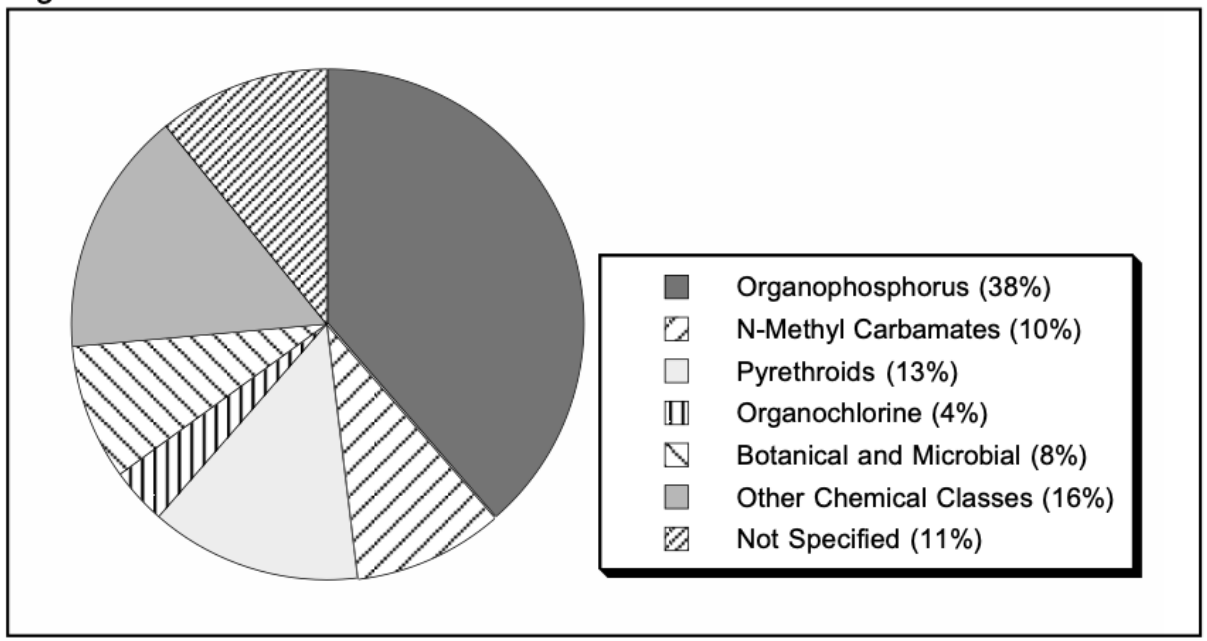
An alternative approach to substitute POP pesticides and HHPs

