HOW GREEN ARE OUR COWS

Confédération Nationale de l'Elevage CNE

Cniel

interbev INTERPROFESSION BÉTAIL & VIANDE

EDITORIAL

I am a cattle farmer in the Morvan, a highland region of France. I have 330 hectares situated at an altitude of 600 m, three quarters of which is grass, with a herd of 200 Charolais cows and their calves. The farm employs 3 people full time and 1 part-time, not to mention the many jobs indirectly linked to maintaining the holding.

All cattle farmers have one thing in common: we work with nature, we have to deal with the environment and the natural resources around us. There are some 250 000 farms all over France raising cows, sheep and goats. Each one has its own story, particularities and projects.

We feed our herds mainly what we can grow on the farm, we recycle the manure into organic fertilizer. Our activity is intrinsically linked to the natural cycles of water, carbon, nitrogen... the life cycle.

Our farms follow the pattern of the seasons: we turn the animals out to grass, we sow cereals, we hay and harvest, we overwinter...while keeping a constant eye on the weather to know when to harvest, when to move the animals to different plots... all the more so in recent years, as it has become so unpredictable, and we have to deal with these climate changes.

Our techniques and practices are constantly evolving as we learn. So for me, like for many other farmers, in recent years investments have been made to bring all my buildings and equipment up to the latest standards, so as to improve the manure collection and valorization process, as well as my working conditions. We have also made headway on becoming more self-sufficient in terms of feed, by developing corn and cereal production, and installed a new photovoltaic source of renewable energy.

Our environment is constantly changing: we monitor the condition of our soil, we are careful to preserve the quality of our water; we treat environmental issues in a serious and responsible way. The strong correlation between environmental efficiency and economic performance is a factor in taking care of our land.

Of course the first time we read in the press that cows with their methane were contributing to global warming, we were surprised. We tried to understand how, from research institutes and our technical network. We are aware that criticism is all too easy, over-simplified, even stereotypical. Yes, our cows emit gas naturally. But do you know that, on the other hand, it is compensated for, in large part, by our grasslands and hedges, which store carbon in their soil. It is the carbon cycle. And without cows, sheep and goats, there would be no grassland, no land balance, no open countryside and no social network in many rural areas! In addition, to diminish other greenhouse gases, we have solutions to put forward, develop and implement, while simultaneously preserving water quality, biodiversity and ensuring the sustainability of our cattle, its viability.

Affirming that "our cows are green" or "balance is in the field" is not meant to provoke. It is a real manifesto of our commitment to the environment, a commitment we would like to share with you and all our fellow citizens, by inscribing this message throughout our countryside.

With the strong desire to raise awareness of our profession and our passion as cattle farmers.

JEAN-PIERRE FLEURY

President of the French National Confederation of Cattle, Sheep and Goat Farmers (CNE)

CONTENTS

WHY GREEN COWS?

The green cow movement represents all the french livestock farmers and there commitment to the environment.
Because **OUR COWS ARE GREEN** all have a real desire to raise awareness of their expertise and practices with regard to ruminant farming and the environment.

1 It symbolizes the historic **LINK** between cattle farming, the resulting products (milk, meat, hides) and the natural environment, kept, maintained and enhanced by generations of cattle farmers

2 It describes the **ECOLOGICAL ASSETS** that cattle farming has in France, given the temperate climate, the combination of cattle, grass and crops, and systems which exist on a human scale.

3 It expresses the **COMMITMENT** of farmers on **THREE LEVELS: ECONOMIC, SOCIAL AND ENVIRONMENTAL,** via progress already made or yet to come, whether individual or collective, in terms of research actions or practical solutions.

4 This **ECOLOGICAL GREEN COW** movement that exists practically everywhere in cattle farming areas in France is a reminder that it is French farmers and their herds that develop and maintain the much-loved **FRENCH COUNTRYSIDE.** They create employment, and actively contribute to **RURAL VITALITY, TOURISM, GASTRONOMY…**

CHÈVRE Verte www.ChèvreVerte.fr

www.VacheVerte.fr

MOUTON Vert www.MoutonVert.fr

The green cow movement symbolizes
THE ENVIRONMENTAL COMMITMENT OF ALL LIVESTOCK FARMERS
raising cows, goats and sheep.

CHAPTER 1

OUR CATTLE'S "NATURAL" ASSETS

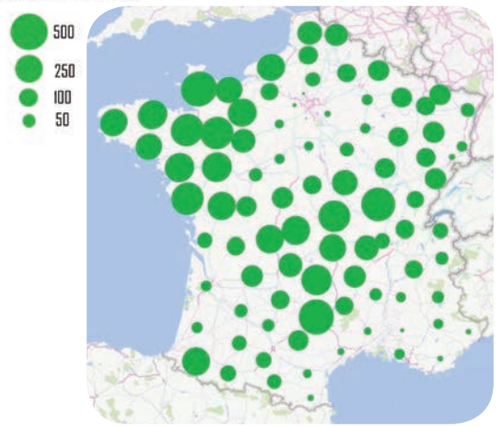
WHAT IS A RUMINANT?

An animal belonging to the cow, sheep or goat family. Its particularity? Thanks to its four-compartment stomach, a ruminant is able to digest the cellulose in grass and fodder. Cellulose consists of long fibres which single-stomached humans, pigs and poultry are unable to digest easily.

HISTORICALLY CATTLE FARMING HAS BEEN PRESENT IN THE MAJORITY OF OUR REGIONS, especially in the most temperate zones where grass and fodder crops do well due to the regular rainfall and in parts of France where lands are difficult to farm because of topography or humidity of soils.

