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Cairngorms Monitor Farm

A & J Adams
Eastfield Farm
Ballater
Aberdeenshire

Report on Meeting held 12th November 2009

Designing Effective Cattle Handling Systems

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TOP TIPS FROM THIS MEETING

1. A sheeted race with a curve, so cattle cannot see the crush ahead of them when they enter the race, typically cuts the time to get cattle from a holding pen to the race by 50%.

1. Introduction

32 members took part in this meeting. The Agenda was as follows:

1. Eastfield – update session.
2. Braehead – view existing cattle handling and assess improvements.
3. Victoria Hall, Ballater. Handling systems video and recommendations for Alan.
4. “Health at Housing” Update.
5. Time to increase suckler cows? Group session.

2. Update Session (Alan Adams)

Key points: (see handout in Appendix 1)

- Policy of culling all problems (empties, had dead calves, bad feet) starting to pay dividends – see backend calvers fertility record Appendix 2.
- Good yearling store prices – will stick with this policy.
- Spring calvers back from summer grazing at Ballater and now strip grazing silage aftermaths (long grass not grazed since silage removed) and starting autumn calvers on neeps.
- Using snacker to supplement cows on aftermaths with 2.5kg bruised barley.
- Policy of testing homebred and purchased heifers for Johnes and BVD continuing.
- Good harvest – wetter year suits Deeside. Spring barley averaged 2.5 t/ac. All Waggon feed barley.
- Direct drilling SB trial – mistake resulted in only half seed rate, but still yielded 1.5 t/ac. Looked bad and had high levels of rynchosporium. Did not receive any fungicides.
- Micro hydro power scheme now shelved – no agreement with landlords.

3. Designing a new cattle handling system for Braehead steading (led by Simon Turner, SAC Animal behaviour and handling specialist).

Alan’s system is very simple and works reasonably well, but is 15 years old. Difficult to use single handed especially getting cows to flow out of the steading through a single cow width door into the start of the race which runs down the outside of the building. The race is made from strong scaffolding type tubes (not solid sides) leading to a standard race in a covered lean-to, which then opens into a pen where the stock turn fairly sharply back into the building through another door.

Simon's key points:

1. Major principle of handling system design is to avoid "aversions"

- Loud noises should be avoided e.g. clanging gates. Look at adding rubber strips, rubber handles.
- Avoid downhill slopes – cattle feel they are slipping
- Avoid 90 degree bends
- Cattle fear light contrasts – dark to light and vice versa. Alan's set-up is outside so fairly even light.
- Avoid odd movements – flapping twine, plastic, etc
- Avoid creating shadows – cattle have different vision to us. Don't have binocular vision so may see shadows as big holes.

2. Comments on Alan's system

- Forcing pen. Best if not square. Long thin rectangular pens of one standard (12 foot?) gate width and perhaps 3 gates long works best as allows one person to drive stock along. Would be good if Alan constructed this type of pen at start of his system.
- Best if funnel out of forcing pen to one side, not to middle e.g. like Alan's system where funnel to wall side.
- No more than 6 big cattle to a pen – cattle then get less confused.
- Forcing gates must be sheeted. This is more important than sheeted sides. Sheeted gate behind them tells cattle to face in the opposite direction.
- Height of sides; 1.6m minimum up to 1.8m. Key thing is that cattle should not be able to get their nose over the top. If a wild beast can get its nose right over the top it feels it can get the rest of itself over! Disadvantage of extra height is the need for a catwalk, but it allows you to administer pour-ons, push beast on, etc.
- Sheet the sides of the funnel so the cattle can only see one way out.
- Curved races work well. Research suggests it cuts handling time by 50% because the cattle can't see the race, they only see the beast in front and follow it. Don't need too much of a curve (it takes up a lot of space and adds cost) – just need enough to hide the crush and to create the impression that the beast is going back to where it came from.
- One disadvantage of sheeted sides is the difficulty of getting at the cattle, so make sure the shape is right to keep them moving and add a catwalk if need to get over the top of cattle.
- Squeeze crushes are good for doing feet and belly clipping. Don't need fancy hydraulics, mechanical squeeze types OK. Make sure the crush isn't noisy – puts off following beasts. Try to avoid sharp ramps into the crush e.g. if have weigh cells underneath.
- Have a 6m minimum clear space beyond the crush, with no sheeting, so cattle see a clear way out.
- Sliding gates much better than guillotine or swinging types. Can get a helluva clatter from a swinging gate if a beast reverses quickly.

- Loading ramps are a great benefit in speeding up loading and reducing stress for man and beast, even if just a couple of feet high to reduce the angle of the lorry loading ramp.
- Head brace scoops on crushes can be very effective. Some stock, however, do get scared by them and won't go back in.
- Flooring – plenty options, but key points are that it should be rough at corners so cattle don't slip and crush floors should be well maintained and non-slip.

