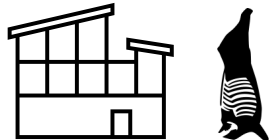
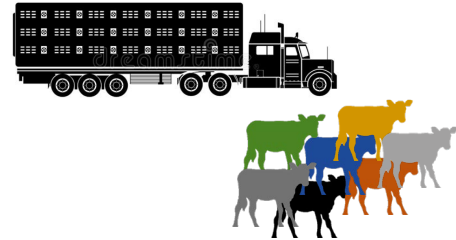
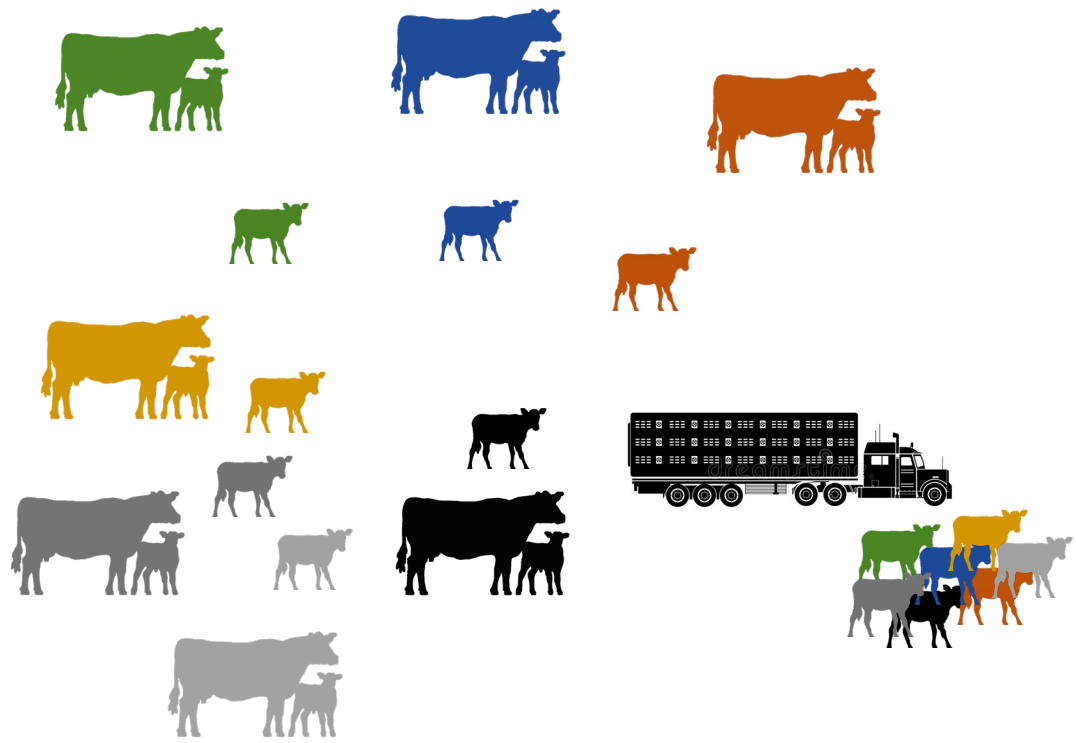




Addressing the challenges of the European dairy beef production system

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Institut de Recerca i Tecnologia Agroalimentàries- Spain

Sustainable and smart integration of the dairy and beef sectors
in the EU
EAAP, Florence, 1st September



Dairy Beef Production System

Raising calves born into dairy herds:
non-replacement heifers & male calves
that are fattened for meat



Dairy Beef Production System: is it important in Europe?

Categories of animals-Regulation (EC) N° 1165/2008-livestock and meat statistics- Annex II and IV and V-Agridata	Slaughter carcass classification- article 10 and annex IV Regulation N° 1308/2013
Calves: Bovine animals aged 8 months or under	Calves or veal (V): intact male younger than 8 months
Young cattle: Bovine animals aged over 8 but not over 12 months	"Z" animals aged between 8 and 12 mo of age
Bulls: Non-castrated male bovine animals not included under calves or young cattle	"A" carcasses of uncastrated animals aged from 12 to 24 months
Bulls:	"B" carcasses of uncastrated animals aged from 24 months
Bullocks: Castrated male bovine animal not included under calves and young cattle	Steers (C): castrated over 12 months of age
Heifers: Female bovine animals that have not yet calved and which are not included under calves and young cattle	Heifer (E): carcasses of other female animals aged from 12 months
Heifers for slaughter: Heifers raised for meat production	Heifer (E): carcasses of other female animals aged from 12 months

