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PESTICIDES AND WILDLIFE FRIENDLY FARMING

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1. INTRODUCTION



Pesticides are agrochemicals used in agricultural lands, public health programs, and urban green areas in order to protect humans from various diseases.

In agriculture there is no doubt that the emergence of chemical pesticides enabled an immediate intensification and increase of food production.

However, we know enough to understand that the negative impacts of pesticides on wildlife are inevitable.



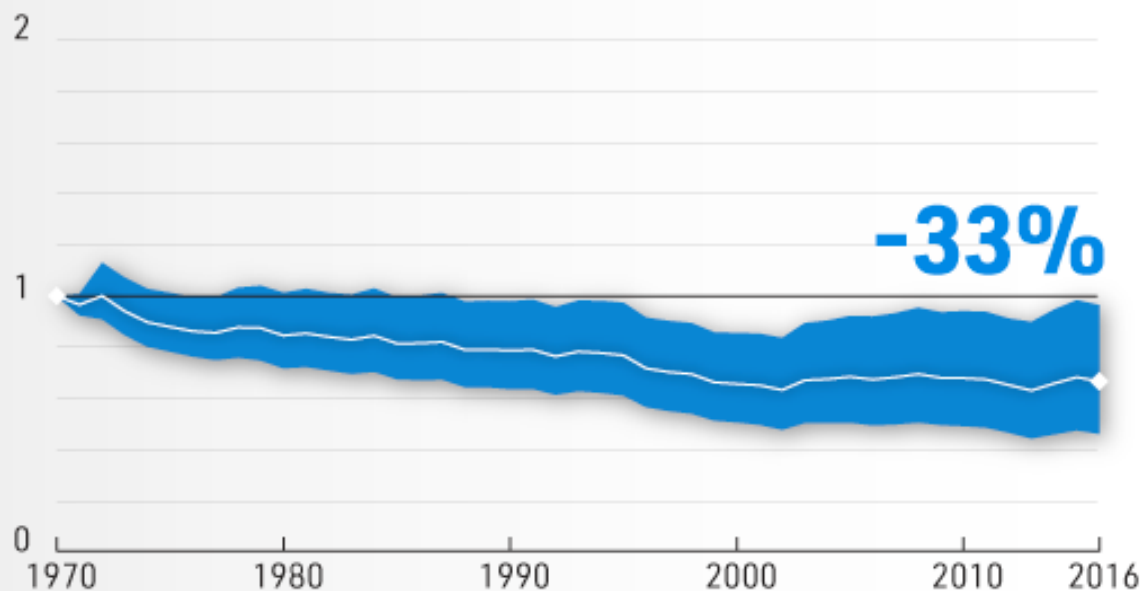
The Living Planet Index (LPI) tracks the abundance of mammals, birds, fish, reptiles, and amphibians across the globe.



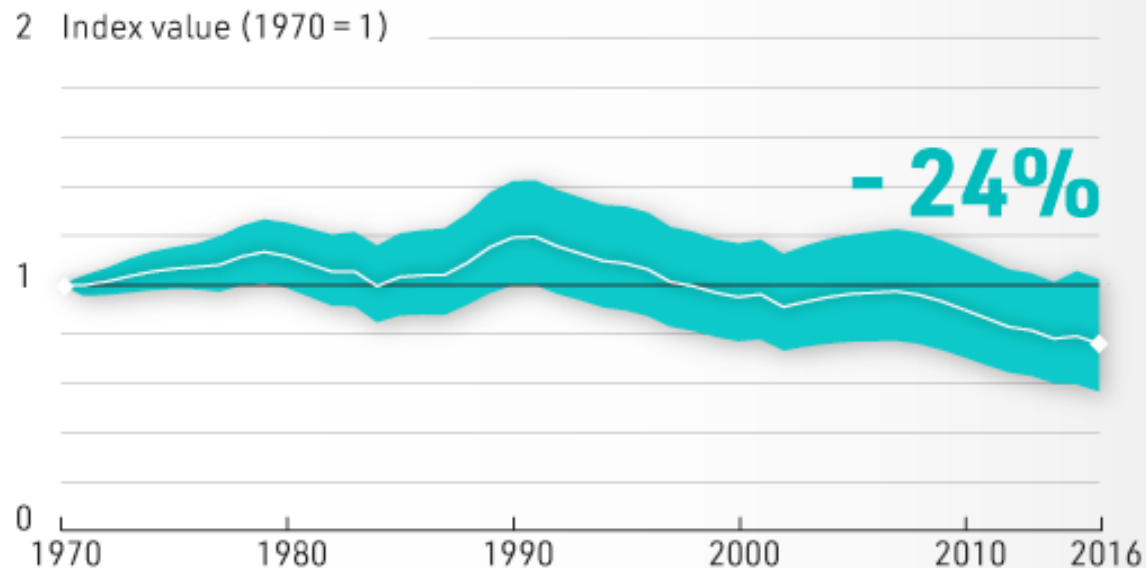
Between 1970 and 2016, vertebrate population sizes dropped by **68%** on average worldwide. However, this rate of this loss varies from region to region.



