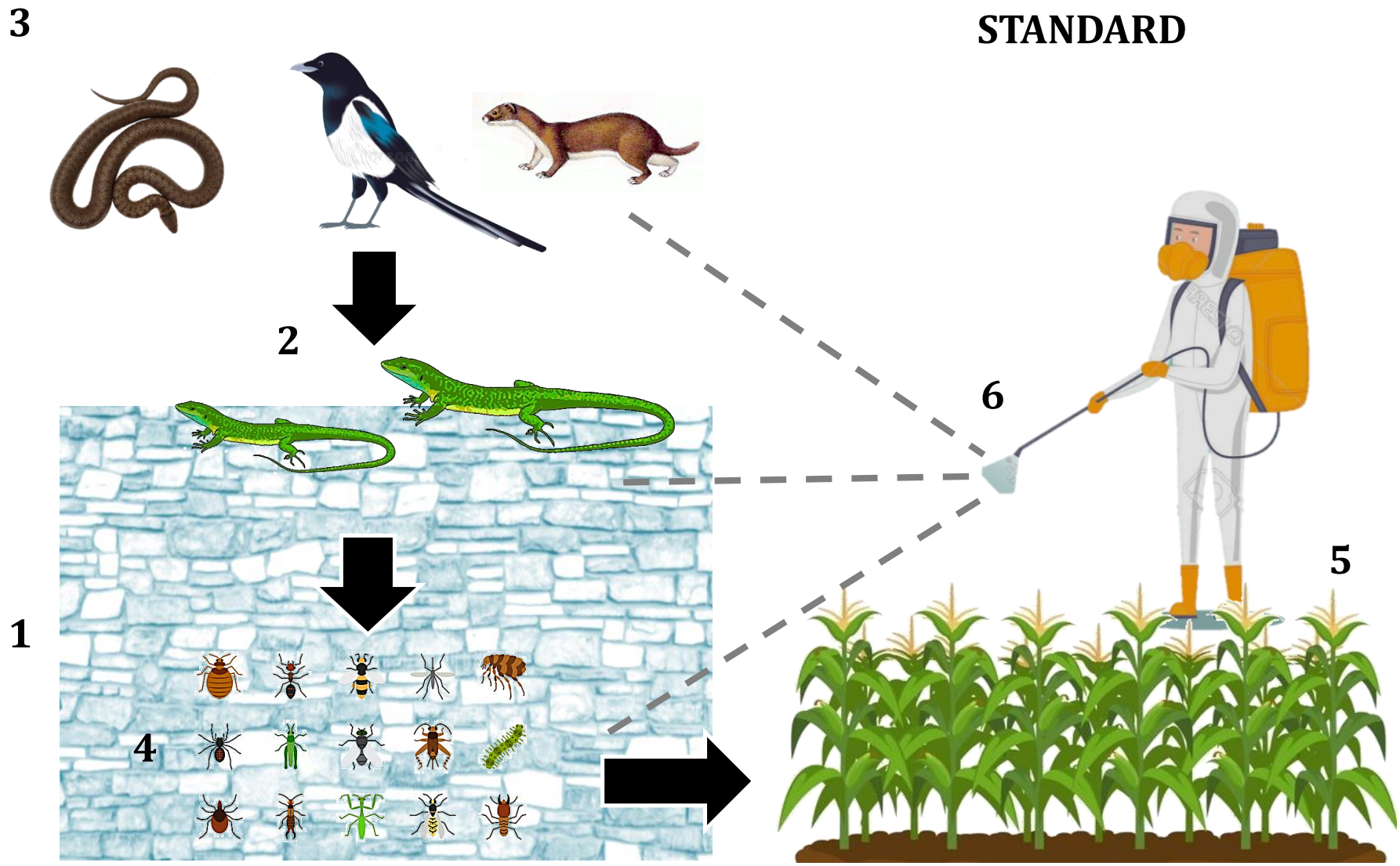
