AgriSearch NI
Farmer Funded Research

Welcome

Welcome to the first of a series of new electronic newsletters to be published by AgriSearch to communicate with our levy payers and other industry stakeholders.

These are being initiated to coincide with the launch of our completely revamped website www.agrisearch.org

AgriSearch was formed in 1997 to provide a mechanism through which beef, dairy and sheep farmers could have direct involvement in production oriented research. Funds contributed to AgriSearch are used to commission research into the improvement and development of beef, sheep and dairy farming in Northern Ireland.

AgriSearch's guiding principal is to provide practical benefit for primary producers to reduce costs, improve performance, drive innovation and improve welfare. Duplication of existing R&D work is avoided and every effort is made to get maximum leverage from complementary funding sources.

Northern Ireland to Host Grassland Conference

Dr Ronald Annett who will address the conference

Scientists from across the British Isles and from as far afield as Finland and Belgium meet in Northern Ireland for the 10th British Grassland Society annual research conference on Sept 20-21.

As papers presented at the BGS conference come from both government research workers and those employed by commercial concerns this event offers an update on advances soon to impact on actual daily farming methods.

Indeed at least six of the projects delegates will discuss were carried out at the behest of Northern Ireland farmers, who provided some financial support through AgriSearch, the NI Agricultural Research and Development Council.

Typical of the AgriSearch supported papers accepted for the British Grassland Society Conference is one Dr Conrad Ferris will present based on work by Dr Elaine Vance. A Donegal dairy farmer's daughter, Dr Vance completed the research project whilst a PhD student at AFBI, Hillsborough. Her paper on 'The performance of Holstein-Friesian and Jersey x Holstein-Friesian dairy cows within a low concentrate input grazing system and a high concentrate input total confinement system' has already proved useful to many NI milk producers.

Other topics from AgriSearch backed research under debate at the BGS event in the Lamon Hotel, Castlereagh will include a comparison of the growth rates and carcass characteristics of hill lamb genotypes finished on a selection of forage-based diets and the impact of grazing intensity on the performance of high yielding dairy cows.

‘PLI for PROFIT’ Event for Dairy Farmers

Do you make use of Profitable Lifetime Index (PLI)? Do you understand how to use PLI?

Dairy farmers planning to breed more profit into their herds are urged to attend a ‘PLI for Profit’ conference in Cookstown next month.

Taking place in the Glenavon Hotel on Tues, 18 October, this AgriSearch sponsored event will focus on the vital role breeding can play in optimising the performance of your herd and the role of Profitable Lifetime Index, PLI.

“The aim is to help producers make informed decisions about using PLI for sire selection. It can put money in your pocket,” says AgriSearch dairy committee chairman, Gary McHenry. “It will highlight the benefits to be gained, no matter what production system you use.”

McHenry and vice chairman, Drew McConnell, will relate personal experience of using PLI to guide breeding decisions in their own herds at Aghalee and Omagh.

David Mackey, CAFRE, will present results showing how PLI has been used to good effect in those herds and in the Future Herd at Greenmount. He will demonstrate the importance of lifetime performance in figures and will outline how to use PLI and its sub-indices on your farm.

Dr Alistair Carson, from AFBI, Hillsborough will outline how using the Profitable Lifetime Index benefits producers in Northern Ireland.

Other guest speakers include **Lucy Andrews** from Holstein UK, who will examine breeding for longevity, sustainability and profitability. Lucy, a graduate of Harper Adams University College, has gained a national reputation for her ability to help research scientists communicate their findings to busy farmers.

The final speaker will be NI representative on the UK Genetic Advisory Forum of DairyCo, **Gary Watson**, who will outline the tools farmers have available to help achieve genetic progress.

DairyCo head of genetics **Marco Winters** will then chair a panel bringing together guest speakers and PLI users **Drew McConnell** and **Gary McHenry,** giving you an opportunity to ask, listen and learn about the practical benefits of putting PLI into use in your herd. The proceedings will be summarised by Dr Sinclair Mayne.

The conference begins at 10am on 18 October and the nominal charge of £10 includes lunch. To ease catering on the day conference places must be booked in advance through AgriSearch, tel; (028) 8778 9770. Further details and a booking form can be downloaded from the AgriSearch website www.agrisearch.org

Jerseys Boost Holstein Fertility

COMPARING Holstein-Friesian cows with Jersey X Holstein-Friesians milkers on three different levels of concentrate input confirmed that crossbred cattle are more fertile, but found that extra meal fed had no impact on fertility!