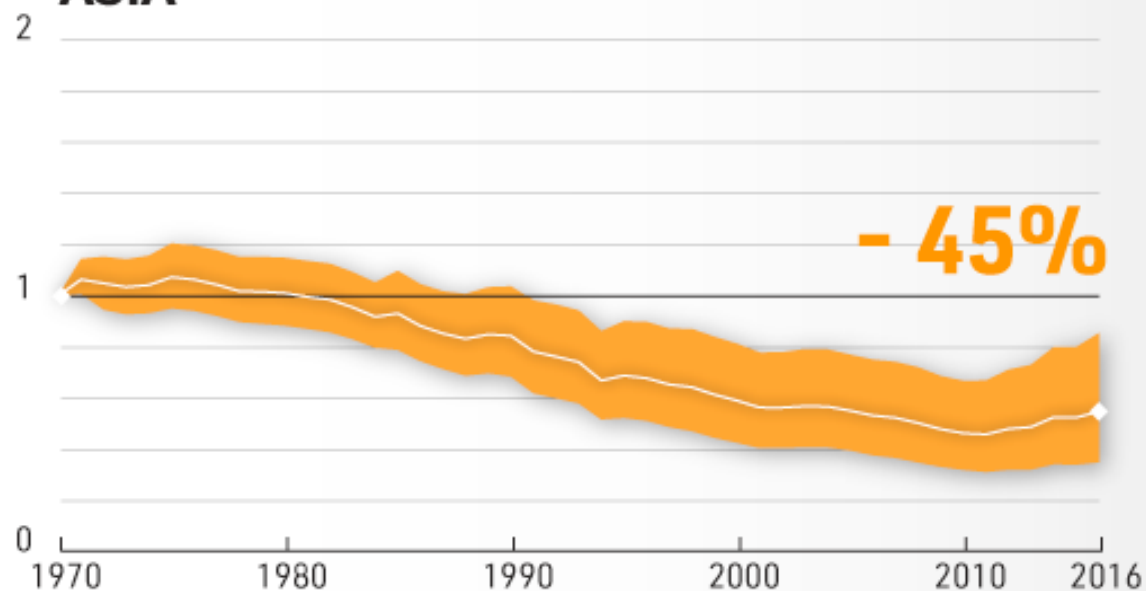
NORTH AMERICA



EUROPE



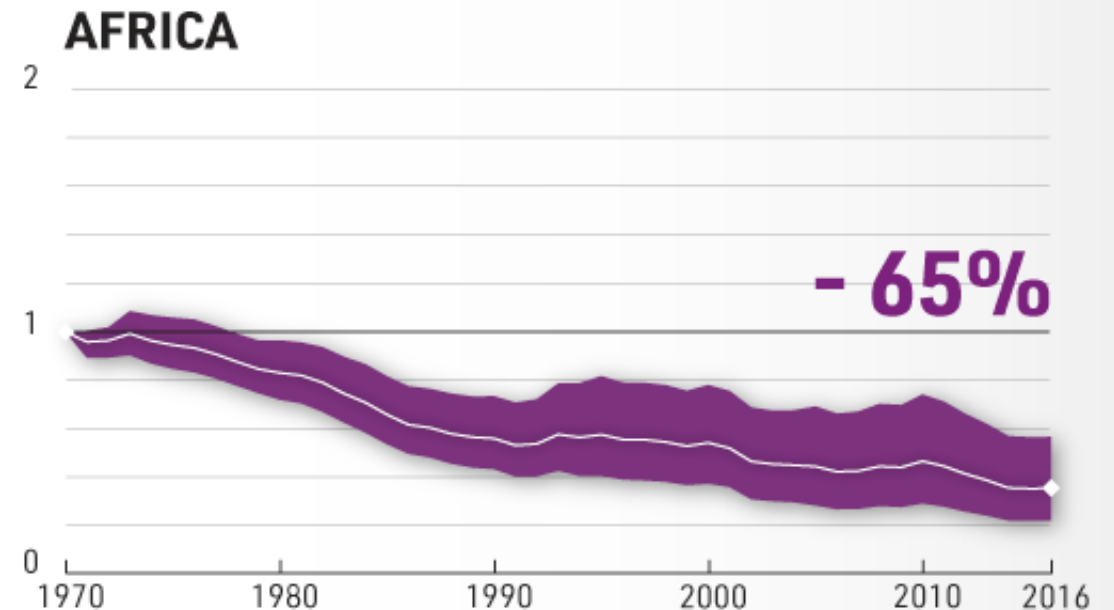
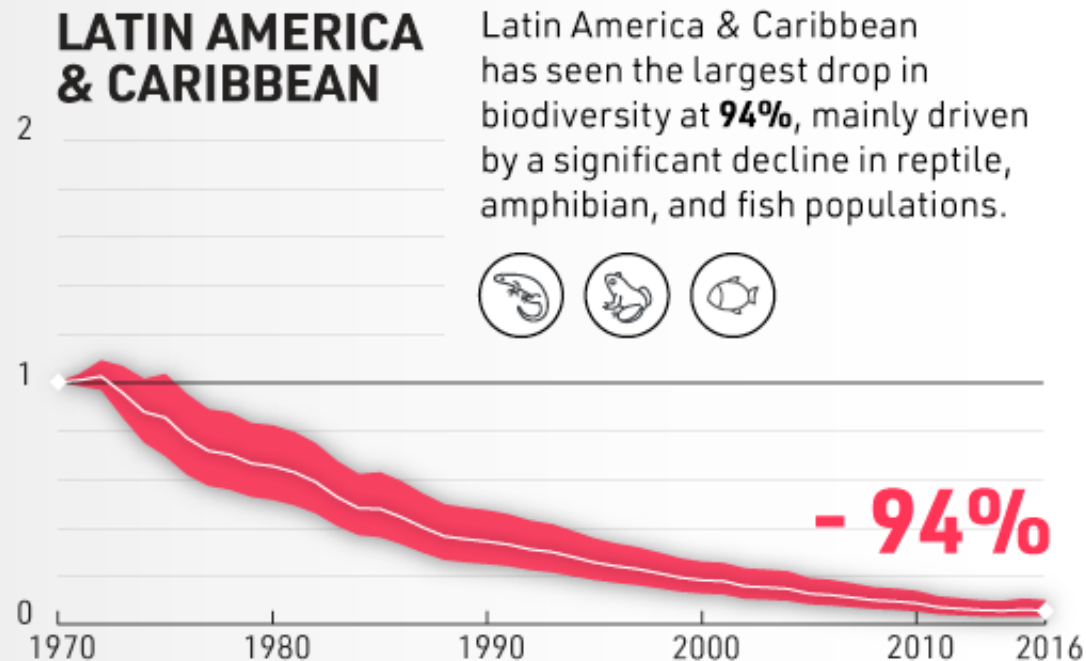
ASIA



1 million species facing extinction worldwide



European farmland birds have declined by 4% since 1990



We need a new approach to land management that focuses more on alternatives and less on chemicals

How much pesticide is used in Spain?



Table 1.-Overall treated area of arable crops in Spain (2011 and 2019). Source: Spanish Statistics Institute.



We need a new approach to land management that focuses more on alternatives and less on chemicals

How much pesticide is used in Spain?