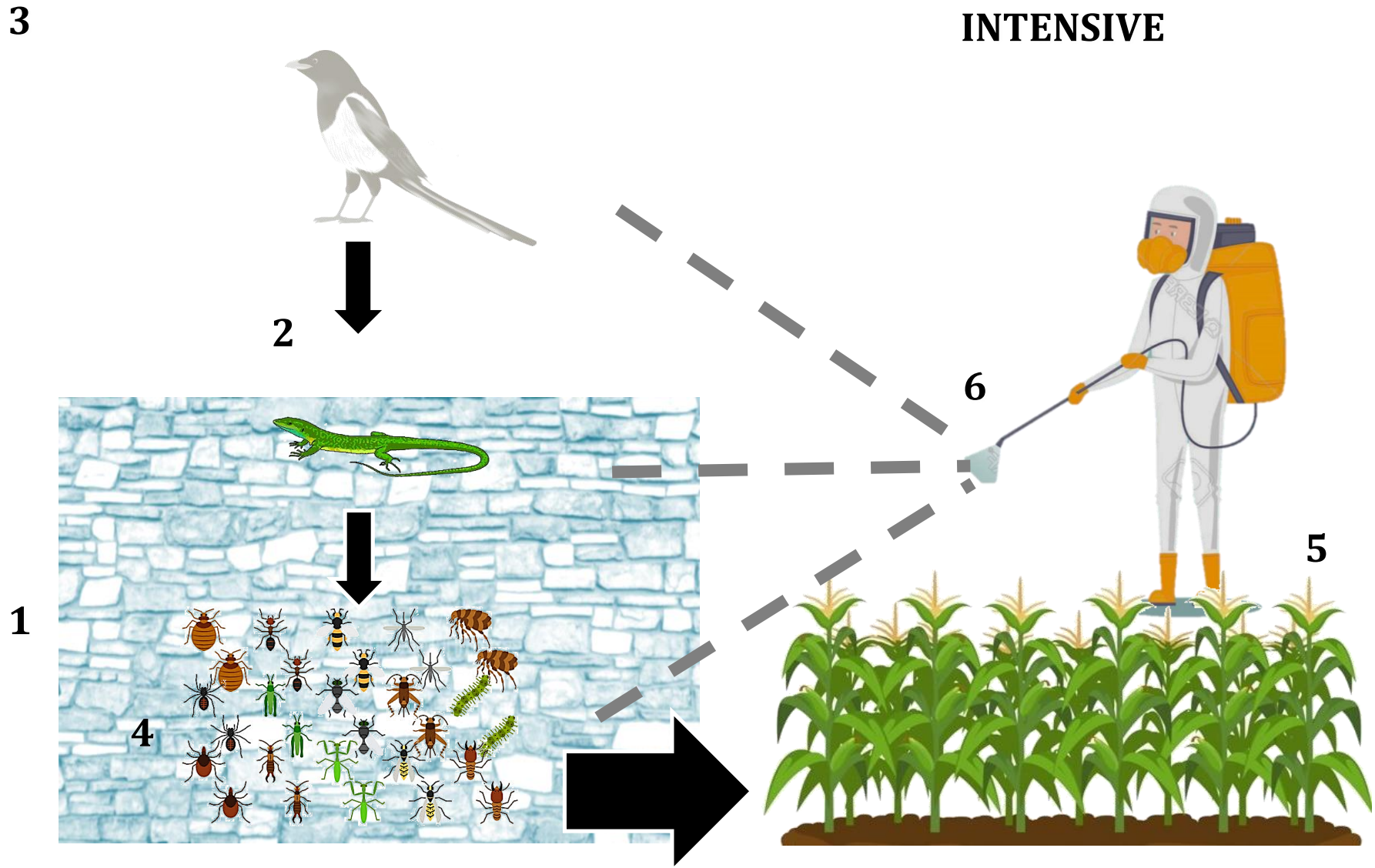