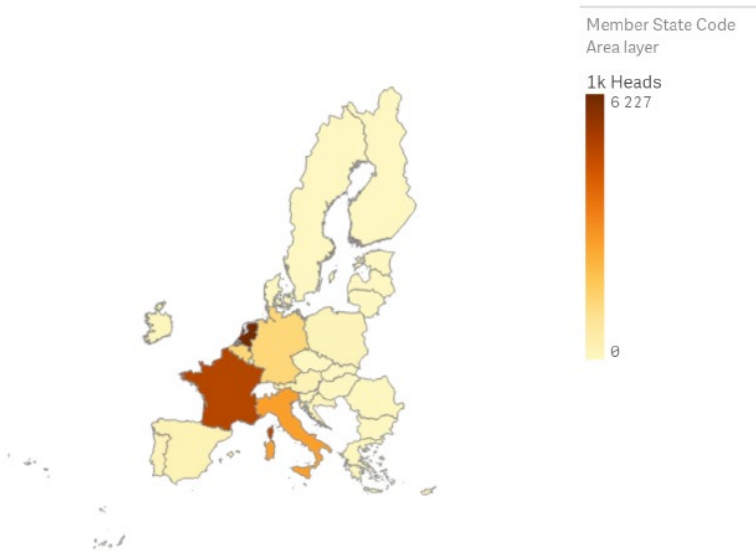
Not linked to the animal origin (dairy or suckler herd) origin- hinders the impact analyses

Not linked to management or feeding practices- hinders the challenges definitions

Better definitions are needed to better describe the impact

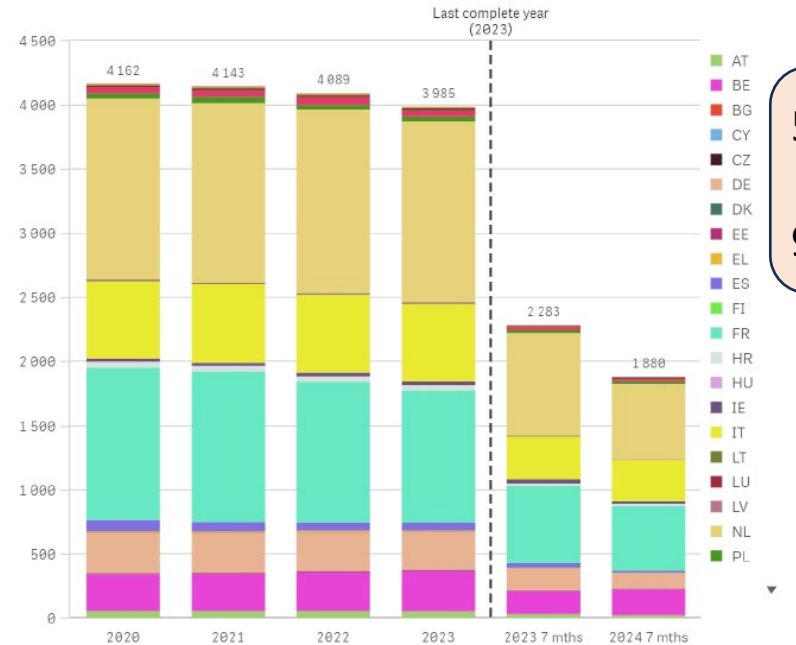
Veal or calf < 8 mo of age

Geo distribution of calf production - Absolute total values in All MS
For years 2020-2024, for all months (1000 Heads)