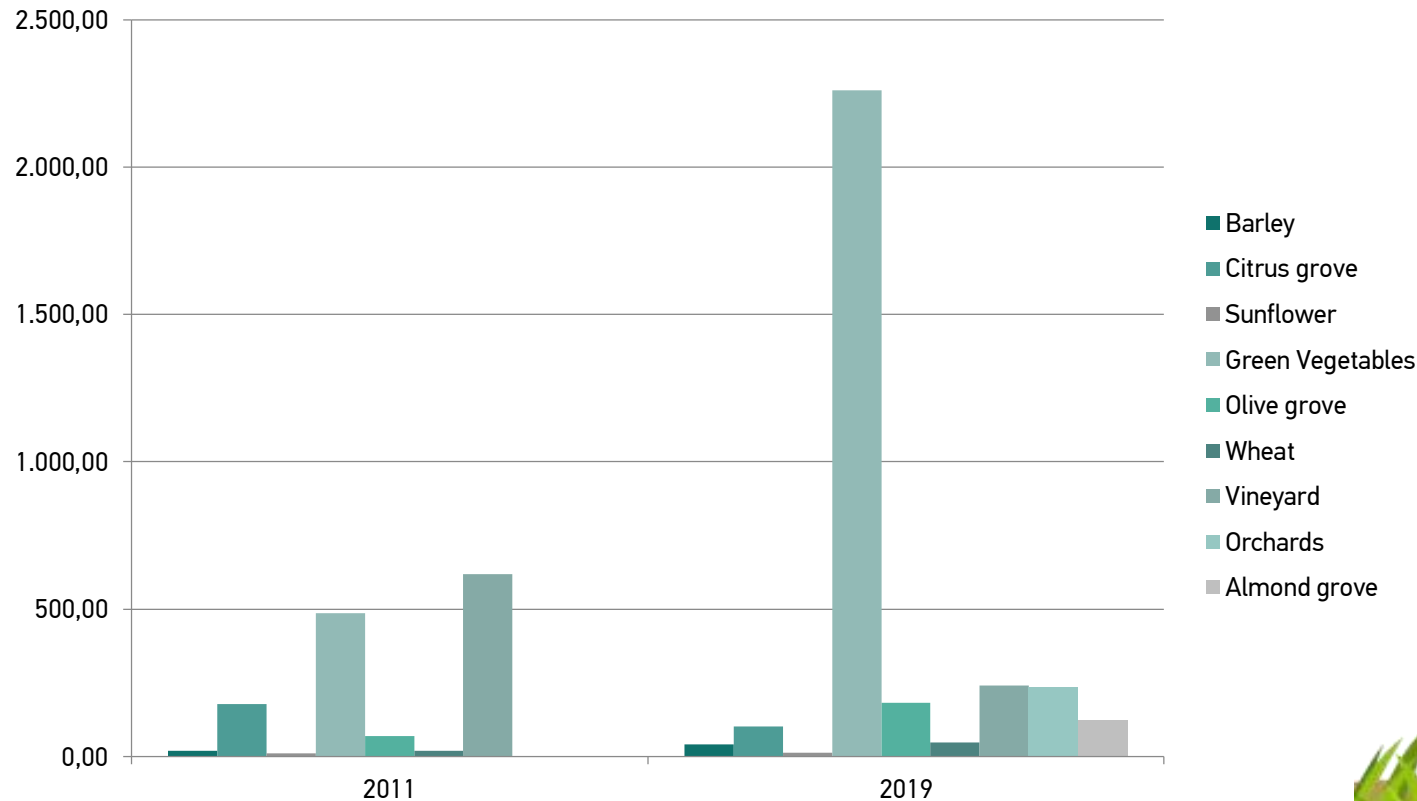


Table 2. Overall kg of pesticides/ha used in arable crops in Spain (2011 and 2019). Source: Spanish Statistics Institute.



2. PESTICIDES AND WILDLIFE FRIENDLY FARMING IN SPAIN



A. CASE STUDY 1. Red legged and grey partridge

Pesticides disrupt food webs, killing plants and insects and removing weed seeds from the environment, which may be essential food or habitat for some bird species



EXPERIMENT: test whether the herbicides and fungicides used on cereal fields reduce the survival of grey partridge chicks.





