Teagasc LIFE BEEF CARBON Newsletter 7

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LARGE CROWDS ATTENDED THE INNOVATIVE BETTER FARM WALKS IN AUTUMN

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Autumn 2019 Irish Farm Walks

Irish beef farmers, advisors, researchers and industry experts came together on the 10th and 12th of September to walk the BETTER farms for the final time in 2019. Both meetings were organized by Teagasc and the Irish Farmers Journal (IFJ). ABP, DAWN Meats, FBD Insurance and KEPAK sponsored the events. The EU LIFE programme supported the environmental aspect of the joint Teagasc IFJ initiative.

The Flahertys, living near Cordal in County Kerry, held the first farm walk in autumn 2019. The Munster beef producers farm 41 hectares of permanent grassland. It is relatively heavy in nature and yields 8-10 metric tons of dry matter per year. Prior to joining the BETTER farm and LIFE programmes, James and John operated a suckler to weanling system. They now bring grass-fed weanlings to beef. Cattle are turned out to grass in mid spring, weather permitting, and are normally housed in late Autumn or early Winter.

The Flaherty's target finishing males as under 16 month bulls and sell heifers at about 24 months for processing. The change has improved farm productivity and cut carbon footprint. Further footprint improvements have been achieved on the farm by reducing soil acidity and via implementing a vaccination plan. The latter has reduced incidence of respiratory illness in cattle and increased daily live weight gain.

The host of the second autumn farm walk, Tommy Holmes, pays close attention to herd health too, and runs a suckler to beef system. Tommy's grazes his cattle on 18 hectares of relatively free draining land. He began measuring grass growth at the start of the programmes and now consistently grows 15 ton of dry matter per year.

Tommy has also improved soil P levels over period, which has displaced nitrogen fertilizer and reduced carbon footprint. In the coming years, he expects to incorporate white clover into 20% of the farms swards and spread slurry with a trailing shoe. These actions are expected to lead to additional reductions in the farms carbon footprint.

European Beef Carbon Farmer Network: Italy 2019

IRISH, FRENCH, SPANISH AND ITALIAN LIFE BEEF CARBON FARMERS, TECHNICIANS, ADVISORS AND RESEARCHERS ON A BEEF FATTENING FARM IN NORTH WEST ITALY

LIFE BEEF CARBON innovative farmers' 2nd annual international meeting was held in Piedmont, Italy from the 15th to 17th of October 2019. The event was organized by the Italian Council for Agricultural Research and Analysis, CREA, and Italian beef producer associations, Asprocarne and Unicarve. Teagasc and the Irish Farmers Journal supported the network along with European partners.

On the opening day of the meeting 80 farmers attended. An innovative farmer from each country, with support from advisors, provided a testimony at the beginning of the network. Harry Lalor, the innovative Irish farmer, described his family's grass-based beef farm in county Laois. He outlined feasible actions from the beef carbon plan that farmers can apply to reduce carbon footprint i.e. annual carbon equivalent emissions per unit of live weight gain.

Harry showed individual actions such as liming acidic soils, breeding lighter cows, measuring grass and increasing the number of grazing paddocks tended to have a minor mitigating influence on beef carbon footprint, 1% to 2%. These measures were however additive. As a result, applying them together reduced the Lalor's beef carbon footprint by nearly 10% relative to LIFE BEEF CARBON's reference year, 2016. In addition, the actions improved the farm's economic competitiveness, but did require some capital investment.

Innovative French farmer, Jérémy Leroy, testimony supported the positive link between environmental and technical performance. He highlighted increasing the interval between reseedings of temporary grassland was profitable and builds soil organic matter content and carbon. The French farmer aims to produce better quality forage and increase his grassland area. These actions along with better cattle growth rates and rotational grazing are projected to further reduce the farms footprint.

Spanish innovative farmers generally brought weaned Limousin, Montbeliarde and native cattle to beef on a high concentrate diet. Paula Martinez highlighted the feedstuff was a major component of the fattening farms carbon footprint, but demonstrated it is possible to reduce via better nutrition. In particular, she highlighted multiphase feeding, which gradually reduces the protein content of feed mix as the animal gets older. This new action has decreased excess nitrogen in the diet and on the farms, which has mitigated the Spanish beef fattening farms carbon footprint. The companies and producers expect to make further footprint gains in the coming years by replacing soy with local protein sources, installing solar panels and expanding cattle housing spaces.

Italy's innovative beef farmer, the Tre Olmi Company, showed similar techniques cut Piedmont and Veneto beef fattening systems carbon footprint. Trei Olmi company's main action was the installation of horizontal destratifier fans on the underside of the sheds roof. The new ventilation system improved the sheds microclimate, increased animal productivity and mitigated beef carbon footprint. The company also noted the fans had a positive influence on animal welfare and health, particularly during the summer period.

Both are likely to have reduced medical expenses and may decrease others e.g., bedding costs. The company expects these factors will have a strong influence on the viability of the new investment.

After the Italian company's testimony, the group visited a LIFE BEEF CARBON farm near Racconigi, in the province of Cuneo. The farm, run by Cugini Rubiolo, brings 250-300 Limousin, Blonde D'Aquitaine and French cross bred weanling bulls to beef on 71 hectares. Cattle normally enter his farm weighing 300-350 kg and are sold for processing once they reach a target live weight of 750 kg. They are kept in confined open barns for 8-9 months. Each animal costs about €2 to feed per day. The diet fed is a mixture of corn, hay, straw and concentrates. Cugini grows 22 hectares of corn and produces cereals and hay on the rest. His land is light to medium in texture and very productive.

