



Intelligent collections and participatory research for Food Legume breeding

Roberto Papa

r.papa@univpm.it

www.pulsesincrease.eu

Webinar 5 -Pushing the boundaries in legume plant breeding

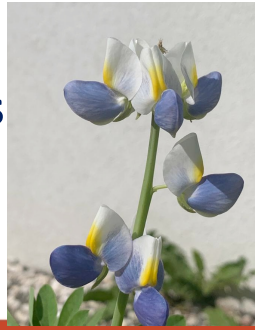


INCREASE
Intelligent Collections of Food-Legume Genetic
Resources for Agrofood Systems

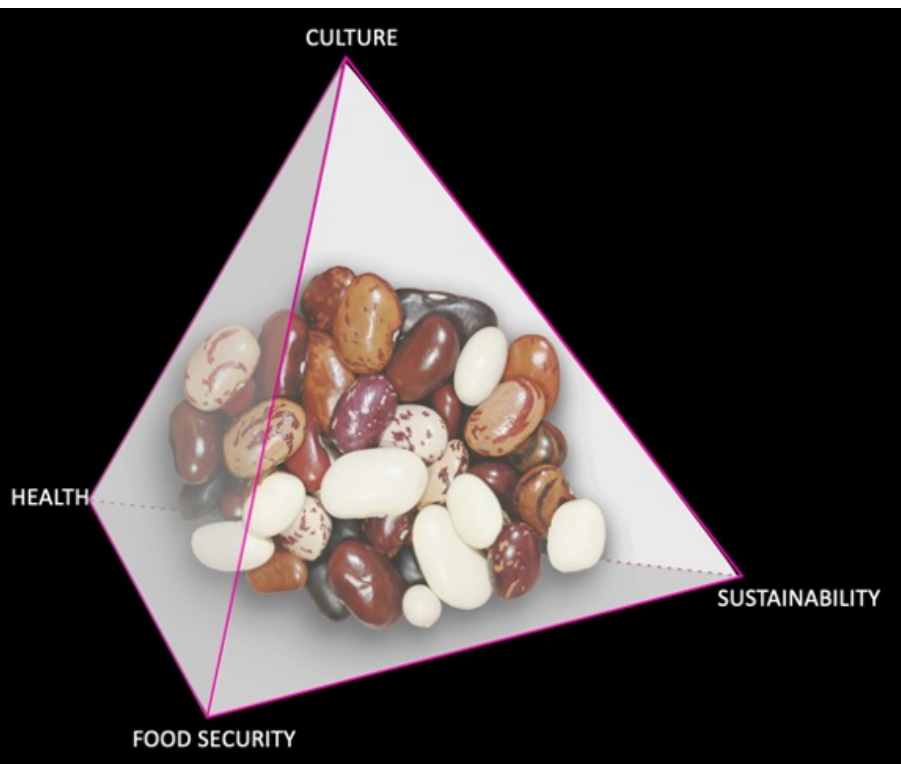


FOOD LEGUMES:

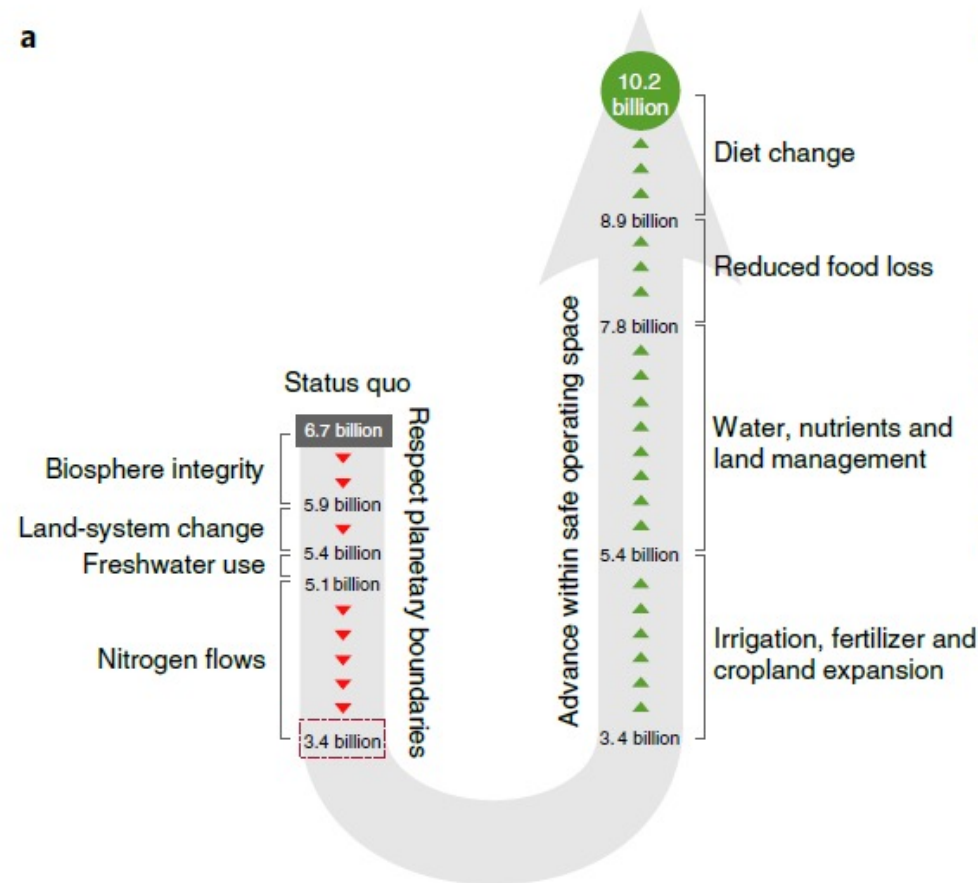
Feeding the world growing population respecting planetary boundaries