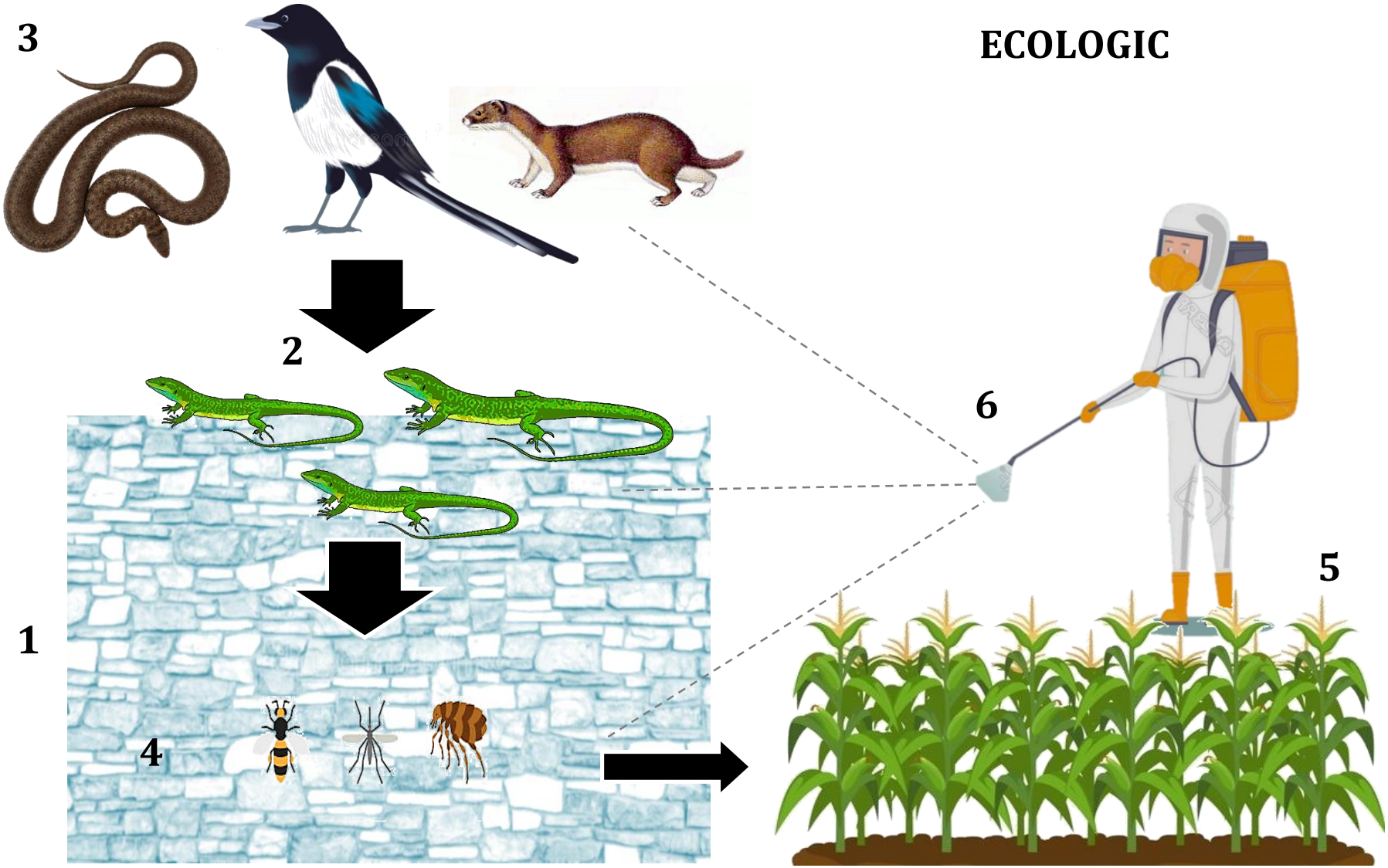