Development of calf production

(based on production by 1000 Heads) for years 2020-2024, for all months



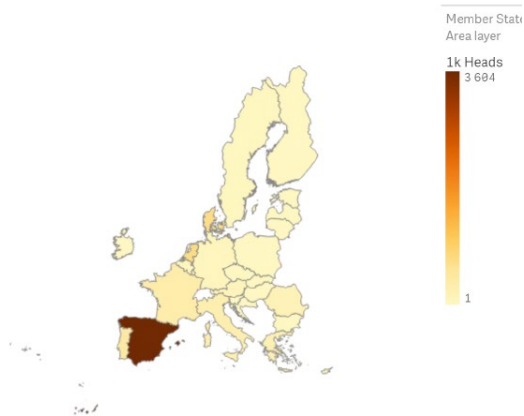
577.000 tonnes of meat in 2023

9% total European production

Better definitions are needed to better describe the impact

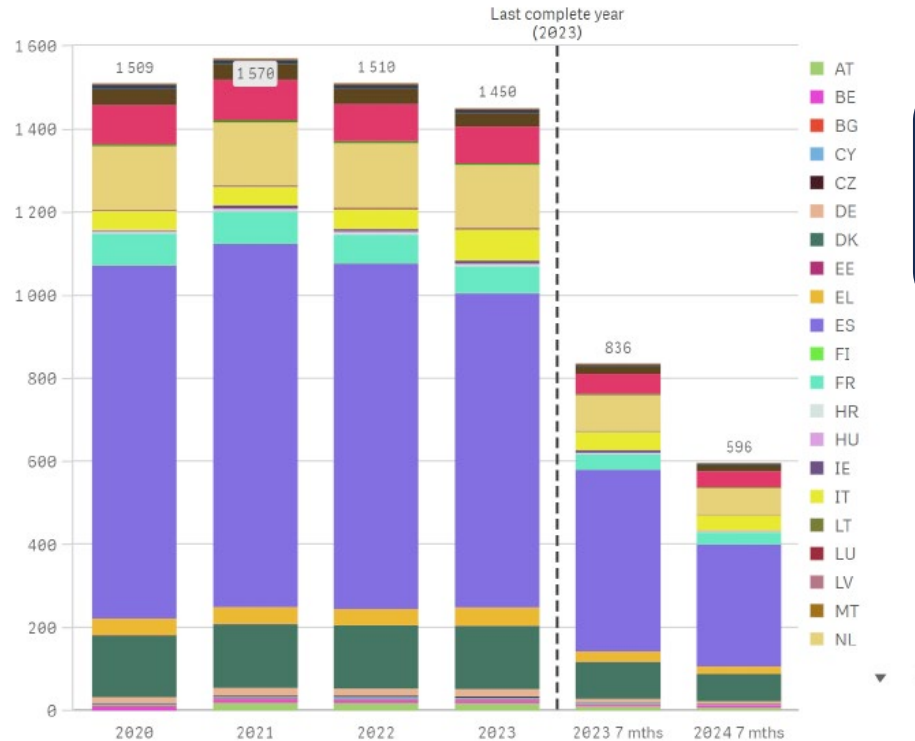
Young cattle: 8 -12 mo of age

Geo distribution of young cattle production - Absolute total values in All MS
For years 2020-2024, for all months (1000 Heads)