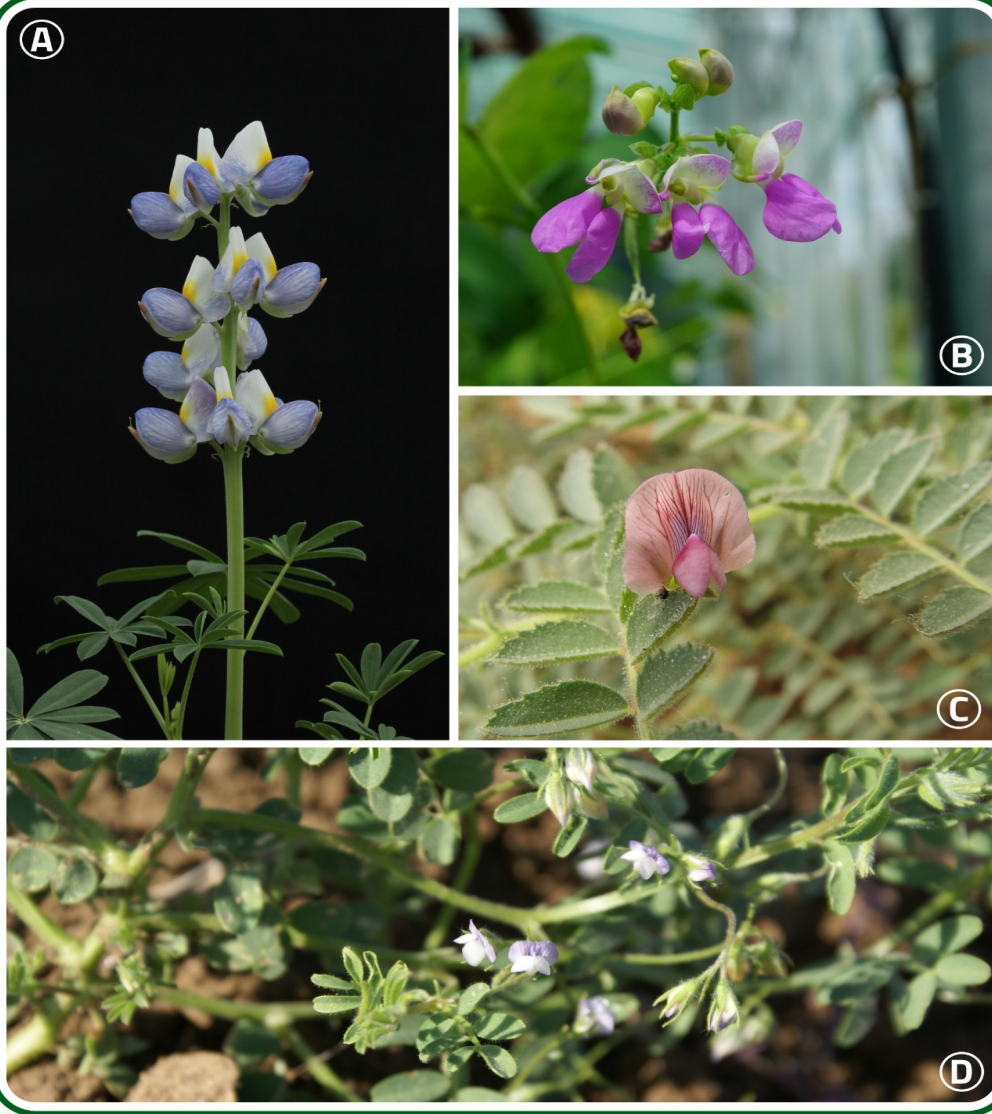


NATURE SUSTAINABILITY



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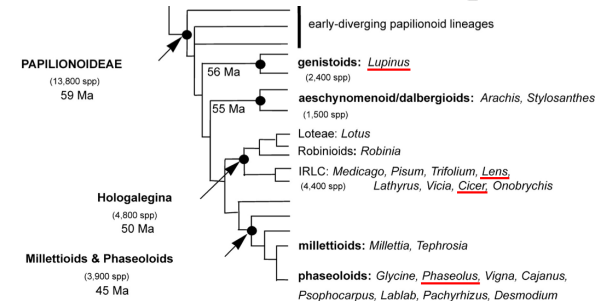
Chickpea
Cicer arietinum

Common bean
Phaseolus vulgaris



Lentil
Lens culinaris

Lupin
Lupinus albus



Chickpea
Cicer arietinum
($2n=2x=16$; ~740Mbp)

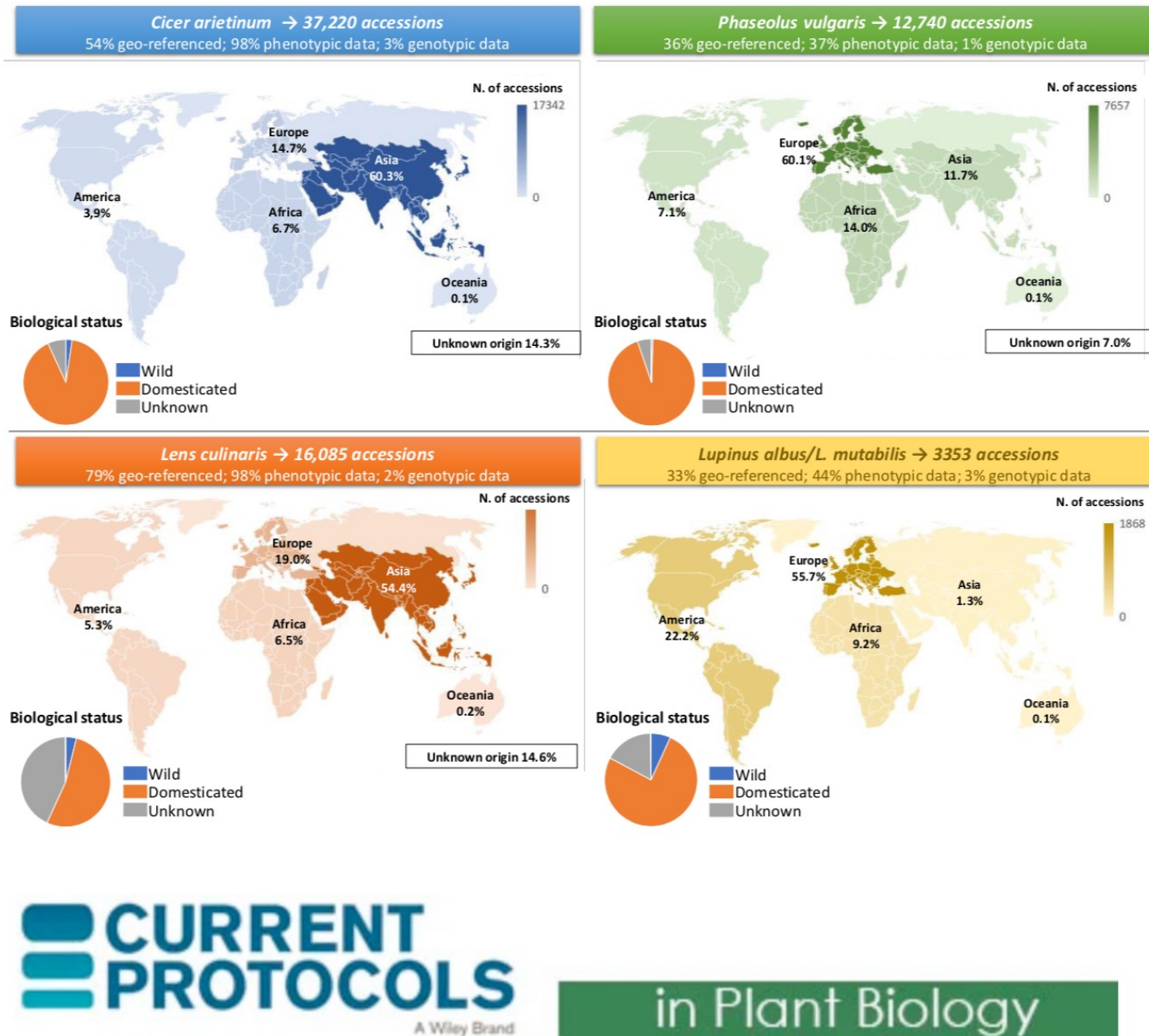
Common bean
Phaseolus vulgaris
($2n=2x=22$; ~520Mbp)

