems.

#### Replacing the collapsed shed.

- If absolutely no change in scale, etc then no building warrant may be required. But if making any structural change e.g. strengthening, then new building warrant is required. Note that if less than 280 square metres and more than 6m from a boundary then no building warrant is required anyway.
- Planning permission will be required; Prior Approval only if below 465 square metres, Full Planning Permission if above.
- Collapsed asbestos roofs. If built after 1999 it shouldn't be asbestos. Before that you need to check what type of material it is – can get it analysed. There are three types of asbestos; white, blue, brown. If white high density, you may be allowed to remove and stack ready for uplift by an approved disposal company. If other types, you cant touch it and need an approved remover. Your insurance may cover site clearance – check. The recently announced Govt package may cover

site clearance of asbestos. SEPA are the authority to consult on disposal/handling rules.

### Design Issues

- The design snow loading of a shed depends on its location, so expected snow levels are built in. Typically these range from 250 – 450mm of snow, depending on its density, giving a loading of 0.5kN. In some areas of the North East, however, snow was 900mm deep giving a 1.5kN load. Unlike most years there was no wind and it didn't blow off.
- Roof pitch can go down to 15 degrees. It would need to be raised to 30 degrees at least to shift snow. This would add a lot to cost, and make sheds more intrusive in the countryside.
- Moving to narrower bays (currently typically 6m) and narrower purling spacings (currently 1.375m) would help.
- Of course reduced roof span would also help.
- Construction points to note;
  - bolt quality,
  - all bolt holes actually bolted,
  - use of “Morris plates” where roof beams and steel columns meet (add a lot of strength),
  - supports from the roof beams to each purling
  - overlap of corrugated roof sheets
- Question; Would copper roof nails which kill the moss on roofs allowing snow to slide off, help? Answer; Copper may react with the steel and at 15 degree pitch there is little snow movement anyway.
- There is a Scot Gov led working party considering the problem and it is expected to provide guidance in due course.

### 4. Is Ammonia treated straw good value? (Chris Barclay, FeedMix Fyvie)

#### Background.

The Dickson's feed ammonia treated wheat straw to the dry cows for most of the winter, switching to silage closer to calving. The value of ammonia treated straw versus simply supplementing untreated straw with barley was raised by a member at a previous meeting.

Acrestrype straw analysis results;

	Untreated wheat straw	Ammonia treated wheat straw
Moisture content	20.35%	18.60%
Crude protein	3.5%	8.5%

In addition the treatment generally increases ME from about 4 MJ/kgDM to about 9 MJ. The ammonia treatment breaks down the cellulose and lignin in the straw into simpler carbohydrates so increasing the energy value, while the ammonia itself pushes up the protein content.

Daily ration cost comparison (courtesy of Willie Thomson, Harbro Ltd), to provide a maintenance ration for a 650 kg spring calving cow;

	Ammonia treated wheat straw ration (kg)	Untreated wheat straw ration (kg)
Straw	10	7.5
Barley	-	1.2
Wheat dark grains	-	1.2
Total quantity	10	9.9
Diet cost (pence per cow per day)	55p	54p

The Dickson's reckon the wrapping and treating account for about 30p of the total cost.

### Key Points

- Several members of the group have been feeding ammonia treated wheat straw for many years. Most feed it ad lib to dry spring calving cows from about November to February and then switch to silage, often mixed with untreated straw, coming up to and during calving.
- Feeding the correct minerals is essential – high P, high trace elements and including sulphur. Some scatter minerals on top of the straw, others just in free access dishes.
- For successful treatment of the wheat straw Patrick feels it must be baled pretty dry and wrapped fairly quickly to keep it dry. Treatment is on a weight basis so it pays to weigh a few bales to ensure the correct amount of ammonia is injected (generally 4 bales wheat straw to a tonne in Patrick's experience). High density bales work OK, and save on plastic. Big square bales can be done, but need two injection points.
- What are the advantages of ammonia treated straw?

