Methane research & future implementation

Date: 16th November 2022

Ross Evans, ICBF

EBI updates event

Corrin mart

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Department of Agriculture, Food and the Marine

eagasc
Agriculture and Food Development Authority

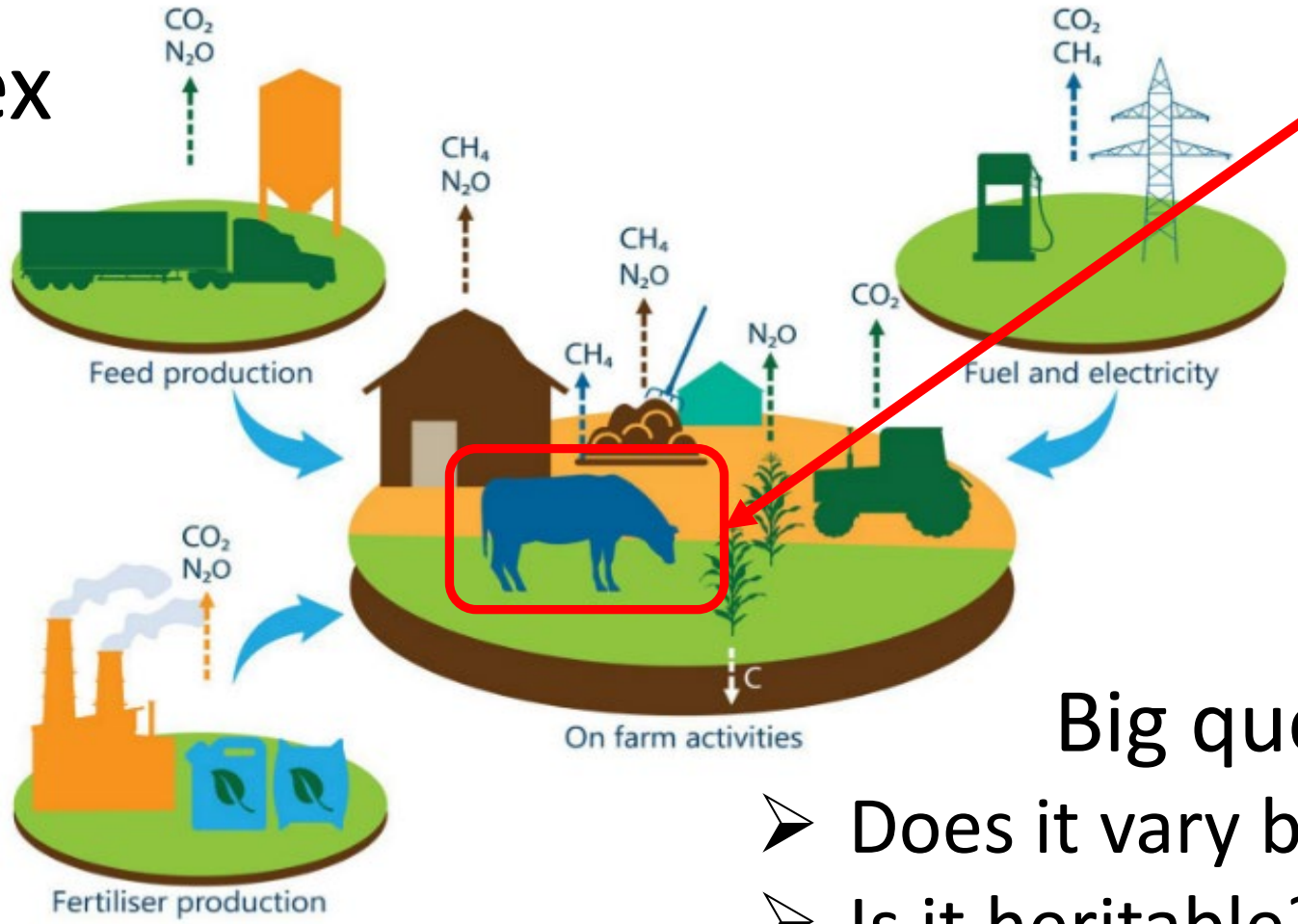
AgTech - it's in our DNA

Background

Earlier…..

Carbon index

New!