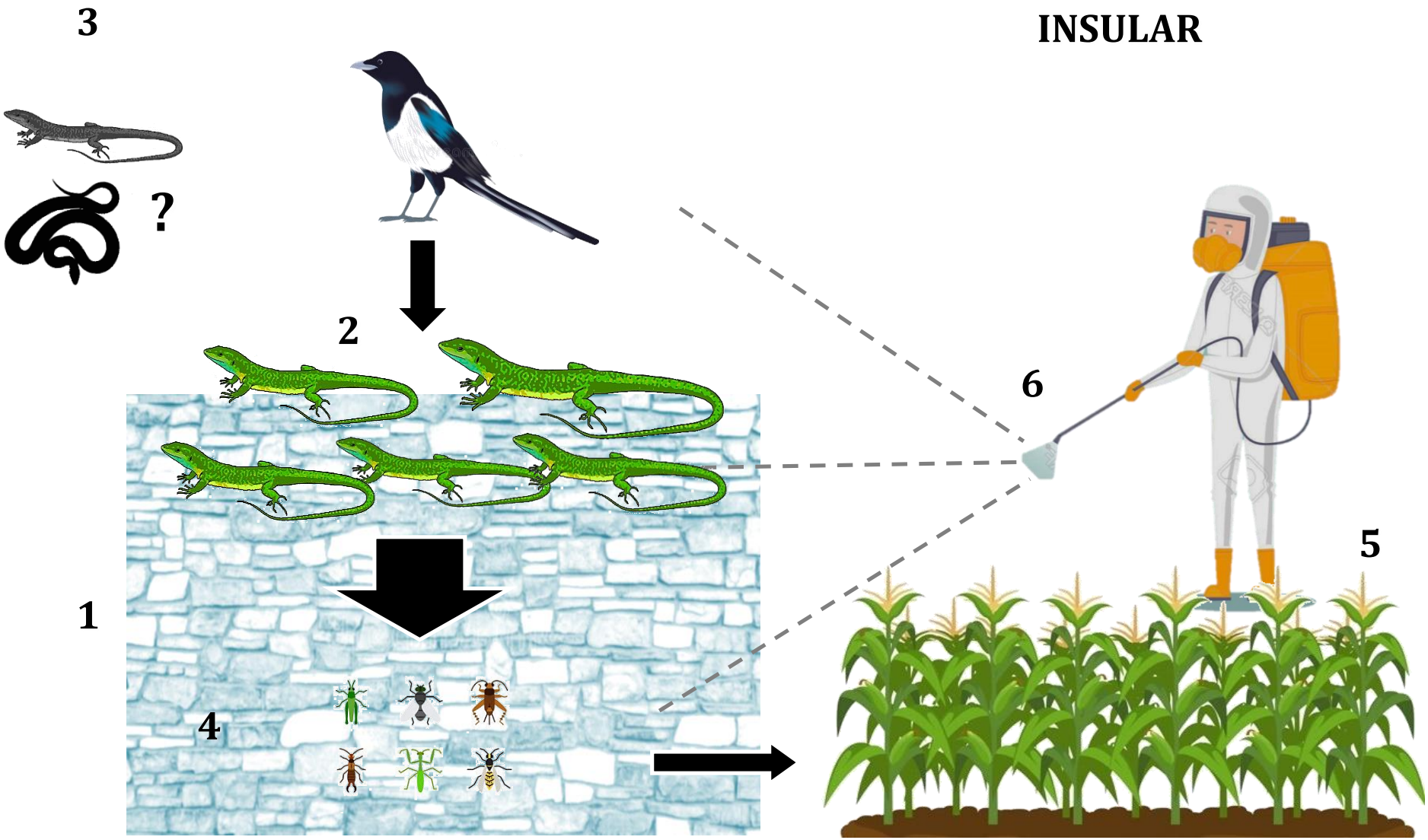
Appendix 1a. Scenario of standard continental agriculture. 1. Agricultural walls. 2. Wall lizards. 3. Aerial and terrestrial predators. 4. Invertebrate prey, including pests. 5. Crops. 6. Management practices, including agrochemicals. Arrows indicate trophic relations and dashed lines indicate disturbance.