Development of young cattle production

(based on production by 1000 Heads) for years 2020-2024, for all months



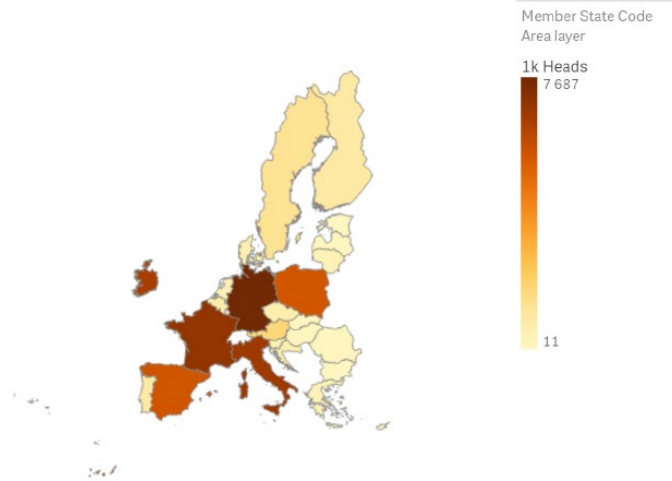
322.000 tonnes of meat in 2023

5% total European production

Better definitions are needed to better describe the impact

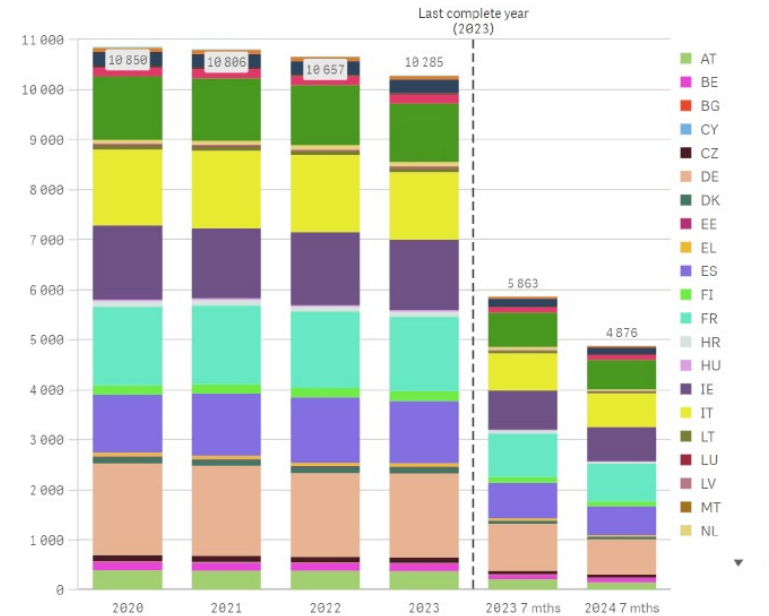
Bulls, bullocks, heifers

Geo distribution of bull, bullock, heifer production - Absolute total values in All MS
For years 2020-2024, for all months (1000 Heads)



Development of bull, bullock, heifer production

(based on production by 1000 Heads) for years 2020-2024, for all months



3523.000 tonnes of meat in 2023

55% total European production

We assume that 50% comes from dairy beef production based on the European cow-calf herd
-----27.5% belongs to dairy beef

Better definitions are needed to better describe the impact

We have approximate data, but we do not have exact data....

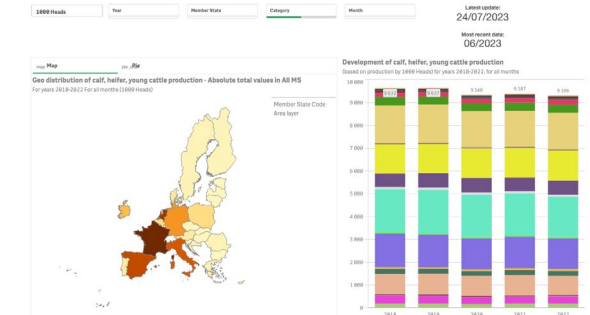
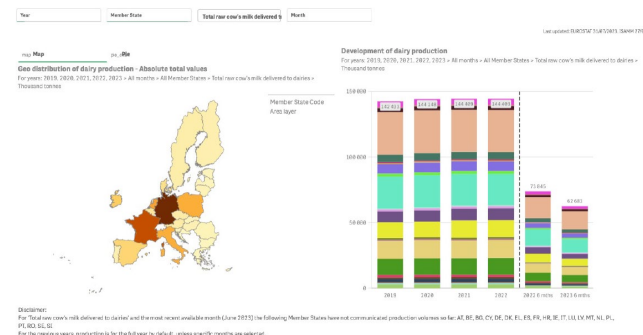
41.5% of the beef meat
produced in 2023 in
Europe comes from
dairy beef system

From the 20.073.000 dairy cows in 2023 in Europe around **10.839.420 calves**, 74% males, are raised in the dairy beef system

We know....

Veal (< 8 months) is only one part of the dairy beef production in Europe

Dairy farming and dairy beef fattening
may be far away: not linked- poor
managment, transport...



Better descriptions are needed to better face the challenges

	Slaughter age	Weaning	Diet	Countries fattened
White veal	Max 8 months	no	MR, compound feed, straw	NL, FR, IT, BE, DE
Rose veal	8-12 months	8 wks of age	MR, compound feed, straw, silage	NL, FR, IT, BE, DE
Bulls slaughtered before 16 mo of age	12-16 months	8-10-12 wks of age	Compound feed & straw or TMR	ES, DK, NL, PT, FR
Steers	21-24 months	8 wks of age	First grazing with compound feed and Straw supplementation, silage&compound feed, second grazing	IR
Heifers	10 (ES)-19 months (IR)	8 wks of age	IR scheme, compound feed & straw (ES) or TMR Summer grazing	PL, IT, UK, FR, ES, DE

Currently we are working in describing each identified system to better face the challenges



Why now?
Which are the
drivers?



Eurobarometer shows how important Animal Welfare is for Europeans

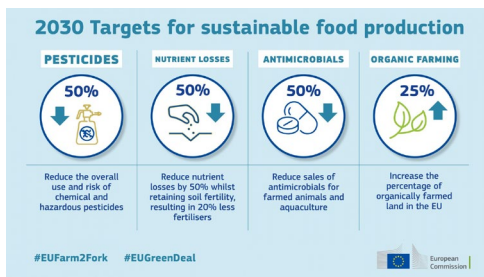
Brussels, 19 October 2023

Protecting the welfare of animals is essential for Europeans, as shown by the results of a Eurobarometer survey published today. The Commission has been acting to improve animal welfare for over 40 years, progressively improving the lives of animals and adopting welfare standards in legislation that are amongst some of the highest in the world. This survey shows the importance of this topic for citizens across the EU.