Enteric Methane ~57% of total emissions

Herron and Shalloo Teagasc

Big questions:

- Does it vary by animal?
- Is it heritable?
- Measure in sufficient volumes

Methods for Methane phenotyping

Respiration chamber

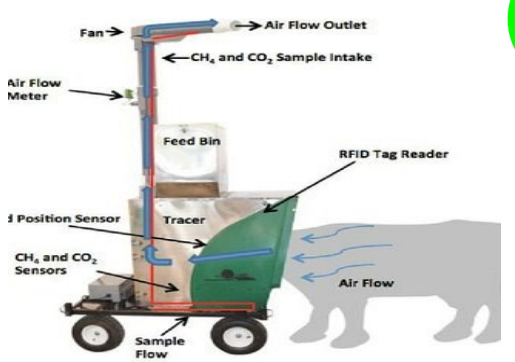
- Cost
- Labour
- Throughput
- Welfare

Infrared breath analysers (Sniffer)

- Milking Robots
- 100 Dutch farms
- 10,000 cows
- EBVs in 3 years
- Cheap (<€5k)
- Cow friendly

- Ruminal CH4 only
- Not practical with typical Irish farm

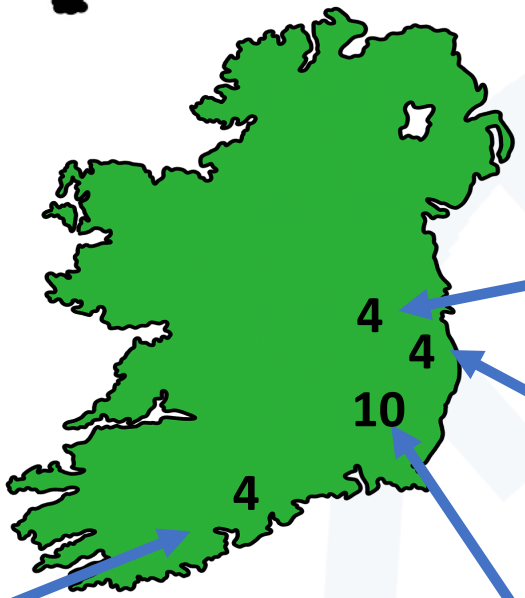
Greenfeed



- More practical
- Location flexibility
- Dairy & Beef
- Cow and young
- Growing in popularity
- Cow friendly

- Ruminal CH4 only
- Technician need
- Too expensive for a single farm (€70k)

Current Irish Investment



Grange

UCD

Moorepark (280 cows)

VistaMilk

Tully (n = 1360 cattle)

Greenbreed Master

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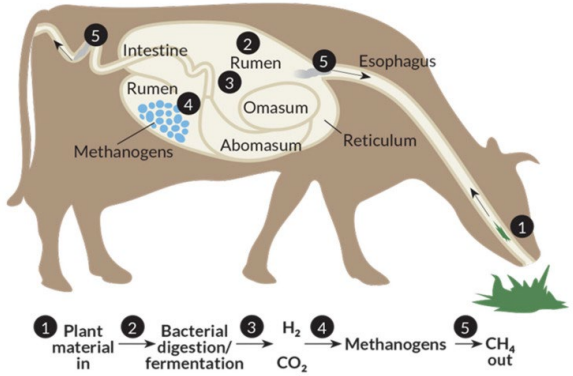
Reasons for investment

Feed additives

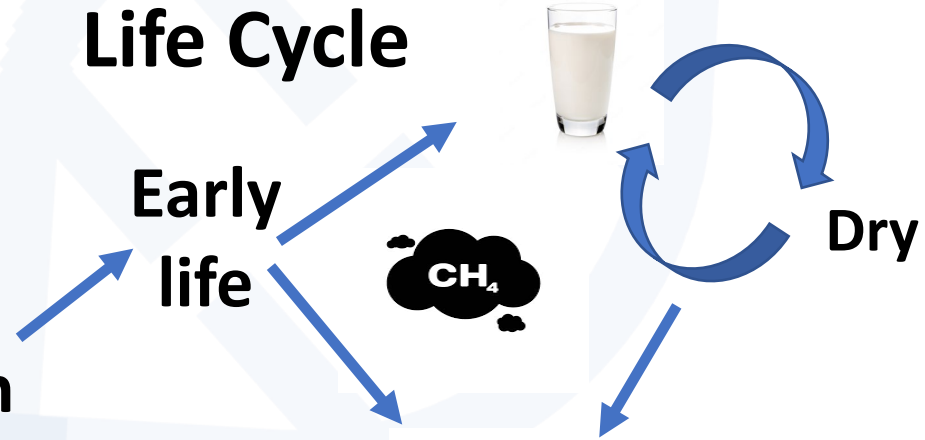


Diet v

Animal type

Developing genetic evaluations

Life Cycle



- Trait definition
- Is the trait heritable?
- Single EBV or multi?
- Relationship with other traits
- Breeding program

Heritable

Validating and updating the National inventory

System level + Accounting for Genetic merit

Summary

- Active CH4 recording at research level
- Not at sufficient volumes for genetic evaluations
- Key for the industry to align existing data and expand recording
  - MTI (x5), NZ-IRL Joint Research Mechanism (x2)
- Engage with the parlour manufacturers for a “sniffer” solution for non robot parlours
- Recording in Gene Ireland herds: reliable sire proofs
- Goal: Integrate directly into the EBI