

SUSTAINABLE PRODUCTION

Session 2



THE 2019
**EU AGRICULTURAL
OUTLOOK CONFERENCE**

Sustainability
from Farm
to Fork





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Philippe Mauguin, INRA President & CEO
EU agricultural outlook, Brussels, December 10, 2019

An alarming global diagnosis



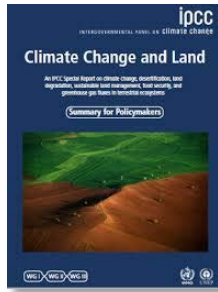
**2 more billion
people on earth in
2050**

2019

2018



**Global warming
will reach 1.5°C
between 2030
and 2050**



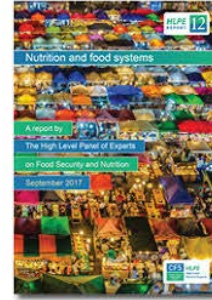
**1/4 of land is degraded.
Land surfaces are heating
up twice as quickly as the
Earth.**

2019



2019

75 % of terrestrial environment is severely altered by human activities (marine environment 66 %). Ca. 1 million species are threatened by extinction.



2017

Malnutrition (under-nutrition, deficiencies, overweight & obesity) is the main cause of disease, disabilities and mortality.



3/10 people do not have access to safe drinkable water services

2019

A shared goal

Change of
**diet
models**



Evolution of
public policy



Involvement of **all
actors**



**Research &
innovation**



Sustainably and healthily feed the world by 2050



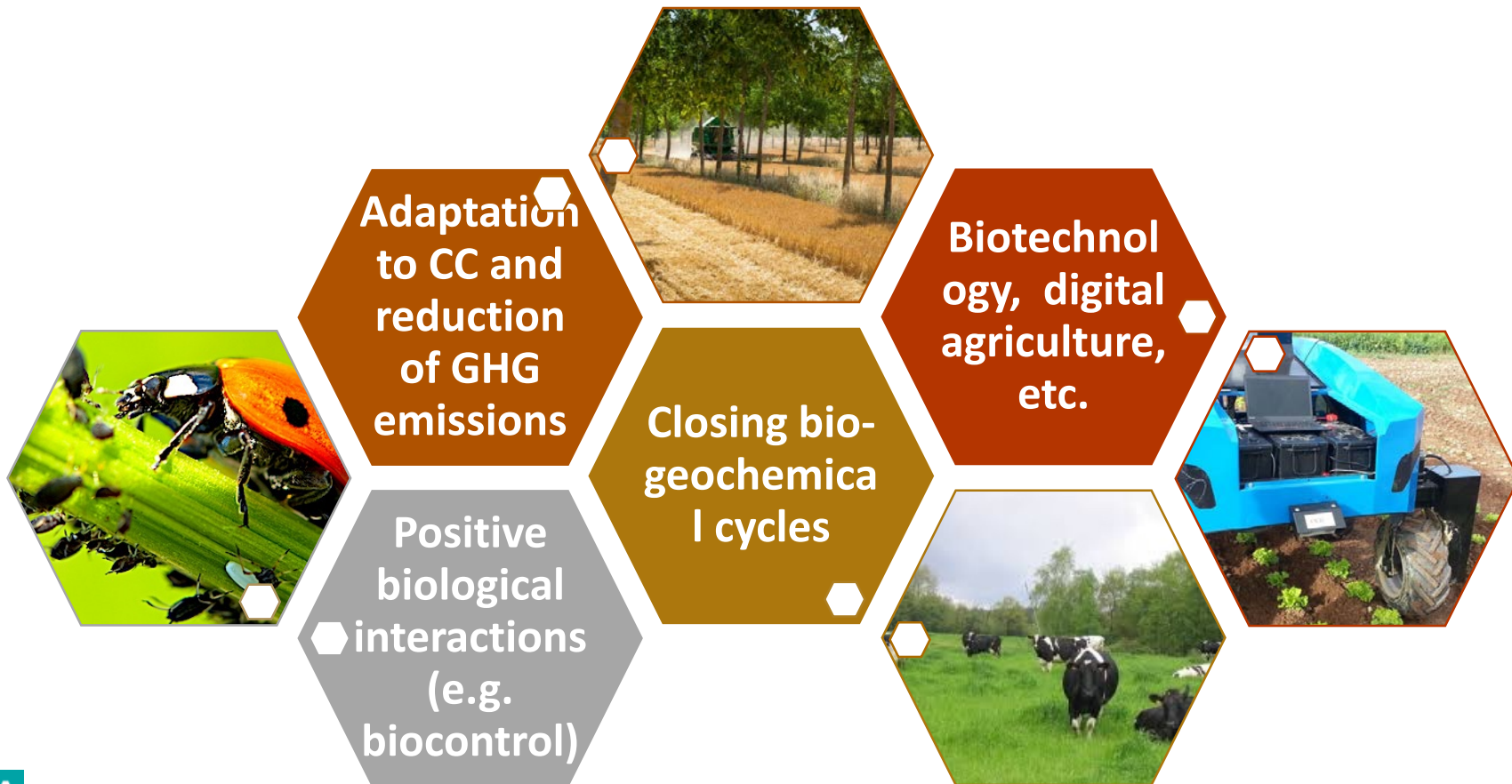
Deforestation

Urban development & artificialisation of soils

Waste of resources (water, oil, food ...)

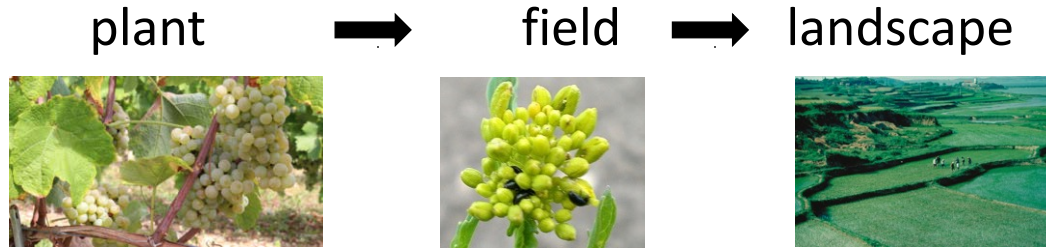
Rising climate change

Agroecology - designing new production systems

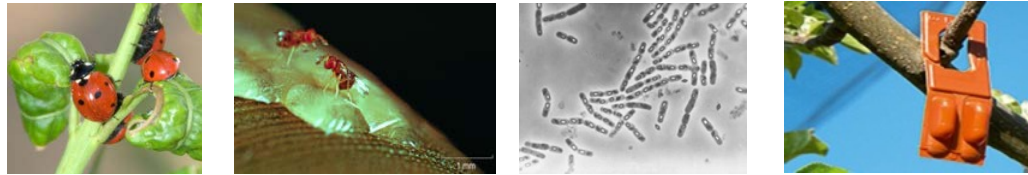


Biological regulations : an alternative to chemical plant protection (Towards 0 pesticides)

