IMAGE LIFE

Improving the resilience of Parmigiano Reggiano supply chain

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This meeting is organised by

- PROJECT LOCATION: Emilia Romagna region

- BUDGET INFO:

Total amount: € 2.640.474,31
% EC Co-funding: 60%

- DURATION: 48 months

- COORDINATOR:

Prof. Giovanni Dinelli
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ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

- BENEFICIARIES:

- AFFILIATED ENTITIES:

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- **THE PROBLEM**

- Climate change has already negatively affected the agricultural sector in Europe, and this is set to continue in the future (EEA, 2019).
- On a national scale, Italy is at high risk for climate change, due to a **high susceptibility to climate change impact**, especially related to **drought crisis**, more frequent in the summer season.

Mediterranean region

Large increase in heat extremes

Decrease in precipitation

Increasing risk of droughts

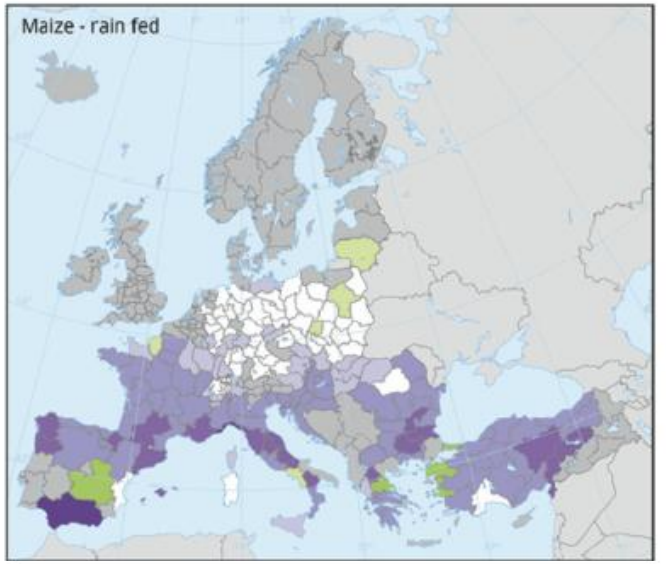
Increasing risk of biodiversity loss

Increasing water demand for agriculture

Decrease in crop yields

Increasing risks for livestock production

Agriculture negatively affected by spillover effects of climate change from outside Europe



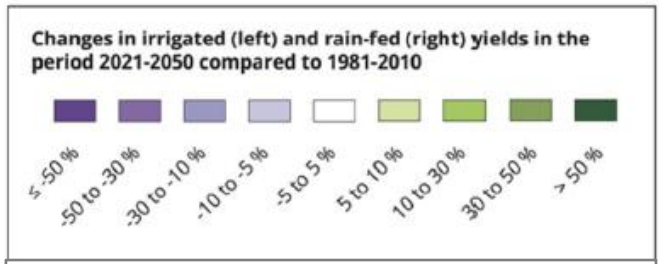


***Figure 2** - Relative changes in irrigated (left) and rainfed (right) yields in the period 2021-2050 compared to 1981-2010 (source: EEA, 2019)*