Appendix 1b. Scenario of intensive agriculture. Non-target predators and mainly lizards are negatively affected by agrochemicals than target invertebrates; remaining lizards fail to control pests and, hence, larger amounts of agrochemicals must be used in an increasing vortex of unsustainability.



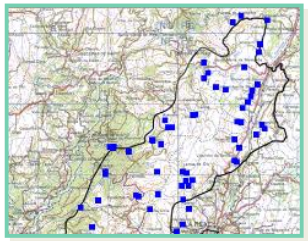
Appendix 1c. Scenario of ecologic agriculture. Agrochemicals and other management practices are administrated with caution, predators are abundant and keep lizards populations at medium levels but do not prevent them to control invertebrates, including pests, and, hence, less management is needed.



Appendix 1d. Scenario of insular agriculture. Lack of terrestrial predators allows dense lizard populations, which keep invertebrates scarce, leaving little opportunities for pests. However, insular lizards may also consume plant matter and all the elements of the system are vulnerable to invasive species.

Appendix 2. Conceptual framework of the project.

Task 1



SAMPLING SETUP
site selection, climate, macrohabitat

Task 2

MICROHABITAT
Structure
TºC, RH%

Task 3

ABUNDANCE
density,
space use

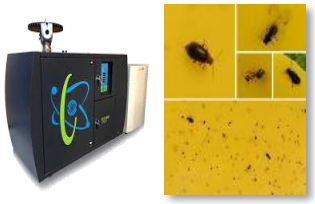
Task 4

STRESS INDICATORS
condition,
parasitisation

Task 5

PREDATION
clay models,
observations

Task 6

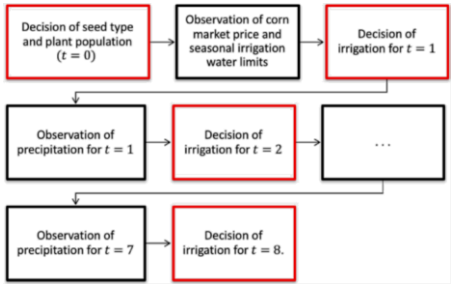


PREY
isotopes, traps

Task 7

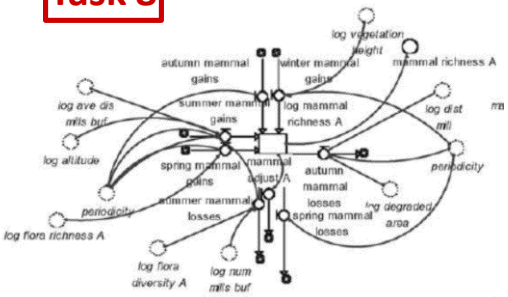
METABARCODING
pest fraction

Task 9



ECOSYSTEM SERVICES
costs vs benefits
management guidelines

Task 8



ECOLOGICAL MODELS
networks, dynamics

Appendix 3. List of potential target species of lizards inhabiting agricultural environments. Below are references for species descriptions and distribution patterns.

species	environment	crop	insularity	country
Podarcis bocagei	Atlantic	corn, vineyard	continental	Portugal
Podarcis guadarramae	Mediterranean	corn, vineyard	continental	Portugal
Podarcis carbonelli	Atlantic	corn	insular/continental	Portugal
Podarcis virescens	Mediterranean	olive, vineyard	continental	Portugal
Podarcis vaucheri	Mediterranean	olive, vineyard	continental	Spain
Podarcis liolepis	Mediterranean	olive, vineyard	continental	Spain
Podarcis muralis	Atlantic	corn, vineyard, olive	insular/continental	Spain, Italy, Slovenia, Greece
Podarcis siculus	Mediterranean	vineyard, olive	insular/continental	Italy
Podarcis tiliguerta	Mediterranean	vineyard, olive	insular	Italy
Podarcis ehrardii	Mediterranean	vineyard, olive	insular/continental	Greece
Podarcis cretensis	Mediterranean	vineyard, olive	insular	Greece
Podarcis milensis	Mediterranean	vineyard, olive	insular	Greece
Teira dugesii	Subtropical	vineyard	insular	Portugal

Uetz, P. & Hošek, J. (eds.) (2022) *The Reptile Database*, https://reptile-database.reptarium.cz/advanced_search?genus=podarcis&submit=Search https://reptile-database.reptarium.cz/species?genus=Teira&species=dugesii&search_param=%28%28genus%3D%27Teira%27%29%29
Sillero, N., et al. (2014): Updated distribution and biogeography of amphibians and reptiles of Europe. Amphibia-Reptilia 35: 1-31. https://doi.org/10.1163/15685381-00002935

Appendix 4: Sampling setup and representative landscapes with potential sampling sites.

Tuscany, Italy

Santorini island, Greece

Pivka, Slovenia

Vila Pouca de Aguiar, Portugal

Barumini, Sardinia, Italy

Priorat, Catalonia

Climate	**Crop**	**Management**	**Insularity**	**Sampling**
Atlantic	Corn	Intensive	Continental	5 sites x 5 transects x 3 replicas (10 males +10 females)
Mediterranean	Olive	Ecologic	Insular	
Subtropical	Vineyard			

Appendix 5: Microhabitat characterisation.

i-button DS1923

temp. range -20/+85°C , precision 0.0625°C
hum. range 0-100%, precision 0.05%
4096 values in with the same logging rate