A large majority of Europeans (84%) believe that the welfare of **farmed animals** should be better protected in their country than it is now. A similar number (83%) support limiting the **transport time** of animals. Almost three quarters of respondents (74%) support better protection of the welfare of **pet animals** in their country.

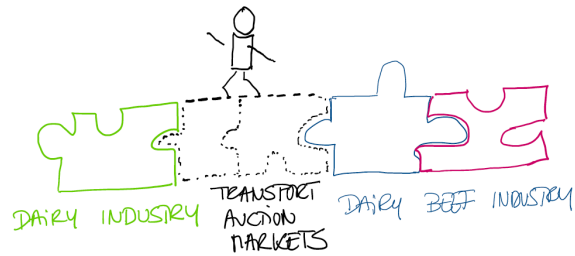


These drivers pave the innovative changes for a more **responsible and sustainable dairy beef** production system.



If current practices remain unchanged there are risks related to policy changes that result in drastic sector changes or that they lose the “social licence” (process which community grants or withholds permission to an industry to conduct their business to produce)



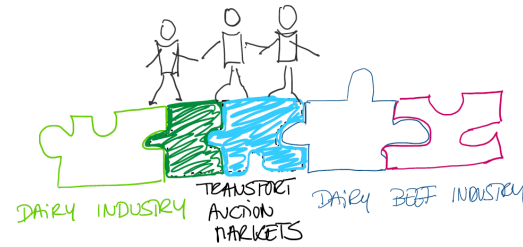


Linked- **weak future**

Surplus calves

Currently, internationally linked dairy beef production stakeholders are only organized according to national policies (albeit under the EU umbrella)

Experts and stakeholders focus on the production chains and issues of their own region



Connected- **short-term future**

Dairy Beef system

An interdisciplinary and multi-actor platform and will enable collaborations between research groups and stakeholders at European and international level.

The platform can ambition, through dialogue and knowledge sharing, to increase dairy beef production sustainability and the societal acceptance of the meat produced in the dairy beef production system



Sustainable and Responsible Dairy Beef system- **mid-term future**

Responsible Dairy Beef innovation requires public-private collaboration of innovation system stakeholders to enable development of transition pathways from the systems' perspective.

Trans-disciplinary activities (deliberation, co-construction and co-design) are needed to seek convergence and bridge the gap between science and society.

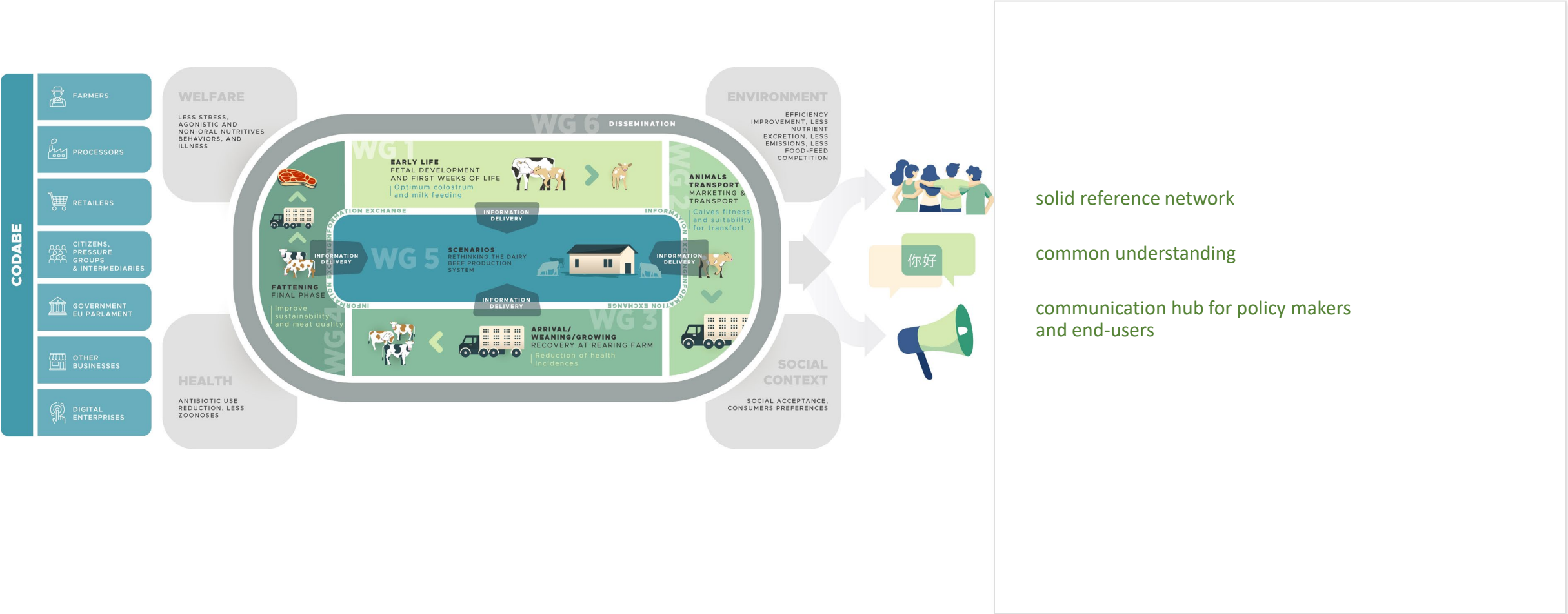
Also, this network should be composed with new gender-balanced generation of research leaders, a talent layer with innovative mind set looking at the problems with a holistic approach.