Number of herbivores per department (2010)

In thousands of units (2010)



Ruminant farms present in practically all regions

An average

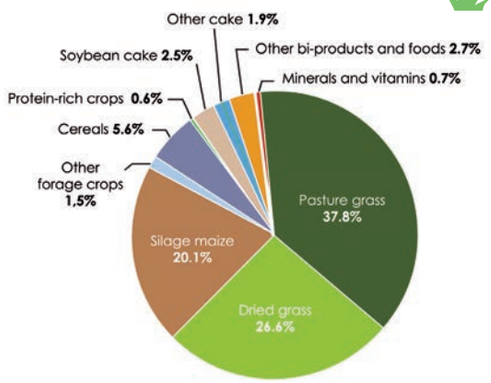
90%

of feed for our herds is produced on our own farms. Cattle farms in France are characteristically very self-sufficient.

GREEN GAIN:

Ruminants convert grass and fodder (the whole corn plant, alfalfa…) into noble foods, such as milk and meat, which humans can consume.

Milk and meat production are present throughout the whole of France providing food to supply the population.



AVERAGE DIET OF CATTLE RAISED IN FRANCE

In France, farmers raising ruminants produce on average 90% of their animals' feed requirements on their own farms.
They are very **self-sufficient** in terms of their animals' feed supplies.

We grow and harvest **grass,** fresh from the pastures or distributed in dried form (**hay,** silage…) and other **fodder** like **silage maize,** harvested from the whole plant or **alfalfa. Cereal crops,** like wheat, and **protein-rich crops** like **rape**, are equally necessary for a balanced intake and ensure a steady and sufficient supply of feed all year round.

60 %

of a French cow's diet is made up of grass. This is even more, 80%, for beef cows.

Copyright: INTERBEV / Photographer: Jean-Louis Padis & Louis-Jean Gorry

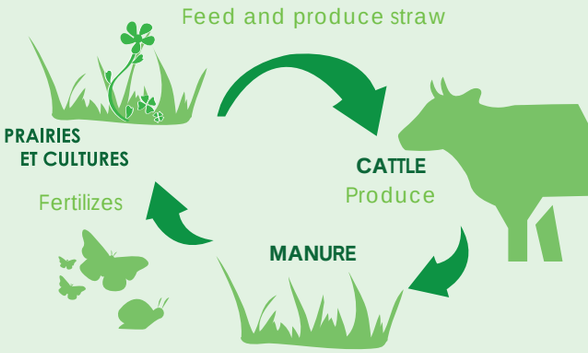
GREEN GAIN:

By producing the majority of our herds' feed supply on our own farmland or on our neighbours' we can reduce the amount of feed we buy in, which means less transport and a better use of the farm's and the region's resources.

Herds– grasslands – crops: permanent recycling

Because we have enough land available on our farms to feed our cattle, we can recycle in-situ: straw can be used for bedding and animal waste (manure, slurry) can fertilize the soil.
A lot of farmers even use industry bi-products (cakes, cereal bran and grains, beet pulp,...) to feed the animals.

The cow, anti-waste solution !



ORGANIC MATTER CYCLE

13 millions

tonnes of bi-products are exploited each year by cattle rearing.

7%

of cattle feed in France is made up of bi-products.

#Greencows

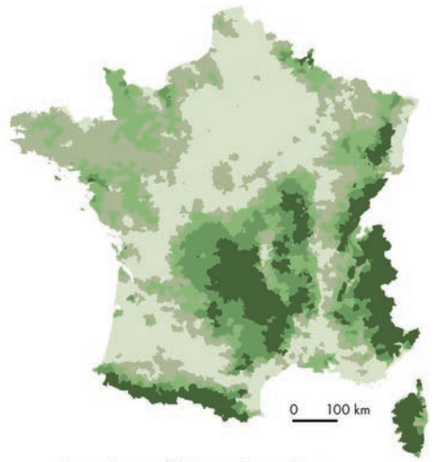
« In keeping with local recycling objectives, to feed my cattle, I make use of 1400 T of beet pulp, 470 T of potatoes and 180 T of cornflake grade-outs from local food industry.
This represents 60% of their feed ration and means I don't have to buy cereals. »

DOMINIQUE
Dominique, stockbreeder/fattener of young bulls in the Bas Rhin

GREEN GAIN:

Using manure as fertilizer avoids having to produce and transport mineral fertilizer and adds organic matter to the soil. Using vegetal bi-products to feed ruminants enables the recycling of matter that cannot be used for human consumption.

Where there are ruminants, there are grasslands.



Percentage of UAA used as pasture, by canton, as of 2010

Source : Meersmans et al.,2012 ; Agreste RA 2010 - traitement Institut de l'Élevage.

We utilize 13 million hectares of grassland and paths (heath land, scrubland…), which constitute 20% of the land in France. An additional 1.5 million hectares are devoted to forage corn and 1.5 million hectares to cereals for farm consumption.

1HA ~1 RUGBY PITCH !

Every day we work with the natural resources at hand-the soil, (with its local characteristics -clay, loam…), sun and rainwater, to produce the plants we feed our animals.

50 %

of French UAA (utilised agricultural area) (29 million ha) is enhanced by ruminant rearing.

95 %

of the power used in milk and meat production is natural solar power.

Our cattle regions receive over 40% of the rainfall in France. Less than 2% of the land given over to ruminants need irrigation.

It is principally rainwater which irrigates crops and grassland occupied by ruminants.

We are improving our practices so that less water is used in cattle rearing.

3 to 16 litres of water = 1 l of milk

20 to 50 litres of water = 1Kg of meat

Copyright: INTERBEV / Photographer Georges Humbert

#Greencows:

« Located just a few kilometers from the centre of Nancy, my farmland is surrounded by trees, hedges and forest. It Is home to lots of animals and also a source of food for them: while I go about my work I often come across hares and deer, which is a delight. There is a stream at the edge of one of my fields and the flora and fauna there are very different-with reeds, insects and frogs.
At harvest or ploughing time, storks and herons follow the tractor to feed on small rodents and earthworms, it's always a fine sight to see. »

DENIS
Dairy and beef cow producer, Meurthe-et-Moselle

GREEN GAIN :

Grassland receives either no phytosanitary treatment at all, or very little, and 10 million hectares of permanent grassland are not ploughed. They are generally surrounded by hedges. These areas favour biodiversity and preserve the water quality (acting as a filter). Moreover, they act as carbon sinks.