Parents fed with organic grains

Gaffard, *et al*(2022)



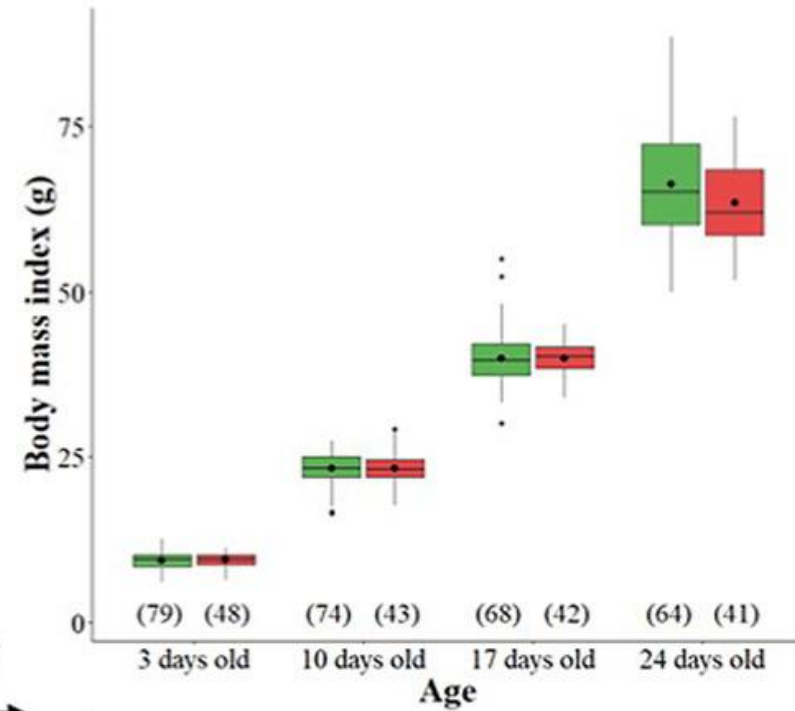
Parents fed with conventional grains

Compared with organic pairs, **conventional pairs yielded smaller chicks** at hatching that had a lower body mass index at 24 days old.



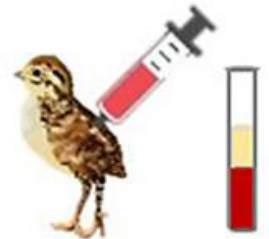
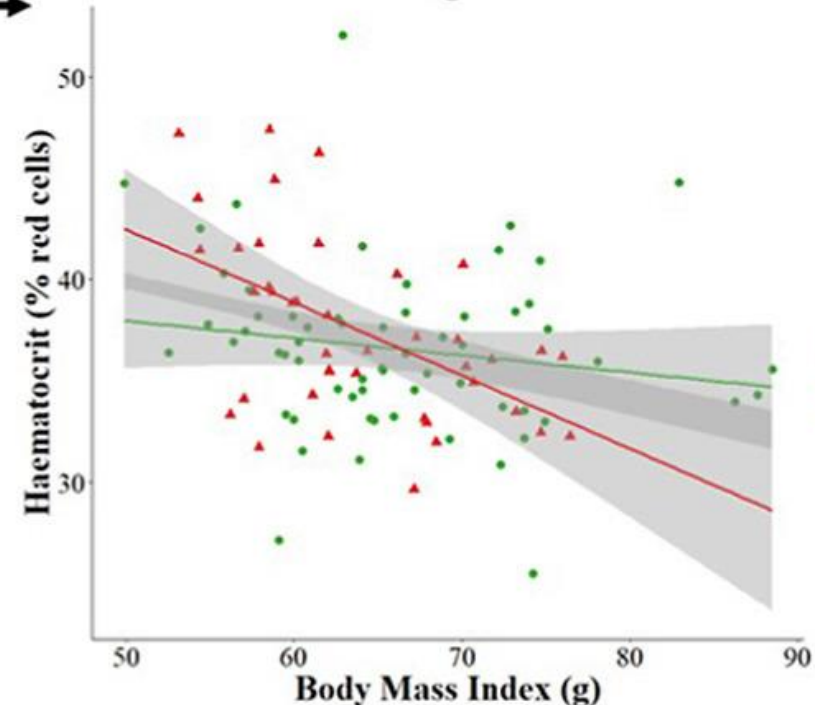
Offspring quality

Additionally, these chicks **displayed lower haematocrit** when body mass index was higher.