Who are we?



CODABE, acronym for the platform COnnecting DAiry BEef (Multiactor)

Complex and fragmented production system needs to dialogue and address the challenges together with policy makers, consumers and society.



Core group: monthly meetings



Maria Devant, Sonia Marti from IRTA, Spain

Harald Hammon from Leibniz Institute, and **Lisa Bauchmann**, Applied Science
Neubrandenburg, Germany

Bernadette Earley, from Teagasc, Ireland

Javier Martin-Tereso from Trow Nutrition R&D, NL

Mogens Verstegaad from University of Aarhus, Denmark

Nathalie Bareille from INRAe, France

Catarina Svensson from the Swedish University of Agricultural Sciences, Sweden

Ines Ayuda from Eurogroupforfarmanimals, Belgium

Ruth Bouwstra from VanDrie Group, NL

Juliana Mergh Leao from Urus Group, USA

Geert Vertenten and Jantijn Swinkels from MSD, USA.

Peter Mölder from Denkavit, NL.

Paul Berghuis from Berghuis Calf Transport Company, Germany.

Leoneal Leal from Cargill, USA

The network



Number of Proposers

71

Gender Distribution of Proposers

54.9% Males

43.7% Females

Number of Young Researchers and Innovators

17

Institutional distribution of Network of Proposers

54.9% Higher Education & Associated Organisations

26.8% Business enterprise

11.3% Government/Intergovernmental Organisations except Higher Education

4.2% Private Non-Profit without market revenues, NGO

2.8% Standards Organisation



Our activities

Dairy beef production systems. Global starting points- 4th May 2021
<https://www.youtube.com/watch?v=x0OUNP7XKb4>

Health, Immune System and Development in the Calf-
29th April 2021 <https://www.youtube.com/watch?v=CHrgwZmoy6k>

2nd July 2021 On-line meeting all members

Precision livestock farming: a potential toolbox for health and welfare management in dairy beef production systems. Global starting points- 30th September 2021
<https://www.youtube.com/watch?v=7DsMLQ8a0V4>

October 2021 first COST Action application

Postnatal nutrition of calves and its impacts on health, performance, reproduction development and meat quality-24th March 2022: <https://www.youtube.com/watch?v=6WbWXZf8UHA>

New knowledge to manage respiratory diseases in calves -21st April 2022: <https://www.youtube.com/watch?v=Rop73jgbQtU>

Young talent seminar. 7th July 2022.

October 2022 second COST Action application

August 2023 Buiatrics Congress Berlin: dairy beef session organized, coordinated and led by CODABE

October 2023 second COST Action application

The role of women in cattle farming. <https://www.youtube.com/watch?v=LTWOcDP--DU>
14th May 2024.

Environmental impact of dairy beef production.
<https://www.youtube.com/watch?v=5c2aYyB7xcw>. 4th of July

September 2024 EEAP Congress in Florence- dairy beef session organized, coordinated and led by CODABE

October 2024 third COST Action application

Vaccination and antibiotic reduction in dairy beef calves. 14th November 2024

Position papers & young researchers

Cross-breeding- what do farmers think? 2025?.