Credit : INTERBEV / Photographer: Georges Bartoli

By raising cattle here we make good use of the steep terrain.
Our ruminants can graze on this non-arable land where only grass can grow (sharp slopes, stony ground, wet zones...). Thanks to herbivores, the land remains open and so it is easier to prevent and fire (especially in the southern Mediterranean areas) and cope with avalanches (in mountainous zones).

#GreenCows:

« On my farm in the heart of the Cantal, the only thing I can grow is grass. My aim is to produce the maximum amount of beef on 60 ha of grassland, by constantly improving the grass-growing process-organically fertilizing it with manure, harvesting it and grazing, and by limiting my feed and fertilizer consumption. In addition my grass stores carbon, filters the water and is home to a rich biodiversity ».

BRUNO
beef producer in the Cantal

Copyright: Photographer: C HELSLY / CNIEL

GREEN GAIN:

Keeping cattle on difficult terrain results in an open, diversified landscape. Without cattle these mountainous and lowland areas would become wasteland, and relatively quickly, inaccessible, or else revert to forest.

Farms on a human scale

The average French cattle farm has **56 cows.** Herd sizes are gradually increasing a little, but this can be explained by a move towards farms grouping together.
Farmers can thus pool their know-how and investments and can share the work load. For example they can take turns in working weekends and so have more time to spend with the family. On these collective farms where herds are bigger, the number of cattle currently averages 50 cows per farmer.

In certain, more specialized systems of cattle rearing, farmers may have a greater number but the aim is always to maintain **a constant presence** to make sure the herd is well looked-after, guaranteeing the animals' **well-being** as well as **environnemental efficiency.**

This is what we call farms on a human scale.

#GreenCows:

« With my wife, my brotherand sister, allows us to share the weeks' milking sessions. By increasing our herd to 120 we have been able to invest in a barn-dryer so we can be more self-sufficient in terms of feed supplies. In addition to grass, we can dry alfalfa, which we can grow given our local soil and climate conditions. Alfalfa is a very good complement to maize in our herd's feed ration. »

MANUEL
Dairy farmer
GAEC (farming collective), Eure

Copyright: Photographer: C HELSLY / CNIEL

« Looking beyond averages, out of **130,000** cattle farms specialising in milk or beef, **10%** have more than **100** cows and 1% have more than 150 cows. »

CHAPTER 2

OUR KNOW-HOW AND WAYS OF WORKING ARE CONSTANTLY EVOLVING

- **The way we monitor our herds' health and nutrition is improving all the time;** Thanks to close observation of our animals, a better understanding of their needs, and of new techniques including IT technology, we can really take care of our animals.

- **We are committed to good water quality.** The way we use manure and slurry on future crops and meadows is getting better and better. They have always been used to fertilize crops and for a long time were the only form of fertilizer available. Manure and slurry are a rich resource and not a waste product.

Copyright: Photographer: A LECERF / CNIEL

GREEN GAIN:

Animals that are healthy and well-nourished mean less loss in production and less damage to the environment

L'utilisation des déjections de troupeaux comme engrais permet d'éviter l'utilisation d'engrais chimiques, soit :

660 000 tonnes of mineral nitrogen + **500 000** tonnes of phosphate + **1,6 million** tonnes of potash

This represents

4,5 millions tonnes of CO_2 *ou* **1,2 million** tonnes of oil equivalent avoided

avoided

« **Without cattle the earth would remain uncultivated; fields and even gardens would be dry and barren.** »

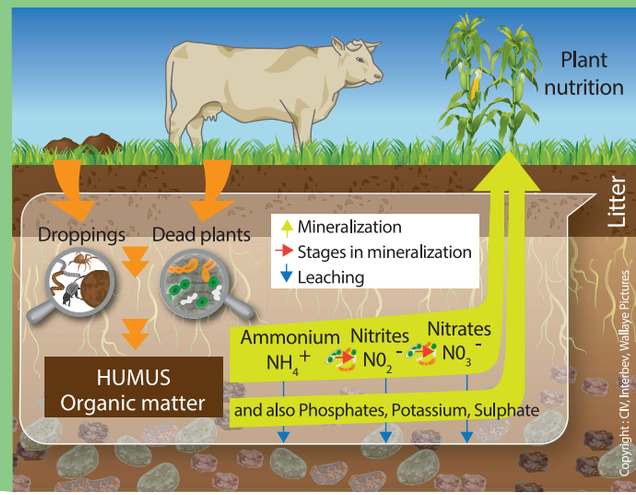
(Buffon)

GREEN GAIN :

Over the last 30 years developing the use of manure and slurry on cattle farms has resulted in a 30 to 50 % reduction in chemical fertilizer.
In addition this manure and slurry enrich the soil with organic matter, which is essential to soil life (microfauna, microflora, earthworms) and soil fertility.

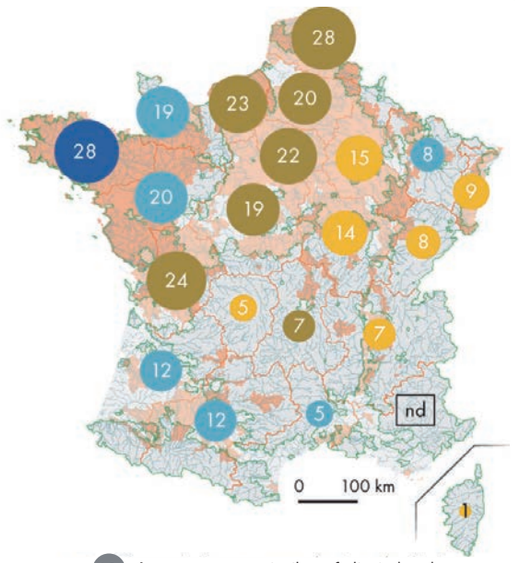
Applying manure and slurry: the right amount at the right time!

