



# Are Pesticides Obsolete?

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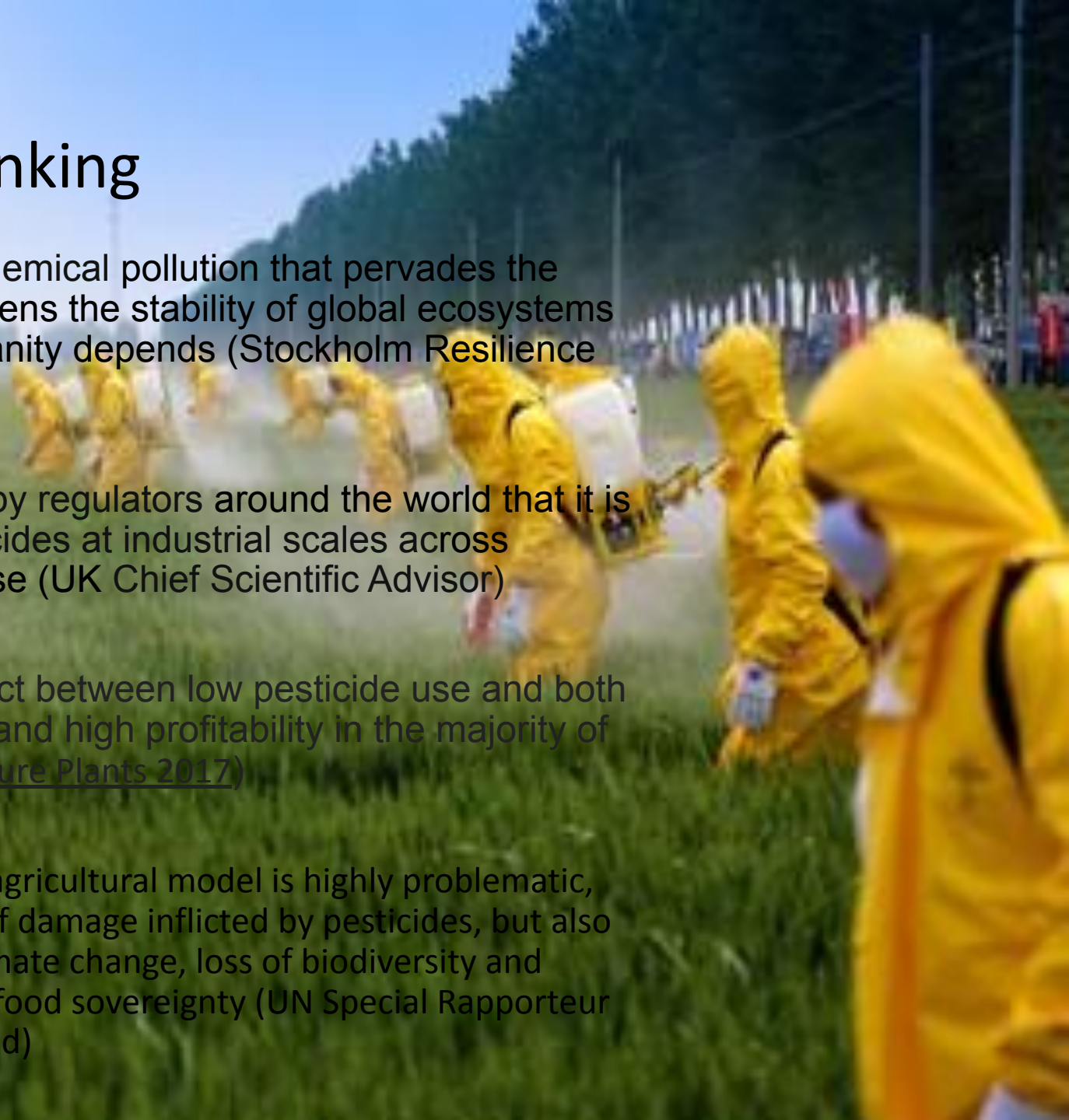