Our expected contribution

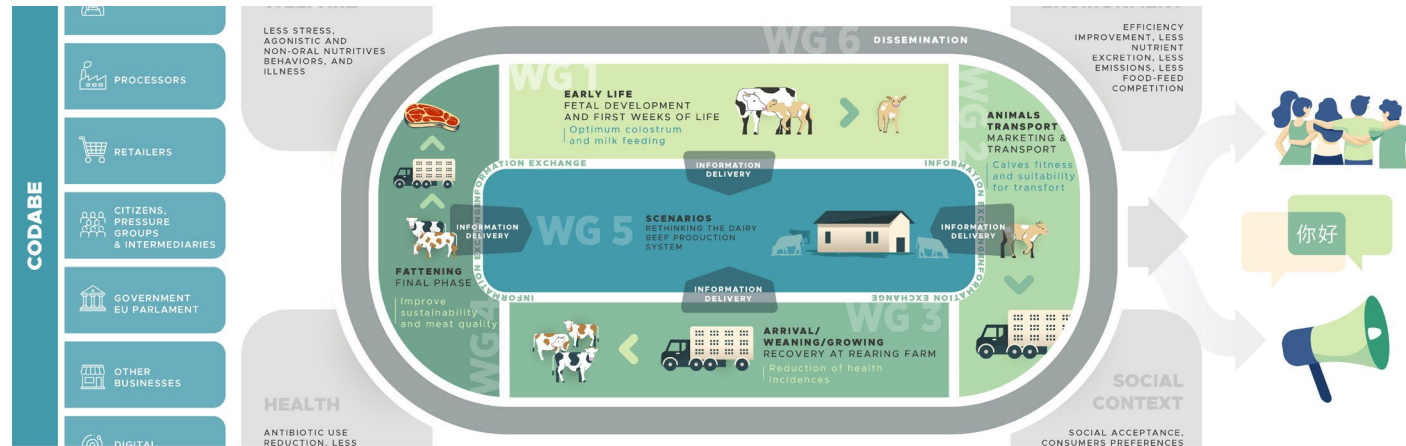


Knowledge adoption &
Capacity building
& Policy maker advice

1. Rethink the husbandry management of dairy calves raised for meat production to improve animal welfare and health (animal transport is one critical point, but not the only one)
2. Rethink the husbandry management of dairy beef calves to improve environmental impact and meat quality (for example sexed semen, prolonging lactation, nutritional strategies...)
3. Consideration of integrated supply chain, from farmers to processors. New farming model.

CODABE, acronym for the platform COnnecting DAiry BEef (Multiactor)

NEXT STEPS



1. Enlarge the stakeholders:

- More dairy producers
- Some countries like Italy

2. Review the targets/needs/welfare challenges with the dairy and beef producers- need to be the main and proactive actors

3. Activities:

- COST action application
- Review papers
- Conferences
- Improve dissemination

Examples



- | | | |
|-------|---|-----|
| 14:15 | Longitudinal retrospective study of intake recovery and growth in unweaned dairy beef calves subjected to fasting, transport, and entire commercialization at farm arrival
<i>S. Marti, L. Pisoni, M. Blanch, A. Bassols, Y. Saco, J. Pujols, M. Devant</i> | 316 |
| 14:30 | Total protein and hemoglobin levels of veal calves at arrival are associated with antibiotic use and mortality
<i>invited A. Willemsma, I. Carvalho, M. Van De Vosse, P. Mölder</i> | 317 |
| 14:45 | A proteomics-machine learning approach to unravel the impact of protozoan infection on calves' intestinal morphology and development
<i>M. Bonnet, F. Dengler, L. Bachmann, W. Liermann, C. Helm, R. Ulrich, C. Delling, H. M. Hammon</i> | 317 |
| 15:00 | Portable nanosensor for rapid detection and characterization of botulinum neurotoxins in cattle
<i>N. D. Kumar, G. Shtenberg</i> | 318 |
| 15:15 | Effects of milk supplementation with different levels of soy protein isolate on growth performance and health indicators of the Holstein calves
<i>V. Yekani, H. Khalilvandi-Behroozyar, R. Pirmohammadi, M. Donyadoost-Chelan, M. Hosseini Ghaffari</i> | 318 |
| 15:30 | Impact of breed and colostrum intake on serum IgG, growth, health, and blood lymphocyte profiles in preweaning dairy and crossbred bulls
<i>H. McCarthy, M. Kovacs, T. Chapelain, J. Leão, D. Renaud, M. Steele</i> | 319 |
| 16:15 | Genetic parameters for calf resilience and milk feeding traits recorded by automated milk feeding machines and their relationship with bovine respiratory disease in North American Holstein calves
<i>L. F. Brito, J. Graham, L. Gloria, J. Boerman, M. Taghipoor</i> | 319 |
| 16:30 | Prevalence and distribution of foot lesions in French slaughter dairy and beef young bulls housed in indoor feedlot
<i>S. Ishak, R. Guatteo, A. Lehébel, N. Brisseau, A. R. Entraygues, M. Gall, A. Duvauchelle Waché, A. Relun</i> | 320 |