To prevent any exterior pollution we respect a certain number of practices:the manure and slurry we collect from the cowsheds during the winter is stocked so as to avoid any leakage into the environment. Good management of this natural fertilizer means we can apply just the right amount in spring (or sometimes in autumn) when plants need it to grow. Spreading is carried out according to a fertilizing schedule and logged in a book which is subject to regular checks by the administration. Spreading must be done at a set distance from habitation and water sources. In a zone designated as vulnerable, that is, sensitive due to its natural characteristics or to its high concentration of cattle, spreading is even more strictly regulated (grass buffers, ground coverage in winter…) so that water quality is preserved and even improved.



GREEN GAIN :

Water quality has been constantly improving over the last 10 years, especially in the most sensitive areas.



12 Average concentration of nitrate levels in mg/l (surface water), by region, as of 2011

Change in average concentration of nitrate levels in mg/l (surface water), between 1992 and 2011

Large decrease
-5
Slight decrease
-5
Stable
-5
Slight increase
-5
Large increase
-5

Vulnerable zones (2007) "nitrates" directive

Cattle regions (grassland > 25 % of arable land)

Improvement in water quality

There has been a **marked decrease in nitrate levels** (around 1 mg/L a year) in areas classed as vulnerable. In fact over the last 20 years **90 000 cattle farms** in these regions have **become compliant with standards** by increasing their capacity to **stock animal waste** so they can **spread manure at just the right time.** Optimizing fertilizing practices in this way is the best solution for crops, as **It limits any surplus requirements.** This decrease is even more noticeable in plain areas (in western France) with a drop In surplus of around 100 kilos of nitrogen/ ha over 20 years.

The nitrate content is still low (10 to 20 mg/L) in grassland areas where pastures constitute over 70% of arable land: Massif Central, Franche-Comté, the Alps and Pyrenees.

Source: French Livestock Institute

#Greencows:

« The manure I collect from the cowshed during the winter makes excellent fertilizer for my soil. Now that my buildings have been modernized the manure can be stocked better, so I can use it In the best possible way. I can wait for the right moment to spread it, when crops need it the most. Today, thanks to a more modern, more precise spreader I can distribute the manure evenly over my 50 hectares. It allows me to be self-sufficient In terms of fertilizer. »

ERIC

Beef farmer in the Cantal

charte des bonnes pratiques d'élevage

We have created a Charter of Good Cattle Farming Practices

The Charter is an initiative to help cattle farmers develop better working practices and fulfill the expectations of their partners and the general public. Signing the charter is done on an individual and voluntary basis. By signing up, each farmer agrees to 6 fundamental pledges:

- To ensure the traceability of all animals on the farm
- To ensure that the herd is healthy
- To feed animals a healthy, balanced, closely-monitored diet
- For dairy farmers: to ensure milk quality via strict rules of hygiene
- To ensure the animals' well-being and the safety of all staff working on the farm whether permanent or temporary
- To work towards protecting the environment.

94 000 cattle farms have signed the Charter so far. On average they are audited every two years. More than 1,500 technicians from over 300 advisory bodies and dairy/meat industry firms provide support to farmers. In France, 77% of beef and 92% of milk come from farms which have signed the Charter.

GREEN GAIN:

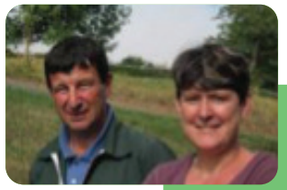
With good working practices and innovation we can produce as much if not more-with better and better use of natural resources and fewer fossil resources.

Constant innovation in the field

On our farms we experiment with new techniques either collectively in agricultural development groups, or individually.

Examples : adopting alfalfa to be self-sufficient in proteins, better grass management so herds get the maximum benefit, diversification of fodder crops to obtain better weather-resistance... permanent covers to maintain good healthy soil.

Farmers' Testimonials « Being self-sufficient in vegetal proteins »



#Greencows:

« To reduce the cost of buying in soybean and rape cake we decided to produce alfalfa. It is a grass that is particularly technical and tricky to grow and at the beginning we had a fair bit to learn. Our cows are out to grass from April to October. Thanks to all this, we have managed to attain a certain self-sufficiency is terms of protein to feed our herd. We buy less feed from outside. »

CHRISTINE & JEAN-LUC
milk producers from the Haute Loire

#Greencows:

« By using crop rotation in my fields I can work out how much manure and slurry each crop needs and how much to add or take away from the preceding one. I rotate legumes (alfalfa, clover...), cereals and grass in the same field. My earth is never fallow, so it has better powers of absorption and water retention. This means bad weather conditions like heavy rain or drought have less impact.»

HÉLÈNE
milk producer from the Cher

#Greencows:

« In our Agricultural Valorization Group (AVG), we work on better grass management: we measure the height of the grass to find the optimum time for the herds to graze on this or that pasture, and we have also Implemented «strip grazing» which means the maximum amount of grass in a meadow can be used.»

PIERRE
beef producer in the Cantal

CHAPTER 3

OUR COMMITMENTS TO THE CLIMATE

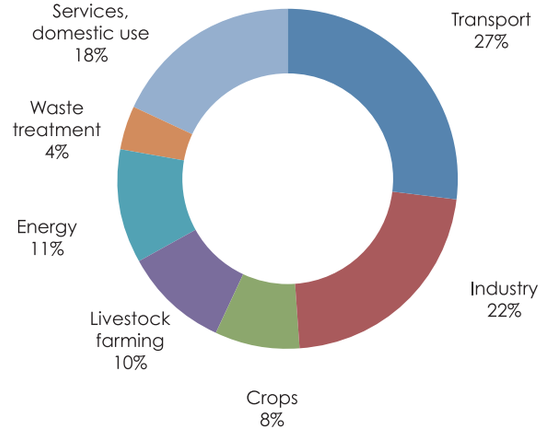
We evaluate and measure our emissions

Over the last 10 years we and our technical institutes have carried out studies to better assess greenhouse gas emissions (GHG) related to the working practices on our farms. Thanks to these studies and the collaboration between technicians and farmers, we are seeking ways of lowering emissions without impacting other economic, social and environmental indicators (like the quality of water, for example).

