



Animals, Health and Resilience

Our responsibility for the land and the diverse role of the animals

Deepen Biodynamics
4th – 25th September 2023

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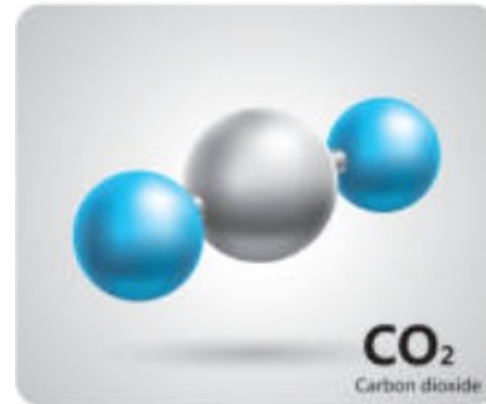


Methane, Ruminants and Climate Change

Alysoun Bolger



Carbon Dioxide – two oxygens and a carbon

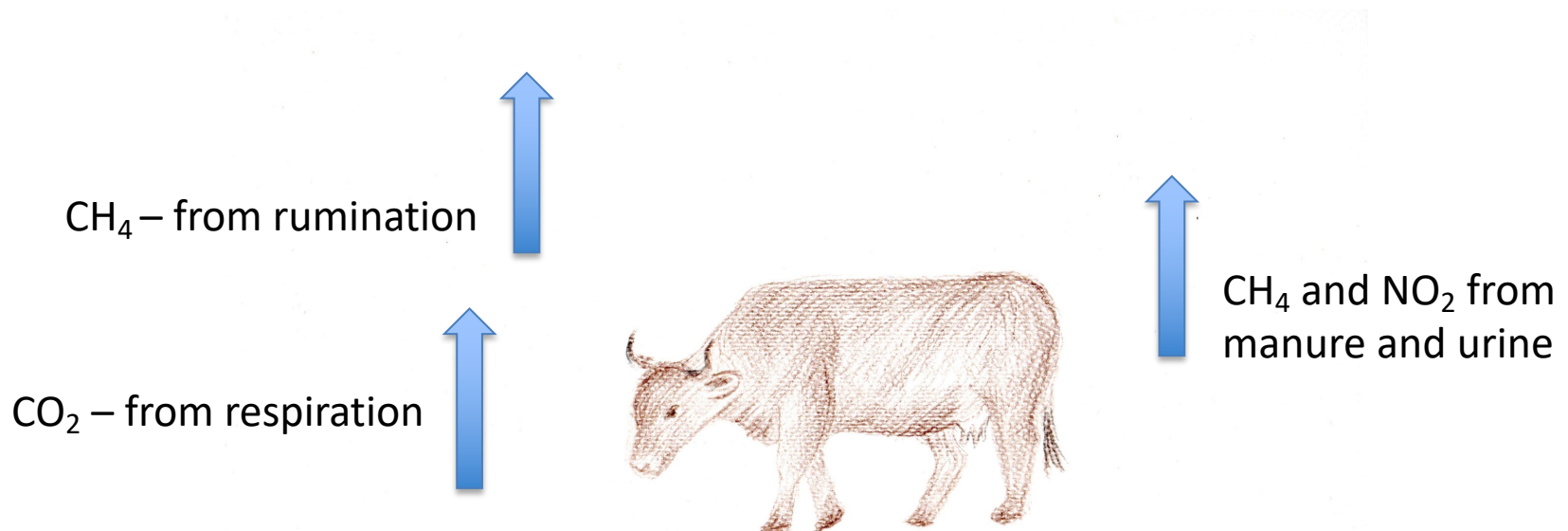


Methane – four hydrogens and a carbon