❖ Increase of specific functional diversity



❖ Biocontrol



Closing bio-geochemical cycles (N,P,K) – and reducing chemical inputs

❖ Increase diversity (again!)

- Crop rotations
- Mixtures with legumes (annual crops, grasslands)
 - Adaptation of downstream industry
- Mixed farming (crop-livestock)

❖ Harness the microbiome (again!)



Climate change: adaptation, reduction of GHG emissions and mitigation

❖ Adaptation of plants to climate change

- Grapevine: the LACCAVE project
- Maize: genetic variability for flowering time



❖ The 4 p. 1000 initiative: increasing carbon sequestration in the soil

- Agroforestry & cover crops
- Planting hedges
- Reducing soil artificialisation



❖ Reduction of methane emission by animals

- Feed
- Breeding



A global transition

❖ **The agroecology project**

- Re-connecting agriculture, food, people and the planet
- Fostering/supporting public policies by science & innovation

❖ **A diversity of solutions for a diversity of situations**

- Local solutions, from the field to the territorial levels

❖ **New knowledge areas, new ways of working**

- New research frontiers
- Systemic and transdisciplinary approaches
- Open science
- Breaking the barriers between knowledge and innovation
- Collective learning processes (living labs, farmers networks)

❖ **A responsibility for Europe**



**On January 1st 2020, Inra & Irstea will merge to
become the French National Research Institute for
Agriculture, Food and the Environment**

INRAE

science for people, life & earth

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