Present situation: GHG emitted by livestock farming and agriculture, based on French national livestock emissions (CITEPA inventory)

- AGRICULTURE : 18 % of GHG emissions
- OF WHICH livestock HUSBANDRY: 10% including 8% for ruminants without taking account of carbon storing

GREENHOUSE GAS EMISSIONS IN FRANCE



Source Citepa/Institut de l'Élevage

GREEN GAIN:

By optimizing our animal husbandry practices and use of animal manure as fertilizer we have reduced our CO_2 emissions by 14 % since 1990 !

FOR EACH GAS, A SOLUTION

In cattle farming, 3 types of gas are emitted: methane (CH_4), nitrous oxide (N_2O) and carbon dioxide (CO_2).

Methane

Emissions:

Methane (CH_4) = represents 62 % of animal husbandry emissions . It is mainly formed by digestion and enteric fermentation (55%) which occurs naturally in the rumen. Otherwise known as the famous cow burp.

The rest is emitted in the storage and spreading of manure.

Solutions and compensations:

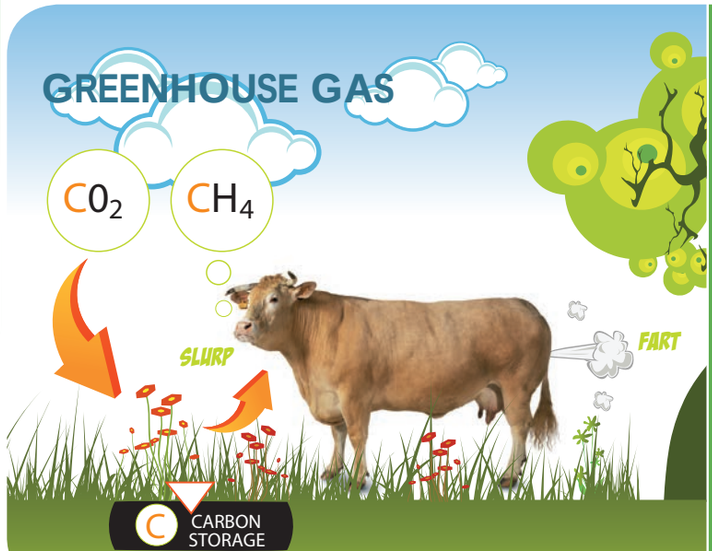
Regarding methane: we have little leverage because this gas is emitted naturally when grass and fodder are digested but hedges and the earth in the meadows store carbon so generally this compensates for the methane.

75 % of methane emitted is compensated for by carbon sinks in the form of meadows and hedges. *(sources Idele)*

#Greencows:

« We worked out that a hectare of pasture stores on average 760 kg carbon in its soil per hectare per year and 100 meters of hedgerow stores125 kg. This biological capture and storage of carbon is a major vector in the struggle against global warming. Carbon is captured in the soil and isn't released into the atmosphere for a certain amount of time; its atmospheric concentration is diluted, which implies a reduction in global warming ».

JEAN-FRANÇOIS SOUSSANA
Researcher at INRA



Nitrous oxide

Emissions:

Nitrous oxide (N_2O) : 23 % of emissions emitted during storage of animal waste (manure, slurry), and spreading of mineral and organic fertilizers.

Solutions and compensations:

To reduce nitrous oxide emissions the major solutions are the optimum transformation of cattle waste matter (manure and slurry) into fertilizer to avoid using chemical fertilizer, avoiding nitrogen « leaks » by leaching, by leaving the soil covered all year round, and the planting of clover or alfalfa which capture nitrogen in the air and naturally fertilize the earth.

Carbon dioxide

Emissions:

Carbon dioxide (CO_2) = 15% linked to energy usage on the farm (fuel, electricity) but also linked to buying in products, their manufacture and transportation.

Solutions and compensations:

To decrease CO2 emissions, solutions include trying to attain maximum self-sufficiency in terms of producing feed, notably in plant proteins to avoid buying soya, or in economising on electricity usage by installing pre-coolers, or even by producing renewable energy.

GREEN GAIN:

The various solutions for decreasing greenhouse gas emissions are equally beneficial in terms of preserving water quality and biodiversity. When well-designed and integrated, they also save farmers money !

We are preparing and adapting to the vagaries of climate change

We are constantly in touch with the weather and for a while now, we have noticed the changes: drier periods in spring and rainier periods in autumn. Consequently we have to shift our fodder harvesting times and also diversify our fodder crops so that our farming systems are more resistant. Stocking rainwater during the winter in hillside reservoirs can also be a solution so that water can be given to crops that need it during droughts.

#GreenCows:

« I have started to grow alfalfa which is particular in that it has deep roots which draw on the water available deep in the earth and so it is more resistant to periods of drought ».

GÉRARD
milk producer in the Doubs

GREEN GAIN:
by diversifying our crops and fodder, we become more self-sufficient in feeding our herds and we don't have to buy in fodder and pay for its transportation.

We produce renewable energy

#GreenCows :

« Since 2007 we have photovoltaic panels on the building where we stock our hay. From these we produce 59 000 kWh per year, which equates to almost all the energy we use on the farm. We also have installed a milk pre-cooler, which should be fully operational by the summer. To economise fuel, we use simplified cultivation techniques and thanks to these we use 60 % less fuel than we did 20 years ago! »

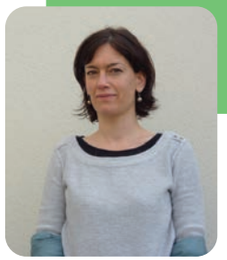
GHISLAIN
milk producer in the Sarthe

So that we continue to progress, we have been active in the emission reduction plans LIFE CARBON DAIRY (since 2013) and BEEF CARBON (since 2015).