Centre for  
PESTICIDE SUICIDE  
PREVENTION

**GiveWell**

# Current thinking

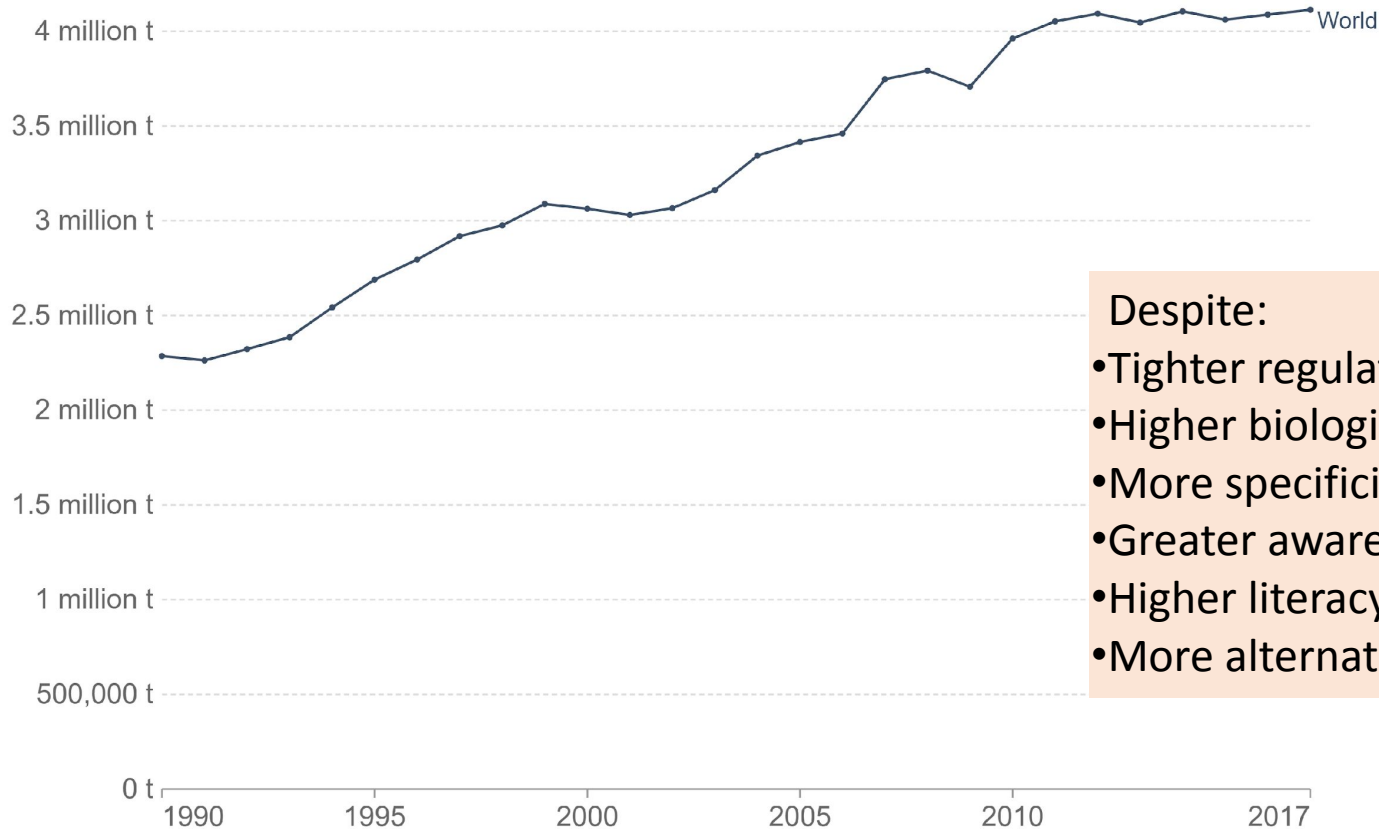
- The cocktail of chemical pollution that pervades the planet now threatens the stability of global ecosystems upon which humanity depends (Stockholm Resilience Centre 2022)
- The assumption by regulators around the world that it is safe to use pesticides at industrial scales across landscapes is false (UK Chief Scientific Advisor)
- There is no conflict between low pesticide use and both high productivity and high profitability in the majority of arable farms ([Nature Plants 2017](#))
- Today's dominant agricultural model is highly problematic, not only because of damage inflicted by pesticides, but also their effects on climate change, loss of biodiversity and inability to ensure food sovereignty (UN Special Rapporteur on the Right to Food)



## Pesticide use, 1990 to 2017

Total pesticide use measured in tonnes of pesticide consumption per year.

