

## LOTHIANS MONITOR FARM

Farm name	Prestonhall & Saughland, Pathhead, Midlothian
Meeting Number	12 – “Transformational Science & Technology” - “Future of Farming” Panel Session
Meeting Date	Wednesday 12 <sup>th</sup> December 2018
Next Meeting	Wednesday 27 <sup>th</sup> February 2019

Prestonhall Farms and Saughland Farm independently run arable and livestock enterprises at Pathhead Midlothian. Pete Eccles is farm manager at Saughland and Bill Gray at Prestonhall. The businesses work collaboratively on arable operations. Livestock at Saughland; 65 AAX suckler cows running with Lim & Hereford bull plus 2,300 Chev, Lley, Aberfield, Mule ewes with Tex, NZsuff, Abermax lambs at foot on rotational grazing system. Arable at Prestonhall; Combinable Crops, WW 175ha, WB 80ha, SB 160ha, WOSR 65ha, WO 20ha, Grass 75ha

Community Group Chairman Willie Thomson welcomed 43 farmers to the Monitor Farm winter meeting at the Juniperlea Inn, Pathhead. Willie explained that, following a very successful meeting last December on Innovation and technology, the aim of this meeting was to further investigate opportunities to link with organisations such as James Hutton Institute and the Agri Epi centre.

### KEY MESSAGES

#### Niall Jeffrey – Beilgrange and Agri-Epi Centre

- Gone through 7 years of expansion programme
- Having a mix of livestock and arable is essential
- Business Benchmarking Group - a huge benefit to the business
- Being Part of the Business Group is like having a board with 8 farmer members – you have to justify everything
- Contract Farming Arrangements important part of the business
- Agri-Epi – core objective is to reduce variability in agricultural systems
- Using Transformational Technology – from Boeing, Williams F1
- Agri – Epi 4 Centres and 28 satellite farms
- Why get involved? Early adoption of technology in any industry has usually proved beneficial



#### George Lawrie – The James Hutton Institute

- JHI – Mains Sites JHI & Invergowrie (Dundee), Craigiebuckler (Aberdeen), BioSS (Edinburgh)
- JHI – 4 Farms – Mylnfield (Invergowrie), Balruddery (Dundee), Glensaugh (Laurencekirk) Hartwood (Harthill)
- Now – Designing diversity back into our farming systems and lowering Inputs
- 0-5 years – building diversity and resilience into our systems for longer term benefits
- 5-10 years – a plethora of exciting innovations on their way

## Panel Session

- What can we do as an Industry – technical efficiency, educate the public, raise our voices with positive stories, properly measure carbon, there are not more Vegans, they are just getting louder

## AREAS OF DISCUSSION

### Niall Jeffrey – AgriScot Scotch beef farmer of the year 2018 and Agri Epi Centre

Niall Jeffrey from Beilgrange Farm has just recently won the Scotch beef farmer of the year award at AgriScot, Niall gave an excellent overview of the diverse farming enterprises at Beilgrange, Weatherly, Halls and his other contract farming/profit share arrangements.

Beilgrange Farm	Weatherly Farm	Halls Farm
<ul style="list-style-type: none"> <li>▪ 300Ha Arable</li> <li>▪ WW, WB, OSR, Grass</li> <li>▪ Grade 3 (I)</li> <li>▪ Clay loam</li> <li>▪ 60m above sea level</li> <li>▪ 600ml annual rain</li> </ul>	<ul style="list-style-type: none"> <li>▪ 240Ha Grazing</li> <li>▪ 300m above sea level</li> <li>▪ 9 miles away by road</li> <li>▪ 250 AAX sucklers</li> <li>▪ Summer only</li> <li>▪ Housed at Bielgrange</li> <li>▪ Closed Herd apart from bulls</li> </ul>	<ul style="list-style-type: none"> <li>▪ Contract farm 160 AAX sucklers</li> <li>▪ 200Ha permanent pasture</li> <li>▪ 800Ha Hill</li> <li>▪ Straw for dung deal with arable enterprise</li> <li>▪ 4 Miles away marches with Weatherly</li> </ul>

The business has gone through 7 years of expansion, building contract farming arrangements and an interesting finishing cattle arrangement with Guy Lee at Sandystones, where 120 steers are finished for Dovecote Park. There are 3 fulltime employees, plus Naill and Angus Jeffrey in a hands on management capacity. The business is part of a business benchmarking group and there are also some diversified incomes from cottage rents, wind farm access and RHI.