Lentil
Lens culinaris
($2n = 14$, ~4Gb)

Lupin
Lupinus albus
($2n=50$; ~450Mbp)

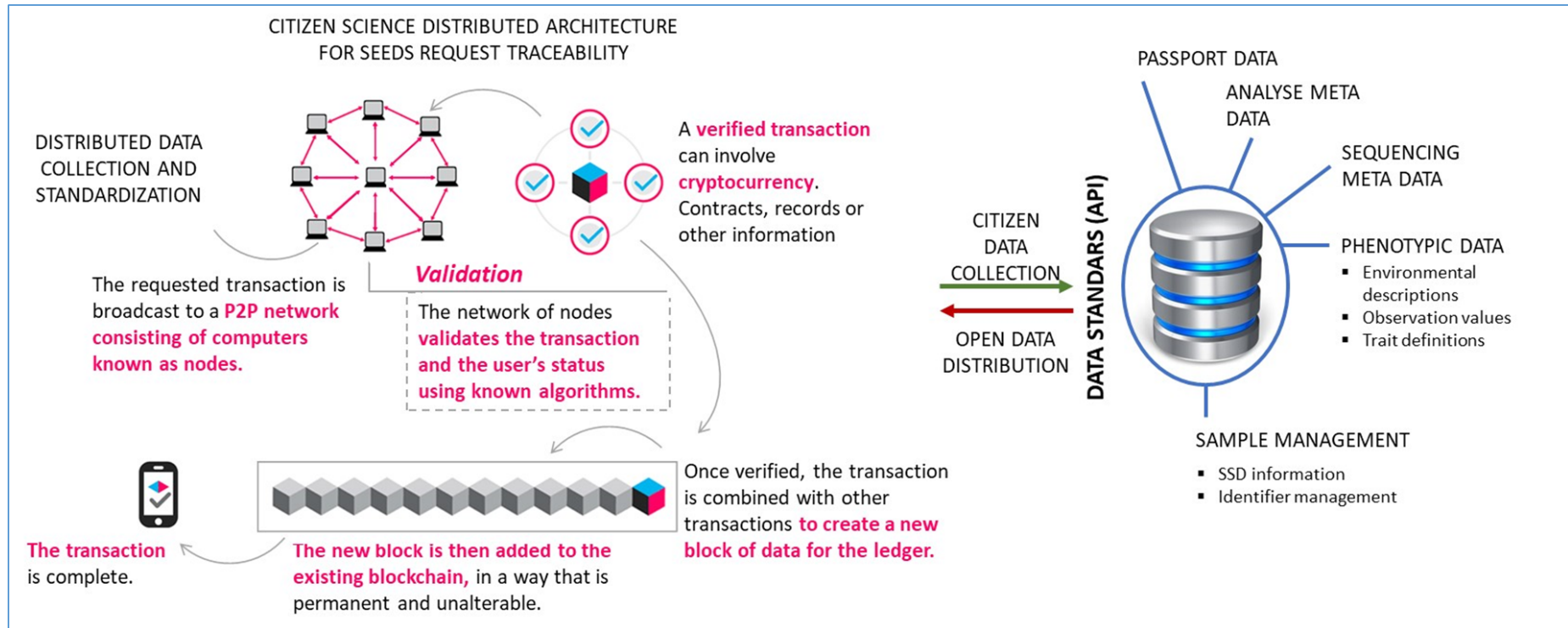
1. Development of novel tools and principles for germplasm management, based on the **development and characterization (phenotypically and genotypically) of “Intelligent Collections”** as a set of nested core collections of different sizes representing the entire diversity of each crop based on SSD purified lines.