Our World  
in Data



Despite:

- Tighter regulation
- Higher biological activity
- More specificity
- Greater awareness
- Higher literacy
- More alternatives

Source: UN Food and Agricultural Organization (FAO)

OurWorldInData.org/fertilizer-and-pesticides/ • CC BY

“The increased use of pesticides since 1960 obviously has not resulted in a significant decrease of crop losses”

Oerke, Crop Losses to Pests, J of Ag Sci 2006



It's impossible to avoid these





# Are synthetic chemical pesticides doing what you think they are doing?

Predator/parasite populations are **declining** and slow to recover

Pest **resistance** / Pest **relocation**

Increased **nutrition & palatability** of crops to pests from chemicals

**Beneficial** organism populations **decline** (insects, amphibians, reptiles, birds, mammals)

**Soil biota** depleted

**Phyto-toxicity** of pesticides



# Impact of

**385 million**  
**poisonings/year** globally

**15,000 deaths/year**  
**globally**

**168,000 pesticide suicide**  
**deaths/year**









# Countries are taking action

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**EU** Farm to Fork strategy aims to **reduce pesticide use by 50%** by 2030 with no negative impact on productivity and farmer incomes

**CBD** target **2/3 reduction in pesticide use** globally by 2030

**India** is **reviewing 27 pesticides** considered for banning

**China** has **withdrawn 22** and will deregister another 10 pesticides

**Mozambique** **withdrew 39 pesticides** after a HHP review







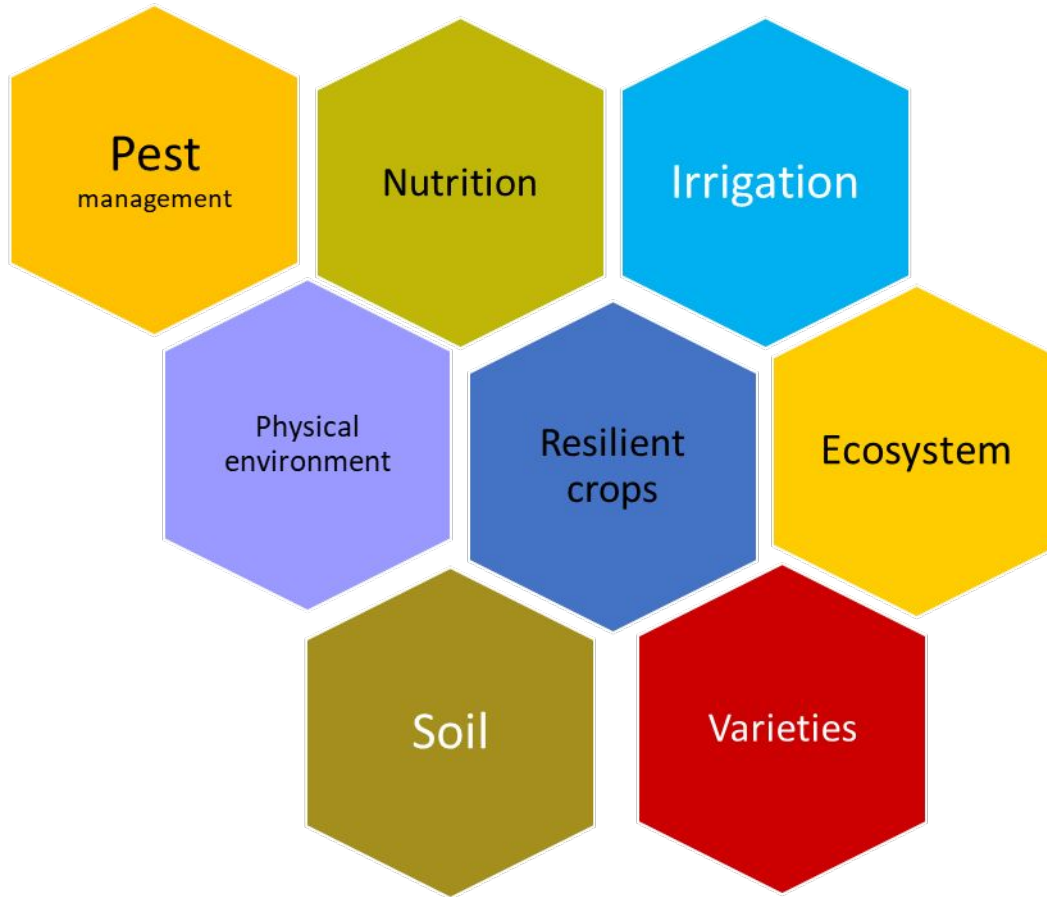
# The current model for pest control is wrong