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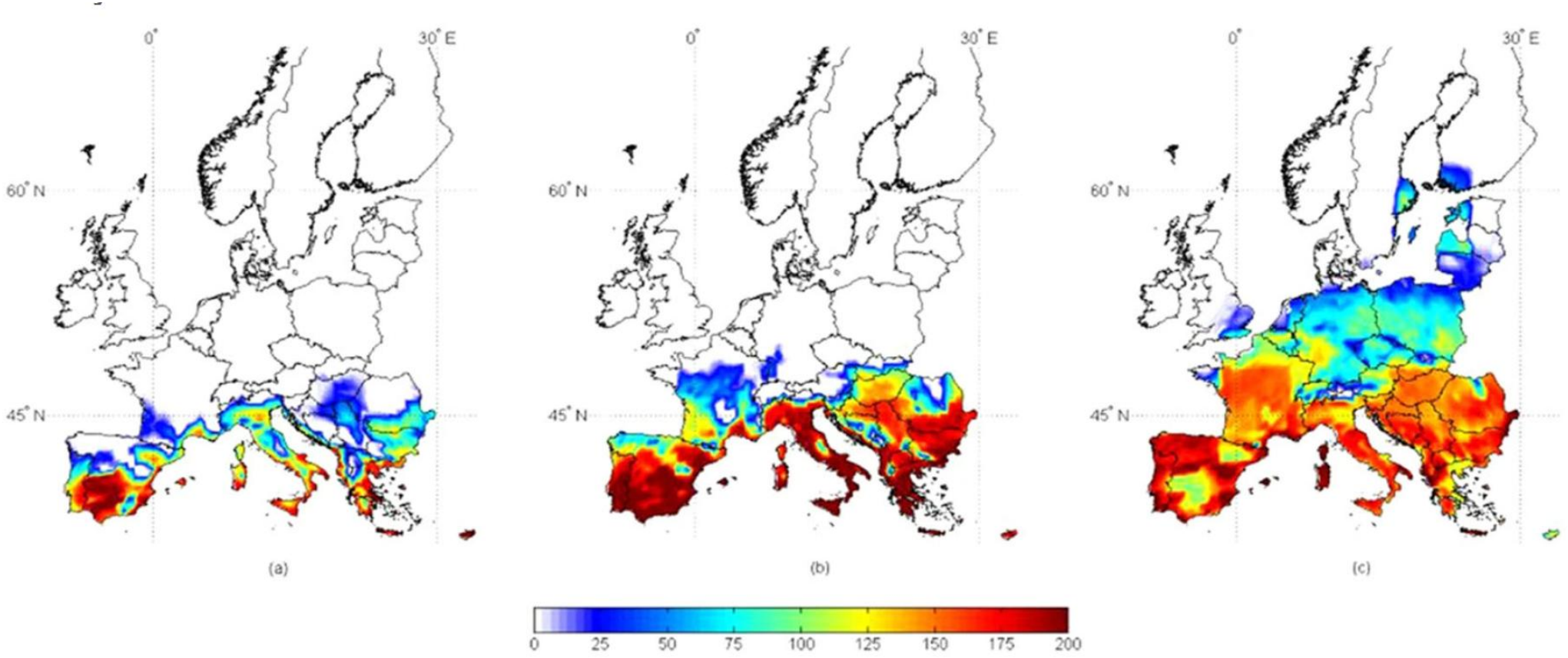
- **BACKGROUND AND BASELINE**



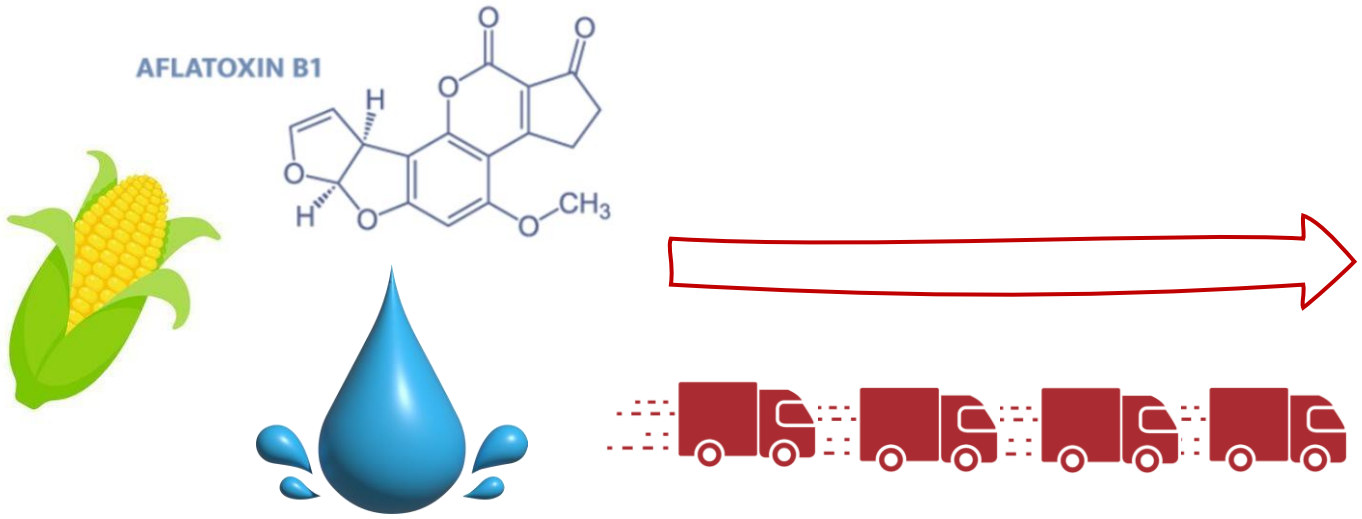
Risk maps for aflatoxin contamination in corn at harvest in 3 different climate scenarios, present, +2°C, + 5°C (Battilani et al., 2016).