Since joining the project, the Piedmont farmer has given his animals more space and installed a new ventilation system. Cugini expects that at the end of the 10 years he will have cut his beef carbon footprint by 15%.

On day two, the group first went to view Giordano Sergio e Ivano's farm in Fassano. He runs a suckler to beef production system on 28 hectares, of which 16 hectares is usually under temporary grassland. Giordano's farmland is good quality, containing light and medium textured loam soils. It is mainly used to supply forage and feed to the farm's Piedmontese cattle. Fresh grass is offered to 84 suckler cows during summer and mixed with maize silage and hay. Cows calve throughout the year and have access to multiple pens. They are kept with their young in confined barns on deep litter. Cereals supplemented with by-products are fed with forage to fatten 64 weanlings each year.

Giordano plans to improve the carbon efficiency of his breeding stock by 1) reducing the age at first calving to 26 months and 2) improving the calving rate to 0.85 calves per cow. In terms of the fattening phase, calves will be a month weaned earlier and cattle finished a week earlier. Additionally, a new shed will be erected to provide more space for fattening cattle. Overall, these changes are expected to reduce carbon equivalent emissions per kg of live weight gain by 25% to 14.7 kg.

The next farm visited had a similar carbon footprint mitigation goal as Giordano and was also building a new barn to handle more cattle. Panero, Renato &C own the farm enterprise and operate a beef fattening system. The company farms 80 hectares near Fassano. They grow corn and cereals on the farm's medium textured land for Blonde D'Aquitaine and French cross bred male cattle.

Corn and cereals are mixed with hay, straw, yeasts, minerals and vitamins and offered to cattle in a total mixed ration. Cattle are usually on this diet for 6-7 month prior to being sold as bulls for beef processing.

Panero, Renato & C typically fatten 836 cattle and house them in multiple pens on deep litter. The farm installed a ventilation system in 2016/17 to reduce the amount of straw bedding and to mitigate heat stress. The company expects this action, coupled with the new barn, will reduce beef carbon footprint by 21%, increase daily live weight gain by 13% and cut straw usage by 200 metric tons per year.

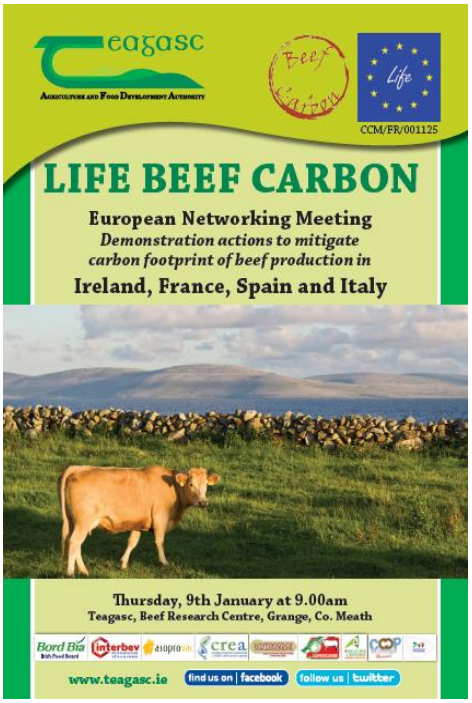
The network concluded on the third day with a technical visit to the 33 hectare Cascina Government beef farm near Barge in the province of Cuneo. Unlike most beef farms in North West Italy, Cascina runs a suckler to weanling production system. Cows calve throughout the year in this system and are bred to Piedmontese sires using artificial insemination. Calves and heifers are confined in loose housing on deep litter. Cows are kept in fixed housing. Corn silage, straw, grass and hay are offered to cattle and produced on the farm's medium textured land. The diet is normally mixed and balanced with supplements i.e. cereals, minerals and vitamins.

Typically, cows in the Cascina's farm give birth every 464 days and have 2-3 metre square of space. The farm's management team plan to improve these performance indicators by loose housing cows and giving each animal 5 metre square of space. The cost effectiveness of these actions will be determined in the final year of LIFE BEEF CARBON.

2020 LIFE BEEF CARBON events

The concluding European networking meeting for action E5 takes place in Ireland on Thursday, January 9th. Teagasc, Animal & Grassland, Research and Innovation Centre, Grange, Co. Meath is the venue for this important meeting on beef production and climate change.

Dr Jean Baptiste Dolle, Chief of the Environment Department at Idele, French Livestock Institute, will provide an overview of LIFE BEEF CARBON producers during the event and put the climate impact of beef production in context. The European Commission will discuss the latest climate and agriculture policy developments and reflect on the United Nations 25th Climate Change Conference, COP 25. Teagasc and European partners will demonstrate the actions LIFE BEEF CARBON producers are taking to reduce carbon footprint. We will also review Ireland's food sustainability programme "Origin Green" and look



at new initiatives responding to the beef sector's climate and sustainability challenges.

The event is a chance to gather with industry experts, research scientists, marketers, farmer organizations, students and policy makers from across Europe.

Three day European beef carbon farmer meetings will also be held in Ireland this year and take place in Spain. Farmers from each nation will visit production systems in both countries and view the beef producers' latest innovations. Carbon action plans will be reviewed and strategies to improve the economic and environmental sustainability of beef production will be discussed. Spain's 3 day meeting is expected to take place in April or May and the Irish event is tentatively scheduled for mid-Autumn.

LIFE BEEF CARBON will finish at the end of year with a final seminar in Paris. The event will showcase the main findings from the 4 year programme and outline upcoming initiatives to further improve the carbon efficiency of Europe's bovine producers.

FOR MORE INFORMATION

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