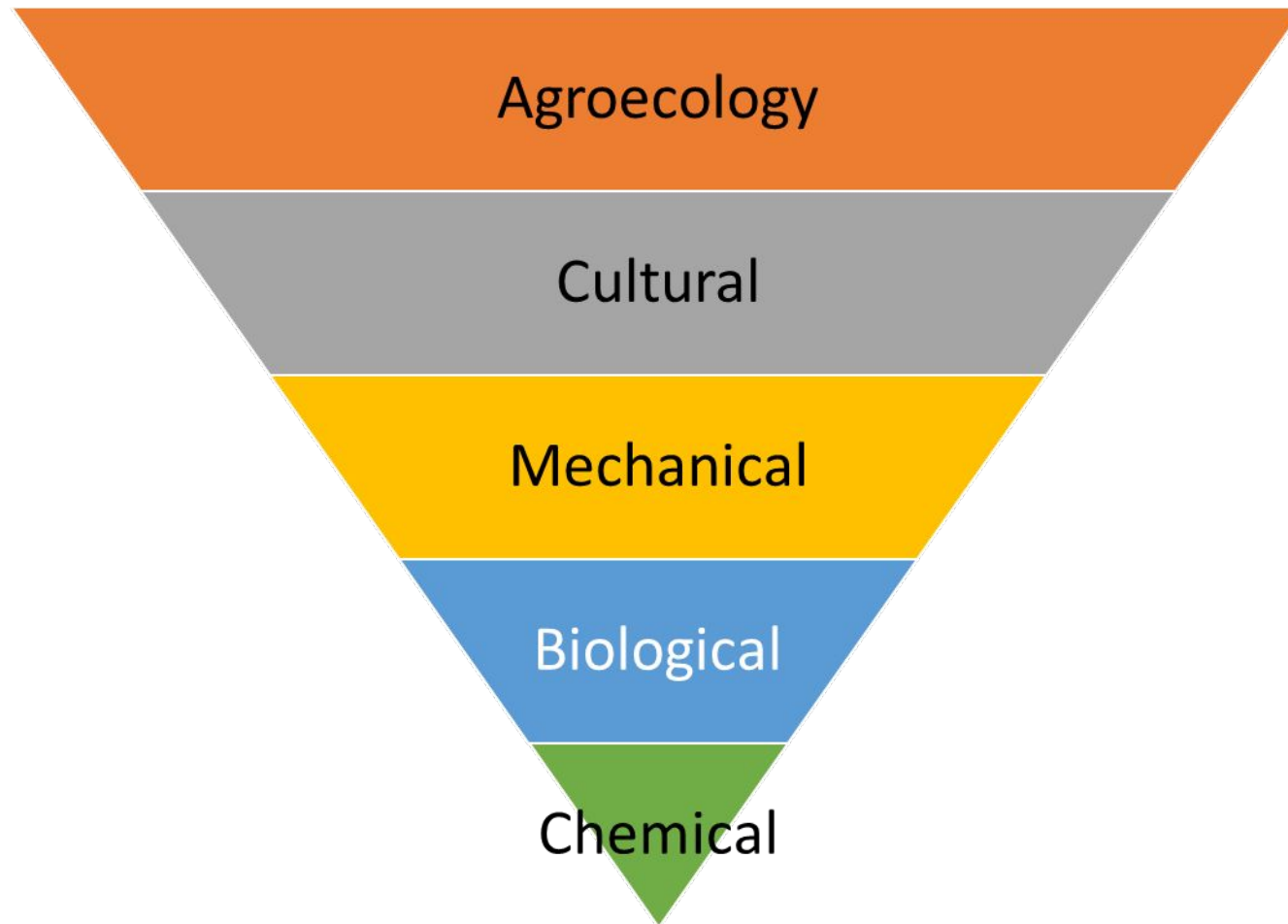
99% of the pesticide misses its target



# Holistic cropping systems



Pest Management= Solutions for  
farmers, not a catalogue of  
chemicals





The new agricultural revolution is **ecological**  
and **digital**



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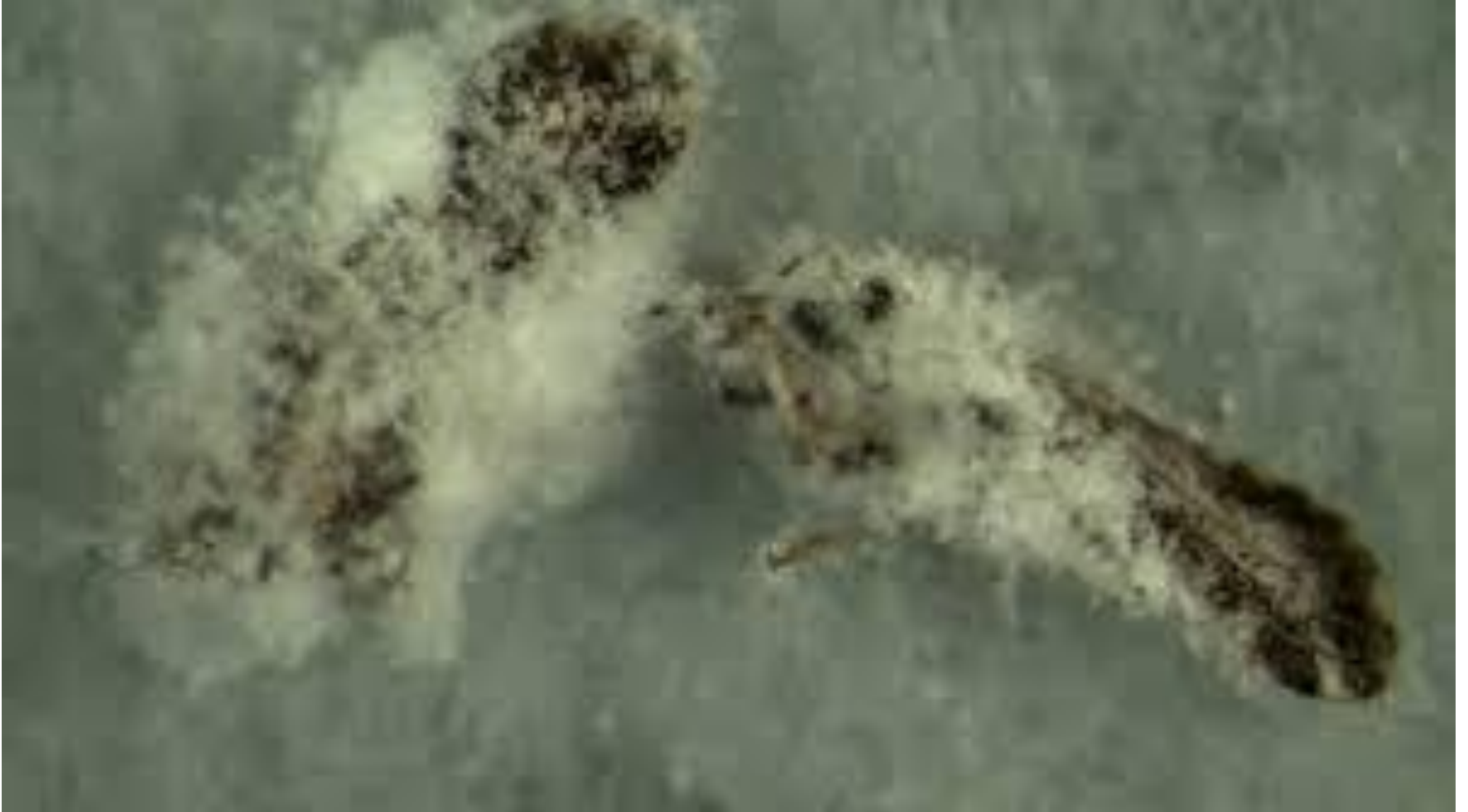


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# New Tech that Zaps Agricultural Pests with Laser Beams

The research comes as demand increases for a safe and stable food supply - without the application of chemicals - to feed the growing global population.

Published 1 year ago on January 13, 2022

By

[Juichiro Ito](#)



The new agricultural revolution is **ecological**  
and **digital**









“...We can't save the world by playing by the rules, because the rules have to be changed. Everything needs to change and it has to start today.” Greta Thunberg



*Thank you for your attention*