Dr Elaine Vance from AFBI, Hillsborough (centre) handing over the Jersey Crossbreeding final report to AgriSearch Dairy Committee member Peter Conway (left) and Committee Chairman Gary McHenry (right)

Key, practical conclusions from applied research projects completed at the request of milk producers, who provided financial support through AgriSearch, the Northern Ireland Agricultural Research and Development Council.

Dr Elaine Vance, who worked on this AgriSearch supported research as a PhD student, has now presented the final outcomes of the breed comparison component of this study

To view the results of this investigation conducted at AFBI, the NI Agri-Food and Biosciences Institute, Hillsborough visit website www.agrisearch.org or contact AgriSearch project manager Jason Rankin, tel ; (028) 8778 9770, e mail; info@agrisearch.org

The 'Comparison of three contrasting systems of milk production for spring calving dairy cows' trial comprised two separate components:

1) a comparison of cow performance associated with three contrasting milk production systems

2) an evaluation of the performance of Holstein-Friesian and Jersey x Holstein-Friesian cows when managed on these three milk production systems.

The three grassland-based systems were defined as low concentrate (LC), medium concentrate (MC) or high concentrate (HC). Total concentrate intakes with LC, MC and HC were 530, 1092 and 1667 kg/cow/lactation, respectively.

Dry matter intakes during the early lactation (pre-turnout) period were unaffected by genotype and similarly, during the grazing periods there was no evidence of a difference in herbage intake between genotypes as the smaller J x HF cows modified their grazing behaviour to allow them to achieve intakes similar to the larger Holstein-Friesian cows.

On average, HF cows produced 625 kg more milk than J x HF cows, while milk fat and protein concentrations were 5.8 and 2.9 g/kg higher with the J x HF cows. Fat plus protein yield (milk solids) was unaffected by genotype. Milk yield and fat plus protein yield were higher with MC and HC systems, than with LC.

Thus the current study demonstrate that crossbreeding Holstein-Friesian dairy cows with Jersey sires will normally result in a loss in milk yield, but in most cases, no loss in the yield of milk constituents.

Within the range of concentrate

levels examined, J x HF cows had the genetic potential to exhibit similar milk yield and milk constituent yield responses as pure bred HF cows. The implication of this is that crossbreeding may have a role within higher concentrate input systems of milk production, rather than being restricted to lower concentrate input systems.

Jersey crossbred cows were on average 44 kg lighter than HF cows, while the J x HF cows had a 0.2 unit higher mean condition score than the HF cows. There was no evidence of production system having a significant effect on any body tissue parameter examined.

There was clear evidence of earlier resumption of cyclicity and improved fertility with the crossbred cows in the current study. For example, days to first observed heat was 8.8 days earlier with the J x HF cows than with the HF cows.

In addition, conception rate to first service, conception rate to first and second service and pregnancy rate at the end of the breeding season were 23, 29 and 16 percentage points higher with the J x HF cows, compared to the HF cows.

Previous studies have highlighted the association between negative energy balance, excessive tissue mobilisation during early lactation and reduced fertility performance. However the improved fertility performance with the J x HF cows within the current study occurred despite similar levels of condition score loss with the two genotypes. Hybrid vigour is likely to have been a significant contributor to the improved fertility performance observed with the crossbred cows.

Thus, the findings of this experiment suggest that crossbreeding Holstein dairy cows with Jersey sires is a means to overcome some of the fertility problems widely reported with the Holstein breed. But crossbreeding should not be seen as the way to avoid fertility problems that are due to poor management of the herd.

Although concentrate inputs increased from 530 kg/cow with LC to 1667 kg/cow with HC, there was no evidence that fertility performance increased with increasing concentrate levels.

Somatic cell count was unaffected by genotype in the current study, with previous research suggesting that the effect of hybrid vigour on SCC is low. However, the proportion of cows with one or more cases of mastitis was approximately 45% higher with the HF cows.

There is a perception that Jersey crossbred dairy cows have improved hoof health compared to Holstein cows. Although not significant within the current study, there was a tendency for HF cows to have more cases of lameness perhaps due to Jersey and Jersey crossbred cows having harder hooves.

Published by:

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