Examples



- | | | |
|-------|--|-----|
| 17:30 | Novel administration of meloxicam to surgically castrated bull calves via medicated lick blocks
<i>S. Rudd, D. Van Der Saag, S. Lomax</i> | 322 |
| 17:45 | Sustainability, Animal Welfare and Surplus Calves in the Australian Dairy Industry: Perspectives from the public – a focus group study
<i>S. Bolton, B. Vandresen, M. Von Keyserlingk</i> | 322 |

Poster Session 18

Palazzo Congressi floor -1, from September 1st at 8:00 until September 2nd at 15:00

- | | | |
|-------|---|-----|
| 18.15 | The use of gamma-glutamyl transferase as potential biomarker of colostrum consumption to evaluate the maternal antibody interference with subcutaneous and intranasal vaccines against BRD in unweaned dairy beef calves. An exploratory field study
<i>C. García-Vázquez, L. Llonch, A. Bassols, Y. Saco, J. Pujols, M. Campas, M. Devant, S. Marti</i> | 323 |
| 18.16 | Evaluation of milk replacer acidification according to the cattle origin as a feeding strategy during pre-weaning period on diarrhea incidence and performance in dairy beef calves
<i>M. Verdú, X. Soldevila, M. Villarte, D. Villalba, G. De La Fuente, J. Cucurull</i> | 323 |
| 18.17 | Effect of a phytogenic feed additive (POWERJET®) on calves' growth performance and intestinal permeability
<i>M. Verdú, X. Soldevila, J. Cucurull, A. Pérez, J. Grau, M. S. Gómez</i> | 324 |



Examples

16:45	Updating preliminary study of multiphase diet for dairy beef cattle <i>P. Guarnido Lopez, M. Benaouda, L. Llonch, S. Marty, M. Devant, L. Tedeschi</i>	320
17:00	Carbon footprint of Holstein bull calves fed two different total mixed rations from 4 to 12 months <i>L. Mogensen, M. Vestergaard</i>	321
17:15	Innovative sustainable organic beef production system where quality replaces quantity <i>L. Mogensen, T. Kristensen, M. Therkildsen, I. A. Christiansen, K. F. Jørgensen, C. Kramer, B. V. Andersen, T. Dorca-Preda, M. Vestergaard</i>	321

Poster Session 18

Palazzo Congressi floor -1, from September 1st at 8:00 until September 2nd at 15:00

18.18	Use of foster cows to produce rosé veal of spring-born dairy calves in an organic setting <i>M. Vestergaard, T. Kristensen, L. Mogensen, B. V. Andersen, I. A. Christiansen, K. F. Jørgensen, C. Kramer, M. Therkildsen</i>	324
18.19	Can cakes rich in polyunsaturated fatty acids substitute palm oil and reduce methane emissions in dairy beef calves fed high-concentrate diets? In vitro screening <i>M. Devant, L. Llonch, S. Martí, G. Verge, J. Riera, C. Medinyà, J. Cucurull, A. Pérez, B. Fernández</i>	325
18.20	Effect of substituting palm oil by sunflower oil in fattening dairy beef bulls fed high-concentrate diets on performance and enteric methane emissions <i>L. Llonch, S. Martí, M. Devant</i>	325
18.21	Can algae rich in polyunsaturated fatty acids reduce methane emissions when substituting palm oil in dairy beef calves fed high-concentrate diets? In vitro screening <i>L. Llonch, S. Martí, G. Verge, J. Riera, C. Medinyà, J. Cucurull, A. Pérez, B. Fernández, M. Devant</i>	326
18.22	Carcass traits of Lidia breed heifers: preliminary results <i>M. Cantarero, E. Angón, J. Claros, L. Jiménez, J. Caballero, J. Perea</i>	326

Contact

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