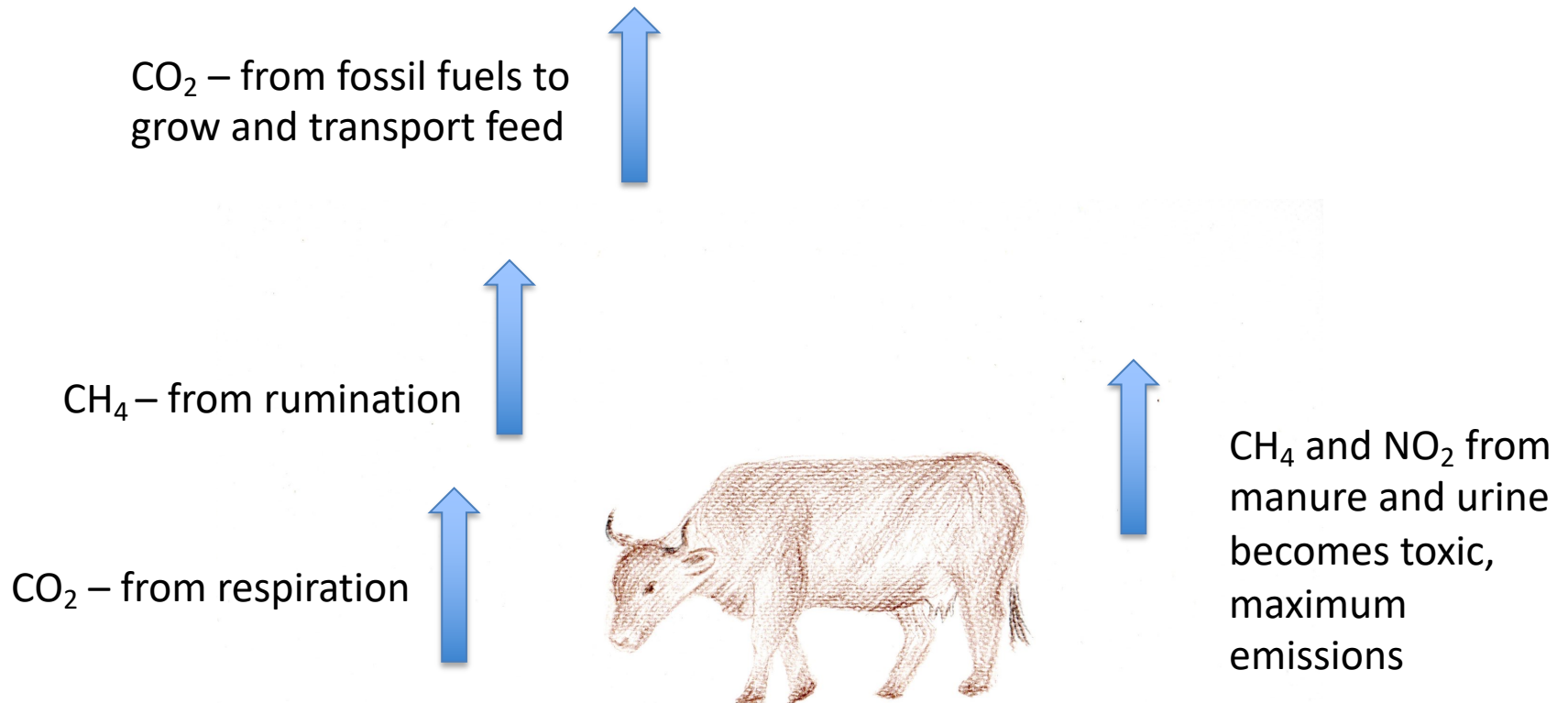
Cow

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Section for Agriculture
Section d'Agriculture
Sección de Agricultura



Cow (*intensive system*)

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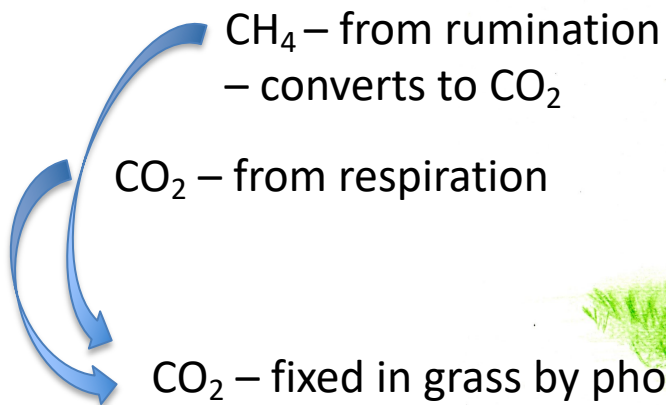


Cow (extensive system)

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~~CO₂ – from fossil fuels to
grow and transport feed~~

