

Press Release

12th December 2016

Green pastures deliver superior dairy products

- Cork scientists provide the scientific evidence for “Origin Green”
- Pasture-fed cattle produce milk and butter with superior nutritional properties, appearance, flavour and colour

The vast majority of cows in the world are fed indoors and see little of the lush pastures that we are so used to here in Ireland. Ireland’s dairy and meat herds are almost entirely pasture-based – an advantage clearly articulated in the “Origin Green” campaign marketed so effectively by Bord Bia. As a result, consumers generally perceive that milk and dairy products produced from cows maintained on outdoors grazing pastures are “healthier” than from cows fed typical indoor rations and concentrated feeding systems.

Now, Cork scientists are providing the scientific evidence to show the benefits of milk and butter from pasture-fed cattle in terms of superior nutritional properties, appearance, flavour and colour. This research, led by Teagasc and UCC researchers and including APC Microbiome Institute’s Prof Catherine Stanton at Teagasc Moorepark Food Research Centre and Prof Paul Ross in UCC, is published in two papers in the Journal of Dairy Science this month where the paper on butter has been selected as the Editor’s Choice. This study is part of a large collaborative programme across Teagasc Moorepark Research Centre and the APC Microbiome Institute, entitled “Profiling Milk From Grass” which is funded by Teagasc, Science Foundation Ireland and the Dairy Research Trust.

“Results so far are very exciting and indicate that milk and dairy produce from grass and clover-fed cows has significantly higher concentrations of fat, protein and casein”, said Tom O’Callaghan, PhD student at Teagasc and first author on both papers. “In particular, milk from pasture-fed cows (grass or clover) has significantly higher concentrations of healthy fatty acids. These differences are reflected in butter produced from pasture-fed cows being superior in appearance, flavour and colour as confirmed by sensory panel data. Pasture-derived butter is also nutritionally superior for heart health with lower thrombogenicity scores and containing significantly higher concentrations of CLA (c9t11), a healthy fatty acid and β -carotene which gives the butter a lovely golden colour.”

“The significance of these results is that they provide scientific substantiation for what we long thought to be the case – that dairy produce from pasture-fed animals is superior, from a compositional and nutritional perspective, to those derived from their indoor counterparts” says Professor Ross. “The next step is to demonstrate that this has a longterm positive influence on human health through clinical studies” according to Professor Stanton from Teagasc, one of the senior authors on the studies.

Professor Pat Dillon, Head of the Teagasc Animal and Grassland Research and Innovation programme said “The research carried out at the animal and grassland research centre in Moorepark over an entire lactation confirm the superior quality of dairy products produced from pasture-based system at the Teagasc Food Research Centre in Moorepark.”

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Notes for Editors:

Original references:

Effect of pasture versus indoor feeding systems on raw milk composition and quality over an entire lactation Tom F. O’Callaghan, Deirdre Hennessy, Stephen McAuliffe, Kieran N. Kilkawley, Michael O’Donovan, Pat Dillon, R. Paul Ross and Catherine Stanton

J. Dairy Science Vol. 99, Issue 12, p9424–9440; doi: <http://dx.doi.org/10.3168/jds.2016-10985>

Quality characteristics, chemical composition, and sensory properties of butter from cows on pasture versus indoor feeding systems Tom F. O’Callaghan, Hope Faulkner, Stephen McAuliffe, Maurice G. O’Sullivan, Deirdre Hennessy, Pat Dillon, Kieran N. Kilkawley, Catherine Stanton and R. Paul Ross

J. Dairy Science Vol. 99, Issue 12, p9441–9460; doi: <http://dx.doi.org/10.3168/jds.2016-11271>

About the APC Microbiome Institute

The APC Microbiome Institute The APC Microbiome Institute (APC; <http://apc.ucc.ie>) was formed in 2003 with funding from Science Foundation Ireland and in conjunction with key industry partners. It represents a seamless collaboration between University College Cork, Teagasc (the Irish Agriculture and Food Development Authority) and Cork Institute of Technology. It is widely recognised that the gut microbiota plays an important role in human health and has become one of the most dynamic, complex and exciting areas of research in both food and pharmaceutical arenas. Over the last decade the APC has established itself as one of the leading global centres in gut microbiota research. The APC has made several landmark discoveries and has published over 1000 research articles in peer-reviewed journals, generating many journal covers and associated editorials. The APC comprises over 300 individuals, from the scientific PI’s

(the APC Faculty) funded by the partner Institutions, the management team, and a dedicated group of research scientists, research assistants and postgraduates students.