A complete feed – gives the required energy, protein and gut fill for a dry cow.

Cows are content, because they are full and unrestricted.

Turns a cheap waste product (wheat straw) into a decent feed.

The dry diet greatly reduces (perhaps halves) bedding straw requirement compared to a silage diet. Overall wintering cost is therefore LOW.

Same ration cost as a "straw plus grain" ration, but much easier, faster to feed and more balanced – energy/ protein not ingested in a once per day "slug".

Wrapping replaces need for storage shed.

- Note: to be cost effective this system needs a supply of wheat straw, hence tends to be found in east Aberdeenshire and other arable areas. Where only spring barley straw is available (which has higher inherent feed value than wheat straw) it is more cost-effective to feed grain with the straw or to use a pour-on improver like Pot Black (molasses with regulated release urea) as marketed by FeedMix Fyvie.
- Winter barley straw has similar treatment characteristics to wheat as it is fairly "woody".

- Oat straw does not treat well due to its waxy coating.
- Silage is a poorer alternative for dry cows, at least in eastern Scotland, because, if fed ad lib to keep cows content, they get too fat. If fed restricted they are not content. To provide required gut fill, need 3t of silage to be equivalent of 1 tonne of straw, plus need more bedding. In a non arable area one option is to feed ad lib silage, but leave the calves on the cows longer to keep them milking and hence putting on less condition.

**Appendix 1. Sheep Performance Record – updated February 2010.**

	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>BREEDING</b>				
Scan % ewes	202	194.6	198.5	215
Scan % hoggs	85	145.2	165.7	159
Barren % ewes	0.94	0.45	2.0	1.15
Barren % hoggs	37.5	16.67	14.3	5.5
Lambing % to weaning	164	169.55	158.65	
Ewes and hoggs put to tup	252	266	237	247
Concentrate feed per ewe (kg)		11.84	3.8	
Energy buckets per ewe kg		2.37	4.0	
Average weaning weight kg		30.83	33.88	
Weaning date	25.07.07	25.07.08	25.07.09	
<b>FINISHING</b>				
% lambs finished by end October		30	65	
Average sale weight kg DWT		19.96	21.28	
Average dlwg weaning to sale				
% U, R and O.		10, 85, 4.	16,84,0	
Average price per head £		55.47	66.24	
Lambing %, sold/ retained	161.9	168.4	158.23	

**Appendix 2. Meeting handout – fluke test results and ammonia treated straw data.**

**1. FLUKE DUNG SAMPLE TESTS**

Question raised at previous meeting on unexplained reason for barren cows – one member suggested fluke. Therefore tests arranged.

1 yearling heifer	Negative
1 in-calf heifer (2 yrs old)	Negative
1 3-year old cow	Positive
Ewes	Negative

Note: all samples submitted were less than the minimum recommended weight of 40g so treat results with caution.

**2. AMMONIA TREATED STRAW ANALYSES**

Question at previous meeting – is Ammonia treated straw good value?

**Results of analysis of Dicksons straw**

	Untreated straw	Ammonia treated straw
Moisture content	20.55%	18.60%
Crude protein	3.5%	8.5%

**FeedByte ration for 650kg dry cow**

	Ammonia treated straw ration. Per cow per day	Untreated straw ration. Per cow per day
Straw	10kg	7.5kg
Barley	-	1.2kg
Wheat Dark Grains	-	1.2kg
Total fresh weight per day	10kg	9.9kg
ME (MJ/day)	67	66.9
Total cost per cow per day	55p	54p

The two diets have the same cost per day and supply the same energy. However, the barley/straw diet is lower in rumen protein (404g v. 566g), but higher in by-pass protein (221g v.68.3g).

**Patricks costing**

345 bales wheat straw wrapped and treated @ £7.75/bale.

As at 1/1/2010 cows were eating 9.66kg fresh weight per head each day = 30 pence/head/day.