Arable	Sucklers	Finishing Cattle
WB, OSR, WW Oats, grass, EFA margins Mix of Ploughing and Non-Inversion Tillage All straw baled Moderate input = moderate (Hopefully high) output Own Agronomy	10 weeks March-May Halls cows calve themselves Calving Pen 24hrs Nursery pen until turnout Creep fed in summer Weaned at grass 5-6months Out wintered on Halls Hill until mid Jan	Weaned calves housed on outdoor straw corral Straw, barley, dark grains, SBP 2 <sup>nd</sup> summer at grass 17-19 month finish pre -Xmas 120 steers finished at Sandystones to Dovecot Park

## Niall Jeffrey - Agri-Epi Centre – A UK Centre of Agricultural Innovation

The Agri-Epi centre is a UK Centre of Agriculture Innovation which has 4 centres set up with government funding from BEIS (Dept Business Energy & Industrial Strategy). It is a large scale research project with collaborative arrangements across the UK as well as capital assets at Cranfield, Harper Adams and Bush Estate.

The objective of the project is to reduce variability in agricultural production systems by eliminating areas with slow growth, lower yields and reduce profitability. Whilst, also identifying the positive outliers and finding out why they perform better.



As Niall explained in his presentation, “the purpose of the funding is to provide facilities to develop or incubate new and emerging talent and technology in the Agricultural Sector. Also, to improve agricultural productivity in the UK and to demonstrate the UKs’ new technology which can then be sold across the globe.”

Beilgrange Farm has been selected as one of the 28 UK wide Agri-Epi Centre Satellite Farms. The farm is equipped with meeting rooms, office space, wifi around the farm, a weather station, a drone and a KORE platform. There is also specific equipment relevant to Beef production which includes, silent herdsman collars, Ritchie Beef monitors, drone images and Multi spectral NDVI. The equipment monitors fertility and health and animal performance on many factors.

Niall also talked through the reason why he engaged with the Agri-Epi centre

- Good opportunity to help improve technical performance
- Interested in commercial use of technology
- Early adoption of technology in any industry has usually proved beneficial, as soon as it becomes standard practice all competitive advantage is lost.

## George Lawrie – The James Hutton Institute (JHI)

George Lawrie gave a very informative and inspiring presentation on the work at the James Hutton Institute and what is on the horizon for the next 5-10 years.

George explained that the JHI work was driven by the global challenges associated with population, food, water, soil erosion and energy demand. JHI are taking long term climate predictions and down-scaling them to field levels with crop models to predict long term yields. The centre for sustainable cropping is doing some fantastic work which the Monitor Farm may be able to adopt.

## Science at the JHI

- New crops; new ways of managing soils, waters, existing crops and biodiversity
- New production systems from extensive and more sustainable field agriculture to indoor total control environment agriculture
- New understanding of the social dimensions of farming (Women in Agriculture; Farmers motivations and decision making; public perceptions of farming e.g. Virtual Farm)

0-5 Year - Designing diversity back into our farm systems and lowering inputs

- Centre for Sustainable Cropping, Re-building soil's natural capital and biodiversity using no Till systems, Magic Margins

5-10 years

- a plethora of exciting innovations on their way

George mentioned the fascinating Intelligent Growth Solutions "Scotland's 1<sup>st</sup> Vertical Farm" at the JHI at Invergowrie, where technologies are converging in the form of Tuneable, precision LED lighting (photonics), Artificial Intelligence, Smart Sensors for plant growth, Smart energy management systems, Robotics and Plant breeding science.



## Panel Session

The presentations were followed by an excellent and interactive panel session chaired by Willie Thomson, where Kate Rowell (QMS Chair) and Duncan Barrie (Galbraiths) joined Niall and George.

## FARMERS UPDATE

Bill gave an overview of activities at Prestonhall since the October. Winter crops are looking well and grain store planning is progressing. Following discussion on varieties Bill went on to describe the soil assessments at the Pitscave with Audrey Litterick where they counted 23 worms in a square (spades width).

Pete updated the group on the lamb performance at Saughland and how he still had some lambs to sell. He The fodder beet based will be grazed, based on discussions at the October meeting. The cattle have moved to Robert Fleming's farm and we will get feedback on their performance by the next meeting.

## FACTS & FIGURES DISCUSSED

- All facts and figures are on the Monitor Farm Hub

## OPPORTUNITIES/CHALLENGES

- Challenge - Vegans      Opportunities - farmers need to be part of educating the public

## ACTIONS

### FACILITATOR CONTACT DETAILS

Colin MacPhail, 07747 046461 [colin@macphailconsulting.co.uk](mailto:colin@macphailconsulting.co.uk)

Stephen Young, 07502 339613 [stephen.young@saos.coop](mailto:stephen.young@saos.coop)

Fergus Younger 07771 966649 [Fergus.younger@saos.coop](mailto:Fergus.younger@saos.coop)