10 data-loggers per site
measurements programmed
every hour during 6 months

Sampling

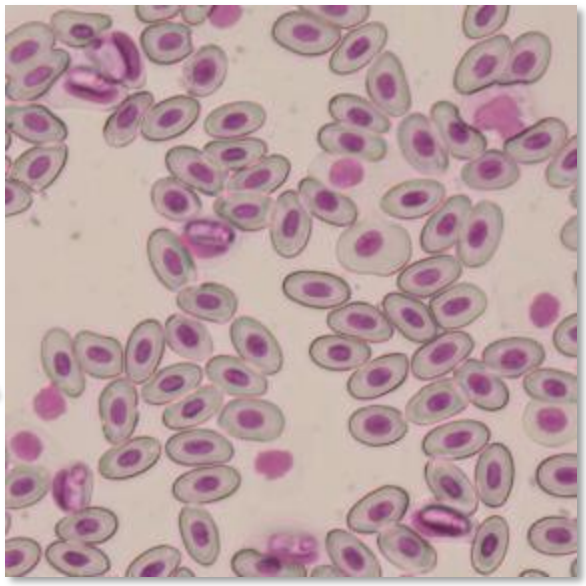
20 random points
for microhabitat categorisation
wall height, wall width,
holes, epiphytic vegetation

Appendix 6: Density estimation

Sampling

repeated line transects
Lizard observations associated to
season, time, site, replica and microhabitat

Appendix 8: Stress indicators.



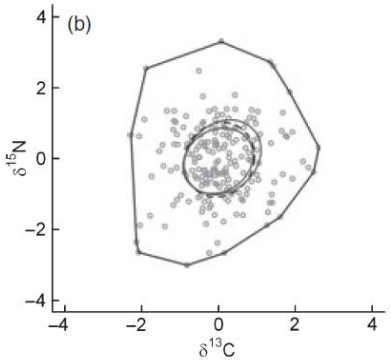
Body condition	**Sampling**	**Haemogregarines**
SVL (mm) BM (g)	10 males +10 females by site and transect	Prevalence (%) Intensity

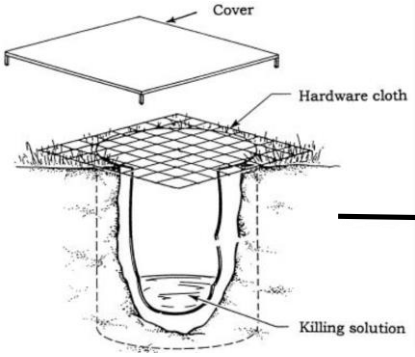
Appendix 9: Predation assessment.

Sampling

100 clay models (10 m apart)
by site and transect

Appendix 10: Prey availability and consumption.





Isotope sampling

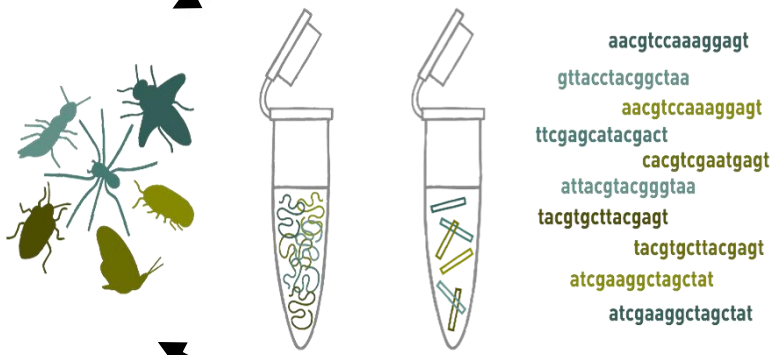
10 males +10 females
by site and transect

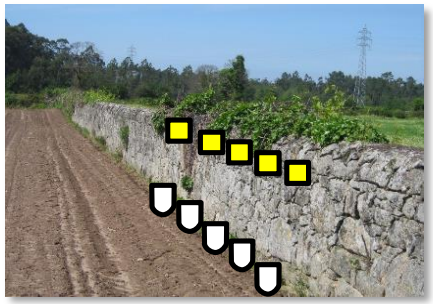
Invertebrate sampling

10 sticky traps + 10 pitfall traps
by site and transect

Appendix 11: Metabarcoding of consumed and available prey.

Pellets
30 populations
20 samples by site





Traps
30 populations
10 sticky traps
10 pitfall traps
by site