Group suggestions for Alan:

- Door at back of crush for vet
- Go and visit other handling pens to get ideas
- Move gate to end of race
- Extend the handling pen
- Have sheeted forcing gate
- Have a sliding gate in the race
- Use a pen of cattle at the exit to attract others
- Use natural light at crush
- Handy to roof crush area to keep paperwork / meds / etc dry
- Probably will cost £2-£3,000

Further cattle handling information/examples:

1. Temple Grandin from the USA is the cattle handling guru. Go to www.grandin.com for more info and designs for cattle handling systems.
 2. See the video which we produced for the meeting of the Clarks new handling system at Thomastown, Auchterless, including Colin Clarks commentary, attached to this report.
 3. See the July 2008 Buchan Monitor Farm report for more detail on the Thomastown handling system.
 4. See the SAC Technical Notes, which are available free, "Modifying Existing Cattle Handling Systems to Improve Human Safety" TN564, and "Recommendations for the design of new, safe and efficient cattle handling systems" TN565.
 5. SAC have also produces a DVD on designing cattle handling systems, funded by QMS and the Scottish Government – contact SAC or QMS.
- 4. Health at Housing Update (led by David Miskelly, farm vet)**
- Show of hands around room showed around half of attendees had vaccinated cattle for respiratory diseases.
 - Almost all used Rispoval
 - Questions over whether it really worked well enough as many still got pneumonia cases. David's view was that without vaccination 15 to 20% will get pneumonia in a normal backend and you will get some deaths. If you do vaccinate you will still get 2 to 3% getting pneumonia, but probably no deaths. There are also clear

weight gain benefits if vaccinate – perhaps extra 15kg over winter plus far less expenditure on expensive drugs.

- One members alternative was to not house calves till after New Year, when we tend to get colder, drier weather, and to clip backs to reduce heat stress.
- Questions were asked about “easy-breath” type products, which stimulate the cattles airways. General feeling is that the can help if there is only a low pneumonia challenge.
- Huge effect of the building environment. David and members could say which pens in a shed would be most likely to get pneumonia each year, which sheds worst, etc. Airy well ventilated conditions are essential.

5. Is it time to increase cow numbers? Group session.

Cattle prices are well up with stores selling for £200 per head above two years ago. Input costs (fertiliser, fuel) are coming back to sensible levels. Cull cows are now back in the food chain and making good money per head. In the 2004 to 2006 period Alan’s profit per cow with subsidy was around £320, and without subsidy there was a loss per cow of around £130. But with the improvements listed above we must be getting back to profitability without subsidies. Also if we add a small number of cows to the herd we are only going to marginally increase fixed costs – we might not need extra sheds, machinery or labour. Is it therefore time to start adding cows?

The Groups estimate of the extra profit which could be generated in Alan’s system from an extra 10 cows is as follows.

ANNUAL GAINS	£	ANNUAL LOSSES	£
Extra Revenue		Revenue Lost	
5 yearling calves @ £550	4,950	2 heifers @ £900	1,800
SBCS 9 hd @ £40	360	2t Barley @ £100	200
1 cull cow @ £800	800		
Costs Saved		Extra Costs	
		Silage & grazing	
		5t /head x10 @ £20	1,000
		Fert. for10 ac – 2t @ £300	600
		Vet & med £25 x 10 hd	250
		Misc	100
		Interest 10 hd @ £2,000 at 5%	1,000
Total Gains	£6,110	Total Losses	£4,950

The increase in profit is estimated at £1,160 or £116 per cow.

This is a return on capital invested of around 5.8%

Is this enough to justify the extra management time and hassle?

It would take a very small change in calf prices or one more calf loss to wipe out much of the benefit.

However, the key point is to work it out for your own situation. Some other farmers have recently worked out that they would get a gain of over £200 per cow.

6. Date of next meeting.

The next meeting will be **Tuesday 15th December 2009** – possibly a sheep enterprise visit to Dunecht Estate.

Appendix 1. November 2009 Update Summary.

November 2009 Summary

Cattle Activity since May 2008

2 Cows Culled (dead calf & spring calver MT) Average £900
4 more to cull - 2 dead calves, in calf hfr bad feet, old cow weaned early.
One cow put down (pelvis) One 13 month stot died (unknown why)
Spring born calf died (pneumonia)
Sold 25 Lim/Sal stots 11-15 months old Average £761
Sold 11 AA stots 13 - 15 months old Average £841
Spring cows and calves home from Braemar presently on silage aftermaths + 2.5Kg barley
47 Back end cows and calves started yellow turnips (still feeding some silage and 2 Kg barley)
Tested 12 heifers 13 - 18 months for BVD - negative.
25 heifers vaccinated for clostridia + BVD and put to Saler bull
Purchased 12 in calf Heifers £1190 average - due to calf in spring
Tested above 37 heifers for Johnes and 12 bought in for BVD virus (will also test calves for BVD when born)
Vaccinate back end calves (1st dose) pneumonia and clostridia - mothers annual clostridia and BVD

Other Activity

14 acres of barley wholecropped
147 acres of barley combined
Combined barley as follows;
100 tons in dry bins
90 tons in moist tower
12 dry tons in trailer
39 tons sold off combine - 19% barley £60/ton 15% barley £70/ton
130 tons treated with urea in pit
Direct drilled 6 acre field gave 10 tons moist barley 1.5T/acre? barley showed heavy disease damage and flat.
Sold 200 bales of straw £7/bale

Other

Half of old farmhouse now let - about to start upgrading other half
Hydro schemes no go - Landlords are afraid they will lose out on any future schemes by leasing to us.

Appendix 2. Autumn Calvers Fertility/ Calving Record 2009.

Back End 2009 Fertility

	Cows	Heifers	Comment
Date to Bull	01/10/2007	07/11/2007	
Number Bullied	62	22	
Culls/Deaths (in Calf)	4,1,6	0	Johnes,PD MT, Feet Udder
PD results - in calf	51	22	
Calved	48	22	
Live Calves	47	21	
Born Dead (within 24 Hrs)	2	1	
Calves Dying Later	0	0	
Purchases	0	0	
Calves to be Weaned (1/11/2009)	47	21	
Weaning Date			

Calving Profile

	12/07/2009	21/08/2009
Date first Calf Born		
No. Calves Born		
1st 3 weeks	23	10
2nd 3weeks	10	7
3rd 3 weeks	6	3
4th 3 weeks	1	1
5th 3 weeks	7	
6th 3 weeks	0	
Later	3 Still to calve	