Backed by the milk and beef sectors (CNIEL and INTERBEV), Research and Development technicians and the French Institute of livestock Farming, these two large-scale plans are aimed at creating a nation-wide strategy to reduce greenhouse gas emissions.
6 000 farmers in France are involved in these projects. They will test and improve a diagnostic tool, transmit and encourage cattle rearing practices to reduce the carbon footprint of milk and beef production by 15 to 20% over a 10-year period.

#GreenCows:

« Cattle farmers, through their professional organisations and the French Livestock Institute, form an Integral part of international work groups on the theme « cattle farming and climate change ». We have worked hard with the international milk and beef federations and the FAO to define and harmonise methods of measuring levels of greenhouse gas emissions. »



ARMELLE GAC
French livestock Institute

We are an integral part of international networks

Via the international federations FIL (milk) and IMS (beef) and the French Livestock Institute, we are actively involved in the FAO's international work to harmonise greenhouse gas evaluation methods and share solutions appropriate to each part of the world.

#GreenCows:

« By carrying out the Carbon Dairy assessment with my advisor I was able to see where my CO2. emissions were coming from. This helped me choose the most appropriate environmental and economic decisions, in keeping with my life goals. I also became aware that I was providing food for more than 3 400 people with my 95 dairy cows. »

THIERRY
dairy farmer in the Eure

#GreenCows:

« When we are out in the field we realise how proactive cattle farmers are-they don't hang around waiting for us to organise things. It's a subject close to home. Today they want to anticipate and remind people they are doing something; they are clear-thinking and want to act rather than have political decisions imposed upon them. They are part of society too and can feel criticized by neighbours, tourists, even their own family or friends. ... With Life Carbon Dairy and Beef Carbon, they can argue their case with facts ! »

CATHERINE BROCAS
French livestock Institute

GREEN GAIN:

By exchanging information with cattle farmers elsewhere in the world we can benefit from new ideas and innovations, and vice versa.

CHAPTER 4

REGIONS PROFIT FROM SERVICES OFFERED BY CATTLE FARMS

The number of services which our farms offer to the regions range from ecological supplies to rural enrichment, employment, and not forgetting the cultural identity and heritage.

#GreenCows:

« As in many local communities, I am both a farmer and the local Mayor. This dual activity allows for a total interaction between village life and farm life . Two local farmers coordinate the organisation of clearing snow and salting the roads in Winter as well as hedge maintenance. This generates substantial savings for the community : and as Mayor, I can only be delighted by this! We are also studying a project to buy a wood heater for the municipal buildings and the village hall. In this way, we are developing local forest business initiatives with our farmers. The link between local farm economy and the municipal economy is therefore obvious! »

DIDIER
Beef cattle farmer in Nievre

We maintain and create jobs.
We participate in the maintenance of rural vitality.

A source of work within the sector

UPSTREAM OPERATIONS

23, 000 jobs
(non exhaustive)
i.e. rural vets, inseminators, dairy regulation controls, performance controls, feed supplies

DOWNSTREAM OPERATIONS

180 000 jobs
(non exhaustive)
i.e. collection and processing of milk, slaughter and cutting up of meat, bi-products industry (leather for example),traditional butchers and tripe trade, hypermarkets and supermarkets...

INDIRECT EMPLOYMENT

Research and Advice : unions, research and technical organisations...
Technical advice, Banks....Farm supplies : Agricultural and farming equipment suppliers, animal transporters, suppliers from mountain regions

219 000

Jobs equivalent to «full time» contracts on cattle farms.

#GreenCows:

« With 21 other farmers, we are owners of a cheese dairy which transforms our milk into Comté. Two cheesemakers produce cheese on a daily basis, helped by a production assistant and a driver who collects milk from the farm. Three people sell part of the Comte to the cheese dairy shops and the rest is sold by the cheese refiner. As well as creating a social link between farmers and local inhabitants of the village, our cheese dairy ensures direct employment to many families in the region. »

GÉRARD
Comté producer in le Doubs

We generate touristic and festive activities

#GreenCows:

« Our municipality doesn't cater for mass tourism. However our farm welcomes camping cars and also visitors to its self catering cottages for short term stop-overs. We enjoy meeting our fellow citizens in the markets and proposing our products from the farm. These moments shared are privileged, both in terms of showing our knowledge as producers and explaining the active role of farms in the region. »

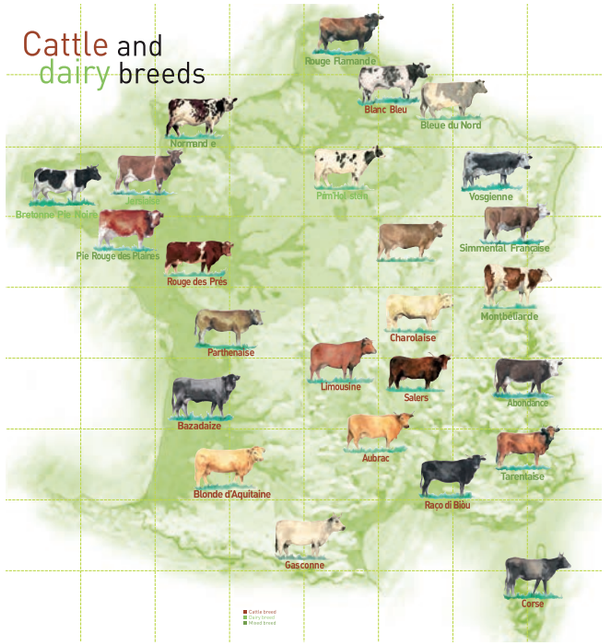
LUC
Dairy farmer in Lot and Garonne

11 000

Ruminant farms propose agri-touristic activities (board and lodging on the farm, catering, leisure activities and visits...)