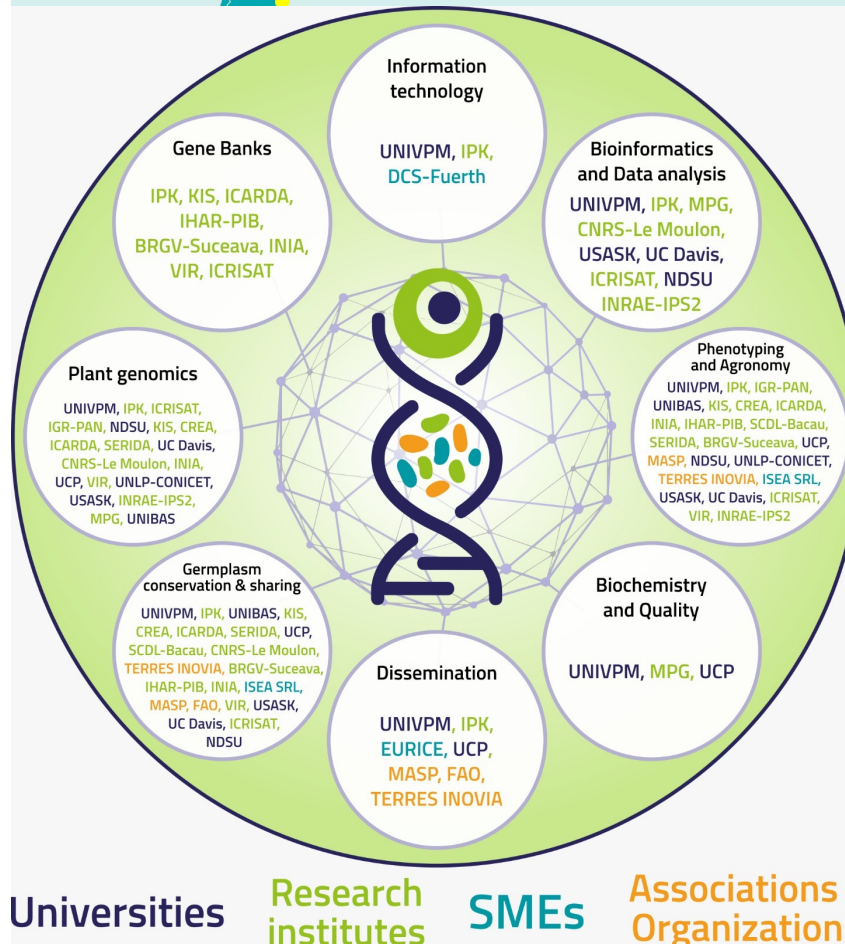
Cortinovis et al., in press; Guerra et al., in press, in press ; Kroc et al., in press)

2. Innovative data management solutions to develop gold standards for data sharing and integration into the central infrastructure, with decentralised data input, defined methodologies and best practices for exploitation of the novel information produced as well as the development of user-friendly visualization tools.



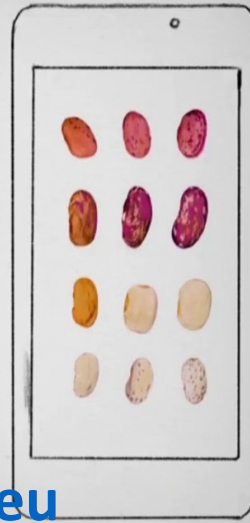
3. Adoption of cutting-edge technologies for genotyping and phenotyping combined with the potential of **Artificial Intelligence** focusing on traits of interest for users.