Parent's food treatment

Organic
Conventional



Parent's food treatment

Organic
Conventional

2. PESTICIDES AND WILDLIFE FRIENDLY FARMING IN SPAIN

B. CASE STUDY 2. Wildlife friendly farmers in Spain

LA BIODIVERSIDAD INICIAL EN CORTIJO GUADIANA

26 especies de
hormigas

139 especies de
herbáceas

Gorrión chillón

Codorniz común

70 especies
de aves

Busardo ratonero

20 especies de
polinizadores

32 especies de
leñosas



- + Pollinator species
- + Pest control
- Investment on pesticides



OLIVARES VIVOS EN CORTIJO GUADIANA



The company
increased its
international
prestige

Reforzamiento de la
población de
lechuza

Siembra de nuevas
semillas

4 refugios para
murciélagos



Gestión de la cubierta
herbácea. Incluido
arado superficial

8 niales para
pequeñas rapaces, 9
niales para aves
insectívoras y 1 poste
para rapaces.

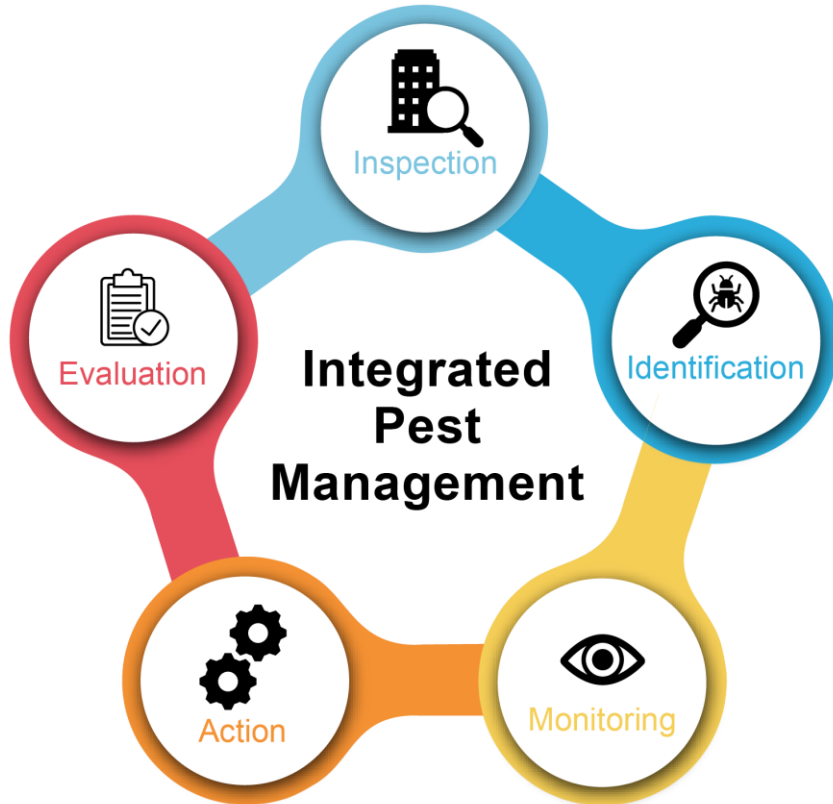
11 niales para
insectos

3 592 nuevas plantas
leñosas

Siembra de cereal
en las calles

3 charcas, 2
bebederos y 2
islas flotantes

1.CONCLUSSIONS



1. SEO/BirdLife is calling for a **national pesticide reduction target**.

2. The creation of a **national independent organisation** that encourages farmers improving the natural health of our countryside is needed.

3. A better support for an **Integrated Pest Management** approach is also required.



1.CONCLUSSIONS



4. We must recognise the important role that **healthy thriving ecosystems** can play in supporting sustainable farming.



5. Continued **reliance on pesticides** threatens long term **sustainable food production** and a healthy environment

5. Encouraging **environmental stewardship agreements** is an effective way to supporting sustainable farming.





THANK YOU FOR YOUR ATTENTION

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