We represent a cultural and gastronomic identity and heritage

Coming from old farming traditions and long selection procedures, French livestock farmers are responsible for the largest group of ruminants in Europe. There are no less than 52 breeds of cattle, 59 sheep and 11 goat breeds, all of which contributes to a unique heritage in France. Their names are evocative of the charm and variety of the country regions they come from. Each breed is unique in its own way : whether it's in size, colour, breeding qualities or ability to provide meat, milk or both.



Beef cattle breeds

Also called suckling breeds*, they are especially bred for the production of their meat. For example large breeds known to French butchers like the Charolais, Limousine, Parthenaise and the Blonde d'Aquitaine. Also rustic breeds like the Salers, the Aubrac and Gasconne as well as the Corse or the Raco di Biou are also bred for their meat. France has the largest number of beef breeds in Europe : half of French cattle come from these breeds.

***Suckling breeds :** cows are so called when they suckle their calves

Dairy breeds

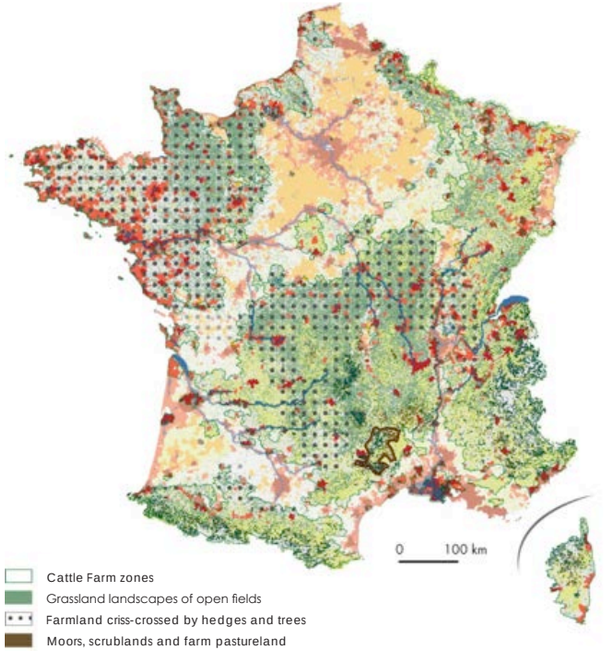
Dairy breeds are cows whose milk is used for human consumption and for feeding calves. The milk is transformed into a diversity of products : from yoghurt to ice-cream and from powdered milk to butter. 3 major dairy breeds exist in France : the Prim'Holstein, (66 percent of French cows and 8000kg of milk per year); the Montbeliarde, from the East mostly (12% of French cows and about 6,500 kg of milk per year); the Normande, from the West mostly (17,5% of French cows and about 6000 kg of milk per year). Other more local breeds complete the national herd, in particular the PDO sector : the Abondance, the Tarentaise and the Brune...they produce about 5000 kg of milk per year.

***PDO :** Protected Designation of Origin

Mixed breeds

These cows, such as the Montbeliarde and the Normande, are as reputed for their milk as for their meat.

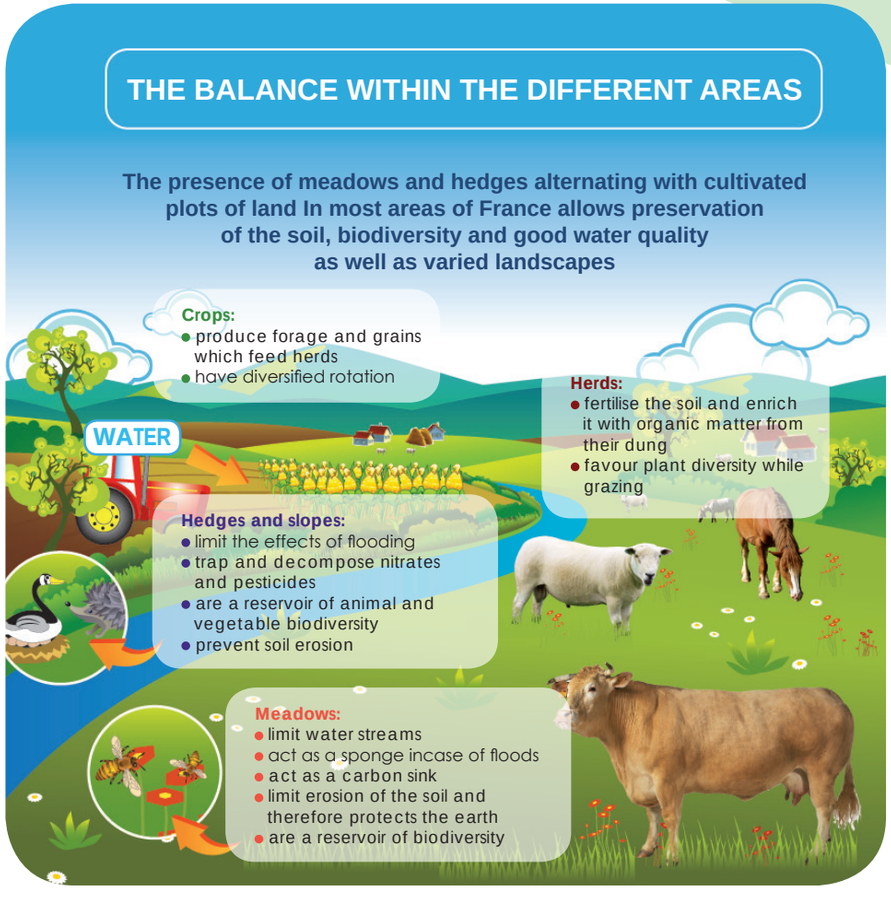
We help to maintain the countryside and the biodiversity.