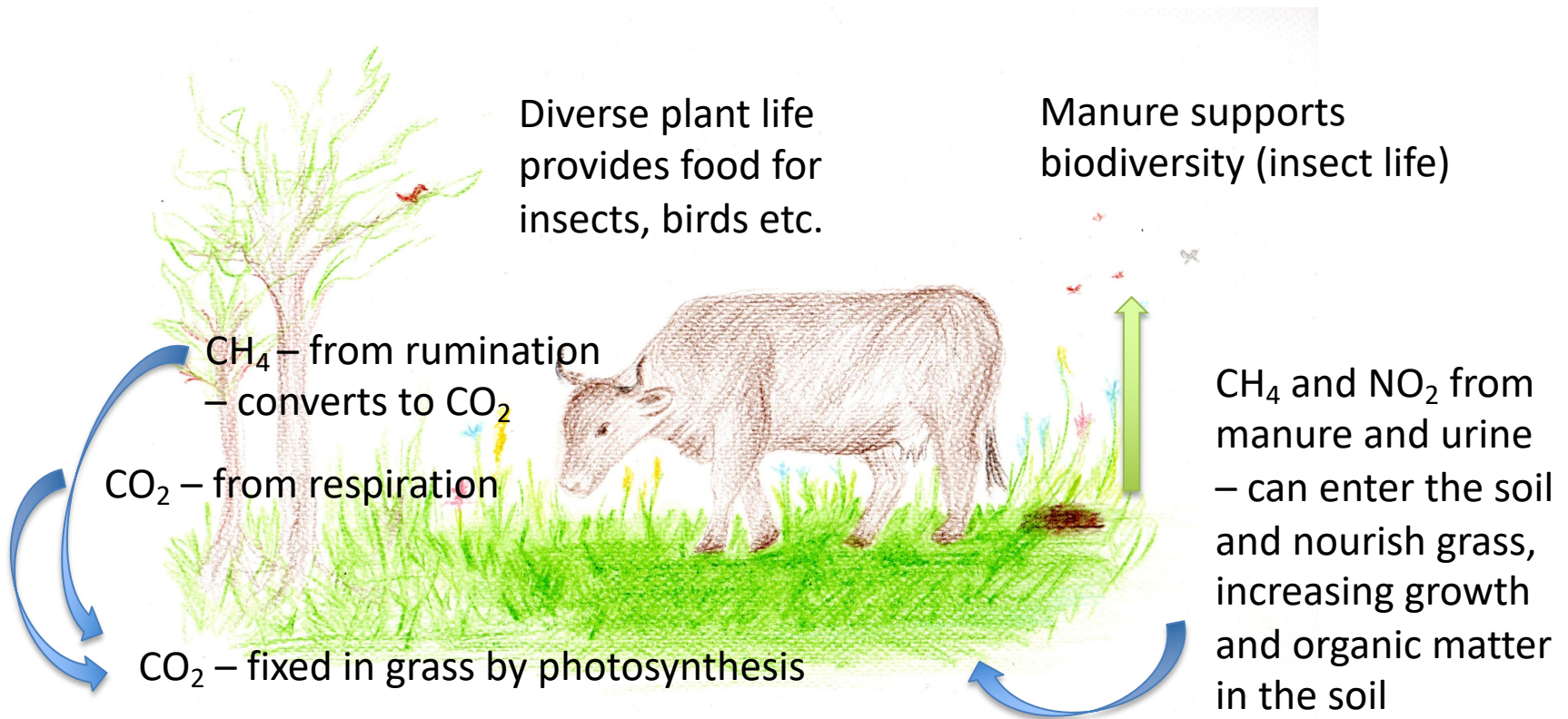
Manure supports
biodiversity (insect life)



CH₄ and NO₂ from
manure and urine
– can enter the soil
and nourish grass,
increasing growth
and organic matter
in the soil

Cow (*biodynamic system*)

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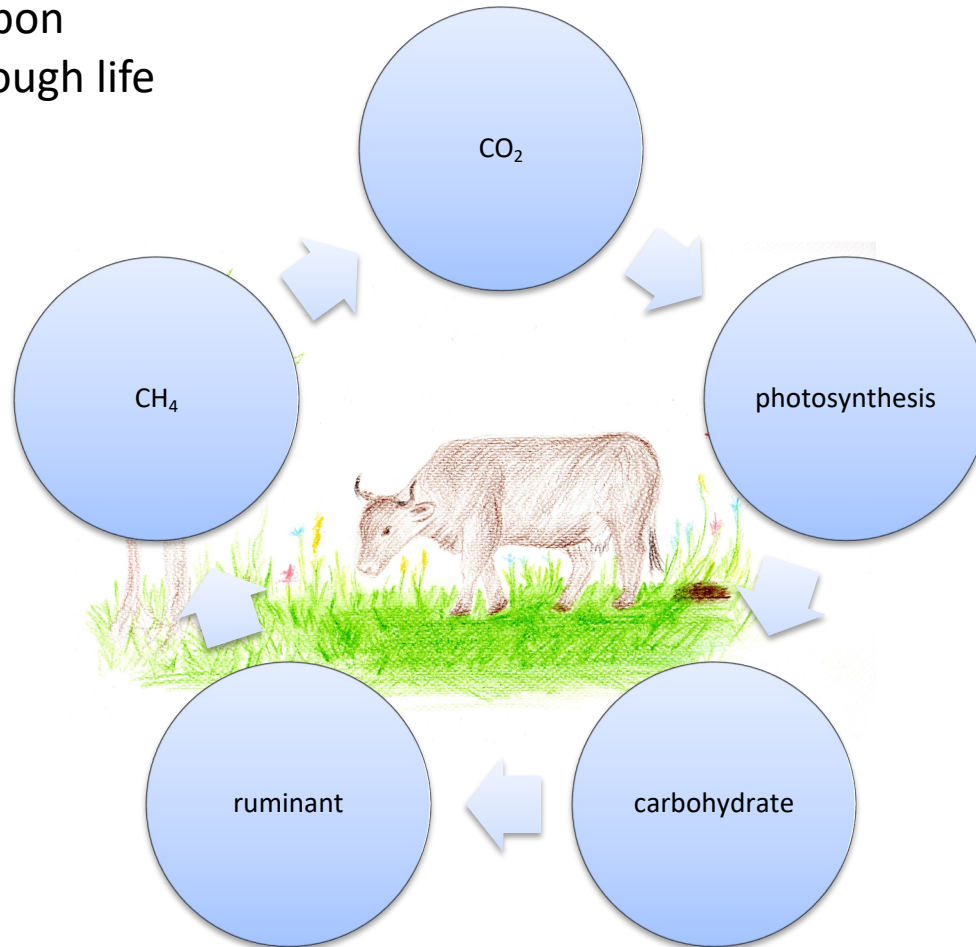
Cow