IMAGE LIFE

Improving the resilience of Parmigiano Reggiano supply chain

THE PROBLEM

- The main cereal component of the feed used is maize (about 225 ton per year);
- the Parmigiano Reggiano supply chain must import almost all its corn from abroad



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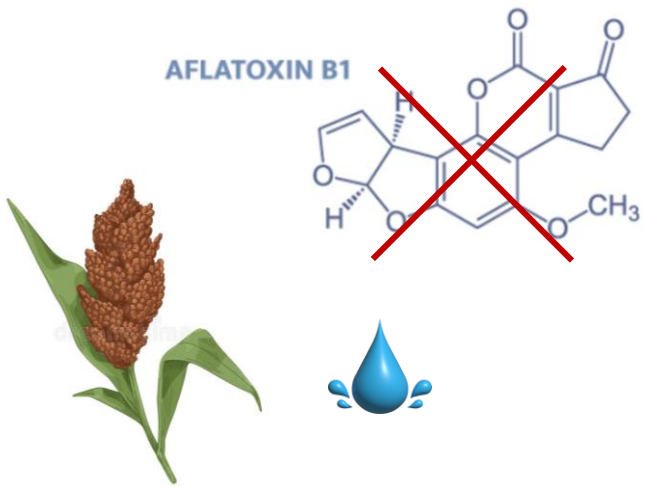
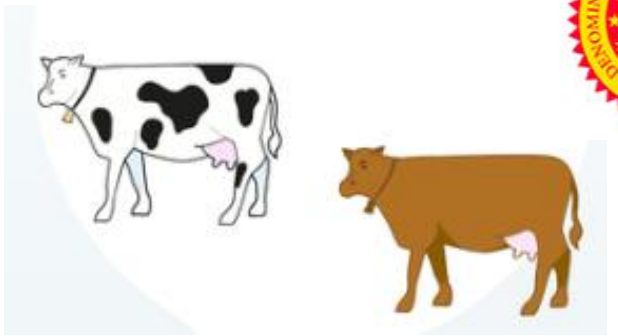
• OUR PROPOSAL TO TACKLE THE PROBLEM

- replacement of corn with sorghum (at 15% of the total cultivated amount of corn);
- reduction in water consumption;
- reduction of dependence on corn grain imports;
- maintaining cow productivity and milk quality.





WHAT WE EXPECT TO ACHIEVE

AT THE END OF THE PROJECT

750 ha of maize replaced

3,6 million m³/year of water reduction

→ - 4,6% for the PR supply chain

2,25% of GHG emission reduction

→ - 1356 ton CO_2 eq/year for the PR supply chain

3-5 YEARS AFTER THE END OF THE PROJECT

2,434 ha of maize replaced

11,7 million m³/year of water reduction

→ - 15% for the PR supply chain

7,30% of GHG emission reduction

→ - 4399 ton CO_2 eq/year for the PR supply chain

OUR LEGACY: THEMATIC AND SPATIAL REPLICATION

3 French partners/AE (INRAE and its affiliated CIRAD, and VetAgro Sup)

2 traditional French cheeses (**Fourme d'Ambert** and **Bleu d'Auvergne**), both produced in the mountainous regions of Auvergne

Replication activities will test:

i) agronomic performance of 15 sorghum genotypes;
ii) chemical composition and *in vitro* rumen digestibility of collected genotypes;
iii) quality of milk and cheese production.