- Cattle Farm zones
- Grassland landscapes of open fields
- Farmland criss-crossed by hedges and trees
- Moors, scrublands and farm pastureland
- Causses et Cevennes, farm pasturelend and part of UNESCO World Heritage Site
- Mountainous Grazing pastures, alpine regions
- Water landscapes : ponds, bogs, drained or irrigated areas
- Forest landscapes
- Cereal crops and openfield landscapes
- Dense urban zones
- Urban zones

« HILLS AND VALES, WOODS AND PENS, RIVERS, LAKES AND SCATTERED FARMS MAKE UP A THOUSAND DELIGHTFUL PAINTINGS. »

A. YOUNG Farmer and british agronomist, author of travels in France in 1792, talking about the Limousin .



Here are some quantitative examples of biodiversity demonstrated by French farms (Source :The French Livestock Institute):

- Earthworms : meadows have a density of between 30 and 40 earthworms per square metre
- Bats: we see an average of 13 out of the 29 different species on farms throughout France
- Birds : the numbers of species present on farms vary between 40 and 70 different species
- Bees : on dairy farms; 12 species have been identified in Auvergne, 6 species in Lower Normandy and 9 species in Champagne-Ardenne. Nationally, 13 species in total have been identified (out of the 20 species which exist in France)
- Grasshoppers : Between 40 and 70 different species have been recorded on one farm
- Flora : out of all the regions studied, 233 different species have been recorded

The study of biodiversity is a «new» phenomenon. The research continues, notably on the interconnections of the various elements of biodiversity in the patchwork of our landscape, composed of all the crops we produce (wheat, corn, peas, alfalfa etc), the meadows alternating with hedges...

#GreenCows:

« We must remember the ruminant is an animal which transforms forage, unusable by man, into a source of food which is highly nutritional, technically advanced and enjoyable to eat. In the future it is not only a question of working to reduce greenhouse gases or other pollutants. But also of quantifying accurately and preserving the services created by farming; the ruminant sector having a special role to play, which is moreover recognized by the regional actors involved. This farming sector in France can contribute very positively to the production of ecosystemic services. Particularly in the biodiversity and sustainability of soils, but also in the vitality of the regions and the defense of a cultural identity which comes from its links with the soil and respect for the meadows. In any case, it is always necessary to maintain a global vision based on many criteria when evaluating the impact of cattle farming. »

JEAN-LOUIS PEYRAUD
INRA

BIBLIOGRAPHY

Atlas de l'élevage herbivore en France, **Rieutort L., Ryshawy J., Doreau A., Guinot C.,** éditions Autrement

L'empreinte eau consommative du lait et de la viande bovine et ovine : premiers repères sur des systèmes français. **Gac A., Béchu T.**

Concilier production et environnement en systèmes bovins allaitants : état des lieux et pistes de progrès. Collection Essentiel. Institut de l'élevage http://www.interbev.fr/wp-content/uploads/2013/05/Combiner-production-viande-environnement_BD.pdf

Alimentation des bovins : rations moyennes et autonomie alimentaire. Collection Résultats. Institut de l'élevage.

Paysages d'élevages, paysages d'éleveurs, Collection Synthèse, Institut de l'Elevage.

L'élevage rend des services à la société. Charte des Bonnes Pratiques d'Elevage (2015).
CITEPA (2012) : *« Rapport national d'inventaire pour la France au titre de la convention cadre des Nations Unies sur les changements climatiques et du protocole de Kyoto CCNUCC »,* Edition de mars 2012. http://www.citepa.org

Alimentation des bovins : rations moyennes et autonomie alimentaire, compte rendu résultats 00 12 39 005, Institut de l'Elevage, 46 P. **Devun J., Brunschwig P., Guinot C.** (2012)

Les gaz à effet de serre en élevage bovin : évaluation et leviers d'action. In : Gaz à effet de serre en élevage bovin : le méthane. **Doreau M., Baumont R., Perez J.M.** (Eds). Dossier, INRA Prod. Anim. 24, 415-432. **Dollé J.-B., Agabriel J., Peyraud J.-L., Faverdin P., Manneville V., Raison C., Gac, A., Le Gall A.,** 2012.

Impact environnemental des systèmes bovins laitiers français. In : Numéro spécial, ***La vache et le lait***. **Faverdin P., Leroux C., Baumont R.** (Eds). INRA Prod. Anim., 26, 2, 207-220. **Dollé J.-B., Delaby L., Plantureux S., Moreau S., Amiaud B., Charpiot A., Manneville V., Chanséaume A., Chambaut H., Le Gall A.,** 2013.

Contribution de l'élevage bovin aux émissions de GES et au stockage de carbone selon les systèmes de production", Fourrages, 215, 181-191. **Dollé J.-B., Faverdin P., Agabriel J., Sauvant D., Klumpp K.** 2013 :

A common carbon footprint approach for dairy, Bulletin IDF, 46 p.FIL (2010)

Leviers d'action pour réduire la production de méthane entérique par les ruminants, INRA Productions Animales 24(5), 461-474. **Doreau M., Martin C., Eugène M., Popova M., Morgavi D.P.** (2012)

An original way of handling co-products with a biophysical approach in LCAs of livestock systems. Proceedings of the 9th International Conference LCA of Food San Francisco, USA 8-10 October 2014. 7 p. http://lcafood2014.org/papers/221.pdf **Gac A., Salou T., Espagnol S., Ponchant P., Dollé J-B., van der Werf H.M.G.,** 2014.

Concilier des systèmes laitiers innovants, productifs et respectueux de l'environnement. Innovations Agronomiques 30, 59-74. **Lorinquer E., Beguin E., Raison C., Dollé J.-B., Gac A., Moreau S., Manneville V., Charroin T., Ferrand M., Defrance P., Castellan E., Tirard S., Pelletier E., Fougère M.,** 2013.

Green Cows is backed by the CNE (National Confederation of Cattle Farming), which represents French ruminant farmers, with the technical support of the French beef and dairy sectors.

Conception Manifestory june 2015