4. Citizen-science experiments, primarily aimed at dissemination of the initiative to stakeholders and citizens.



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Citizen Science Experiment

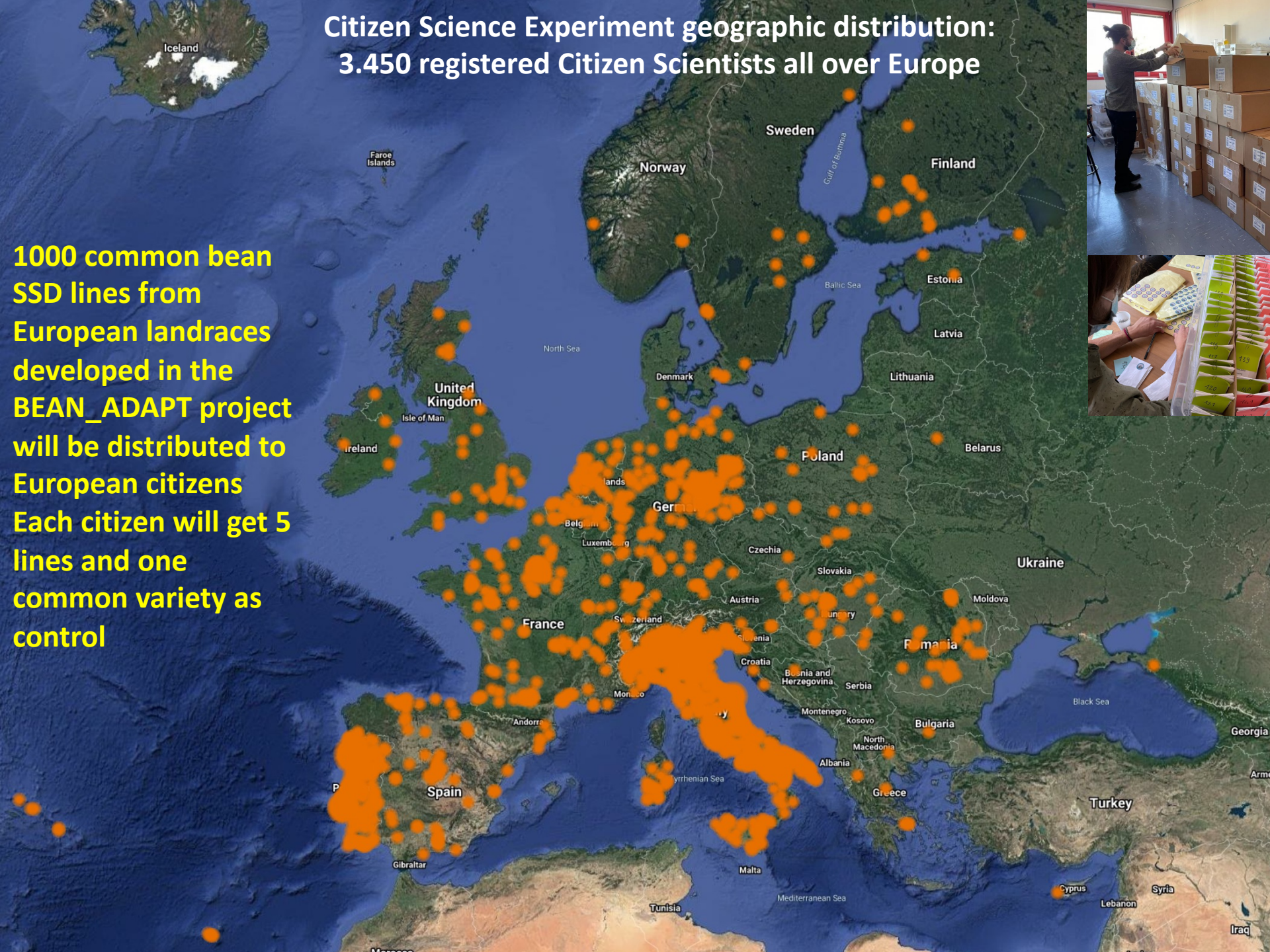


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Citizen Science Experiment geographic distribution: 3.450 registered Citizen Scientists all over Europe

1000 common bean
SSD lines from
European landraces
developed in the
BEAN_ADAPT project
will be distributed to
European citizens
Each citizen will get 5
lines and one
common variety as
control



Stakeholder consortium



Intelligent Collections of Food Legumes Genetic Resources for European Agrofood Systems

Stakeholder Registration



THANK YOU!!