stable flow of
carbon
through life

Maximum
stocking rate 1.4
cows/hectare

1.4 cows produces
140 kg CH_4 /year

1 hectare
sequesters 400kg
– 1200 kg
 CO_2 /year





Welcome to
Yatesbury House Farm
which is sequestering (capturing from the air)
ten times more carbon
than it is emitting

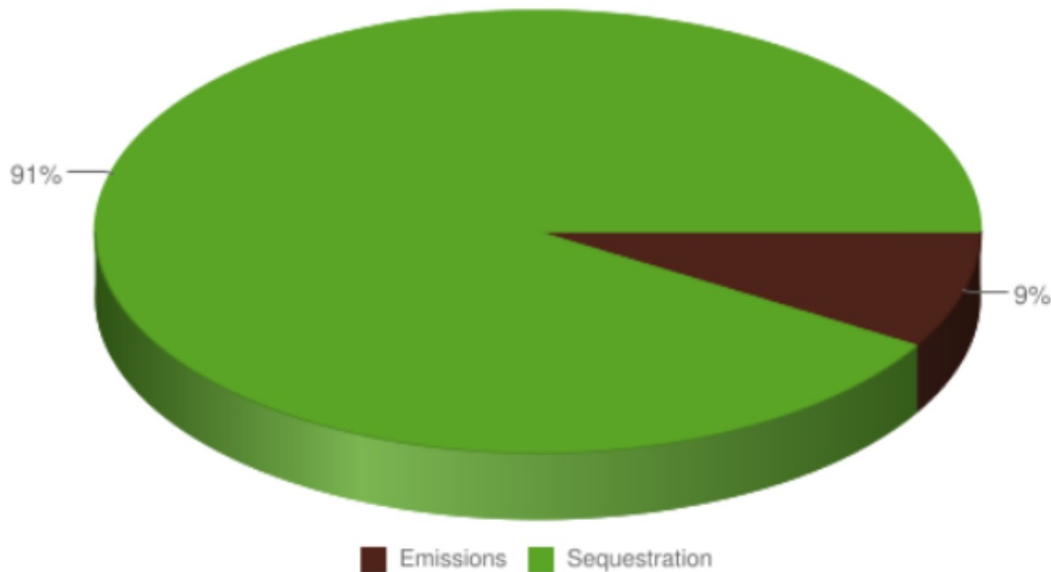


YATESBURY HOUSE FARM



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Carbon Balance



TOTAL CARBON BALANCE: -9,622,657 CO₂ (kg/year)



YATESBURY HOUSE FARM



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Emissions

	CO ₂ e (kg/year)	% total emissions
Fuel	97,581	9.76%
Materials	4,815	0.48%
Capital Items	31,988	3.20%
Livestock	727,836	72.76%
Fertility	136,360	13.63%
Agro-chemicals	0	0.00%
Distribution	1,557	0.16%
Waste	130	0.01%
Total:	1,000,267	100%

Sequestration

	CO ₂ (kg/year)	% total sequestration
Field Margins	11,892	0.11%
Soil Organic Matter	10,273,747	96.71%
Orchards & Vineyard	0	0.00%
Wetland	0	0.00%
Woodland & Hedges	337,284	3.18%
Woodland (detailed analysis)	0	0.00%
Total	10,622,923	100.00%



YATESBURY HOUSE FARM



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5,600 kg CO₂/person/year (UK average)

One biodynamic farm sequesters carbon (including methane) for 1721 people

If all farms in the UK did the same, could offset 65% of all UK emissions – not changing anything else (that includes cows on the farm).



Homework

Imagination/thinking exercise:

Choose one animal (domesticated or wild) and think of all the connections you can with its environment.

Could be:

- Mind map
- List
- Sketch
- Any other way you would like to get it on paper!