Lars Neumeister | pesticide expert

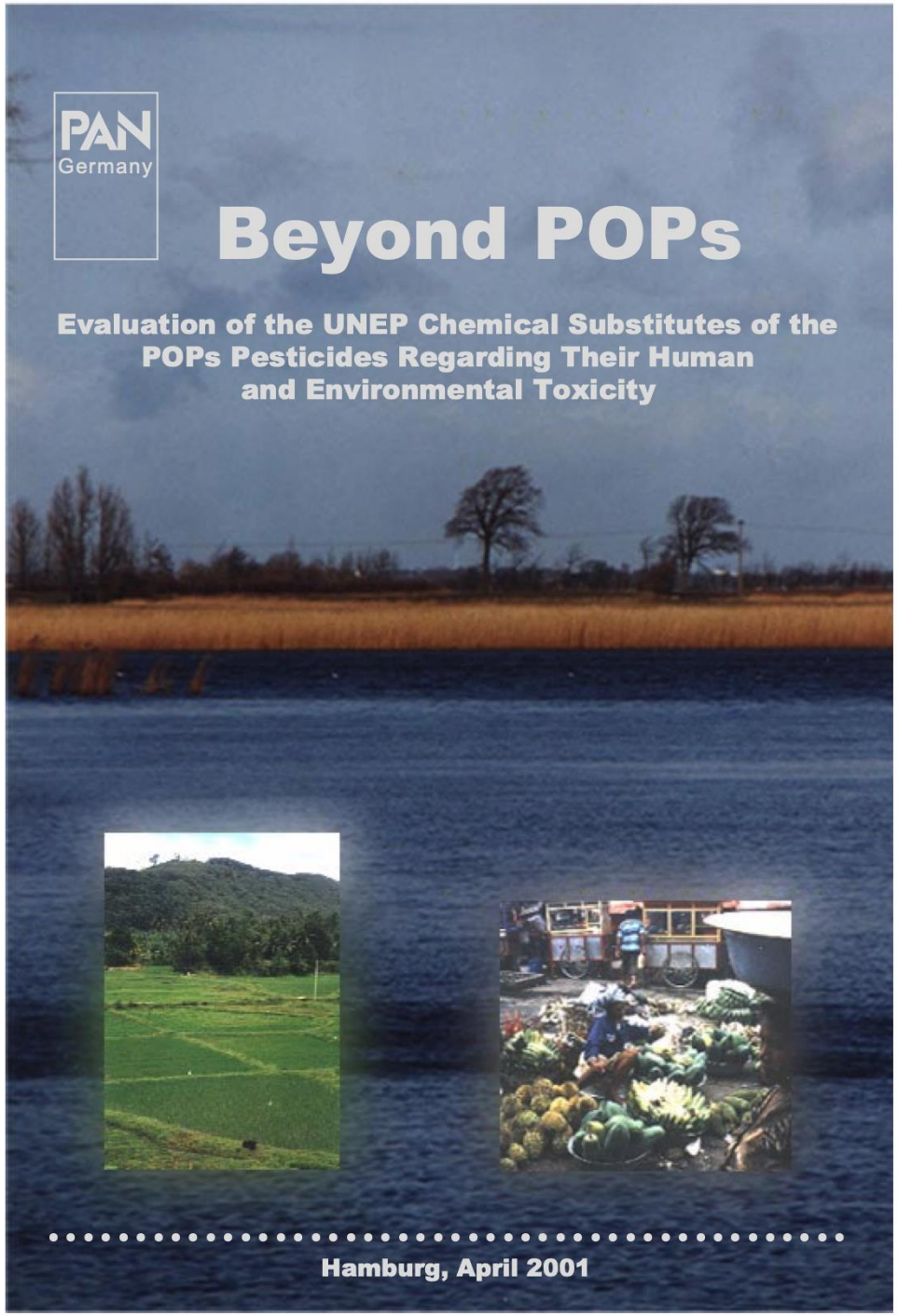
2001

Figure 1: Chemical Classes of the 84 Substitutes



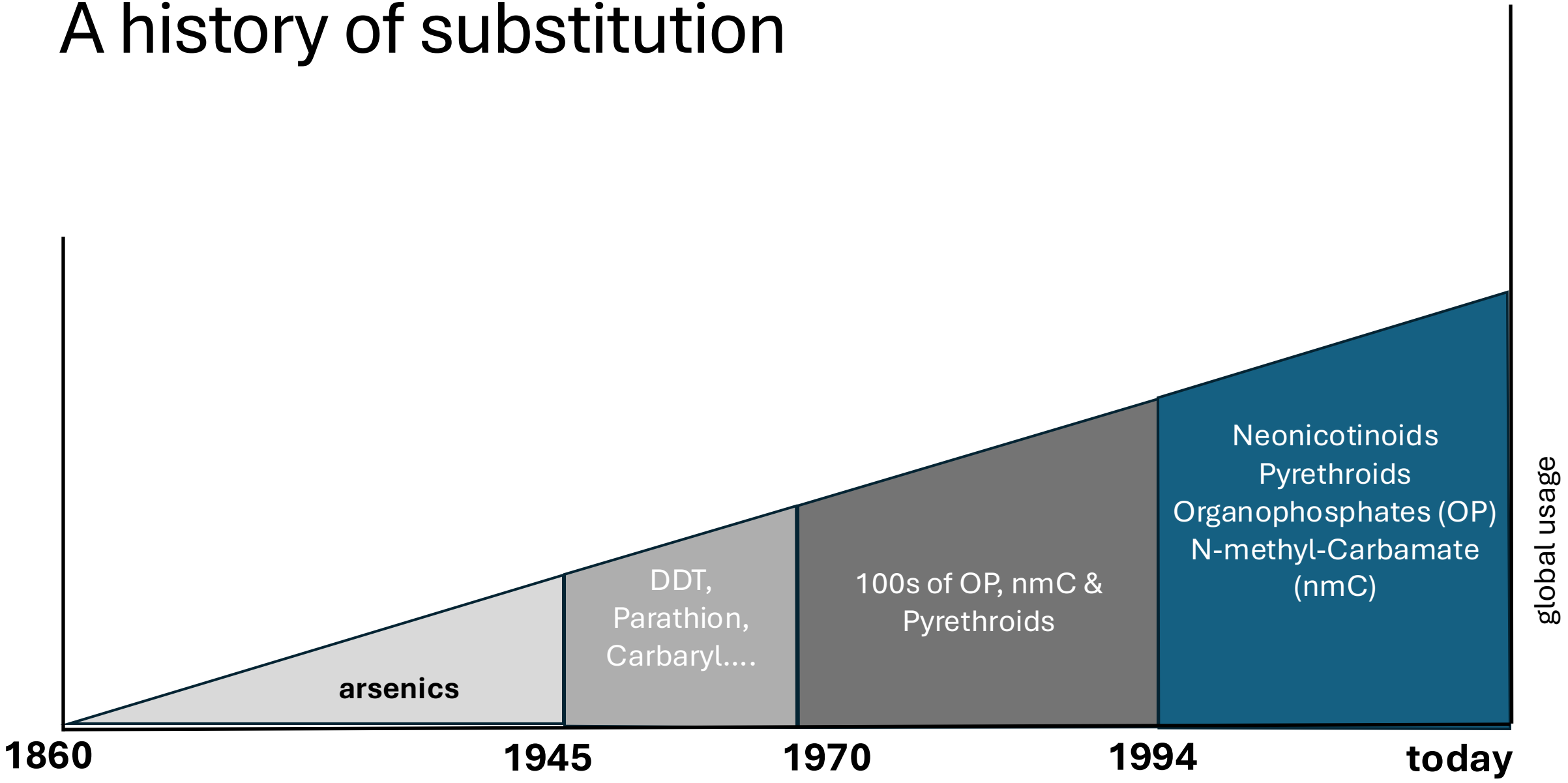
some UNEP „*alternatives*“ to POPs in 2001:

sulfluramide, chlorpyrifos, lindane, monocrotophos

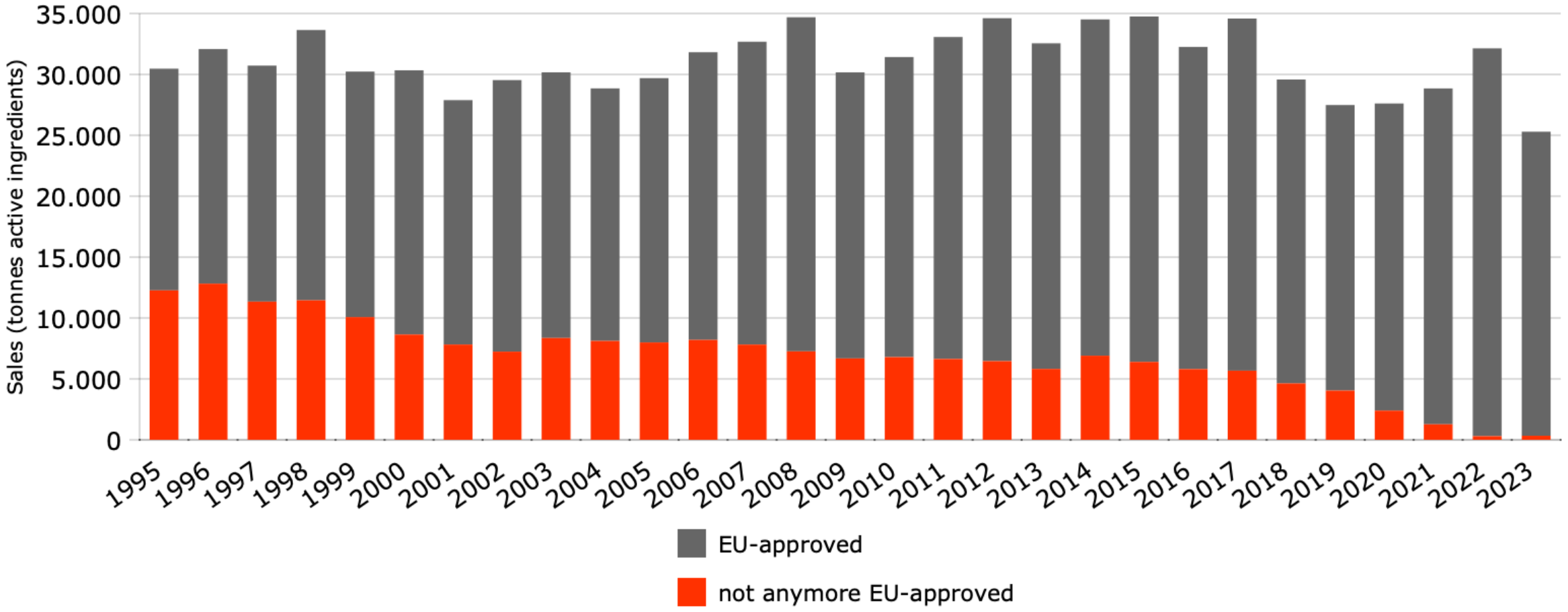


https://www.pan-germany.org/download/beyond-pops.pdf

A history of substitution



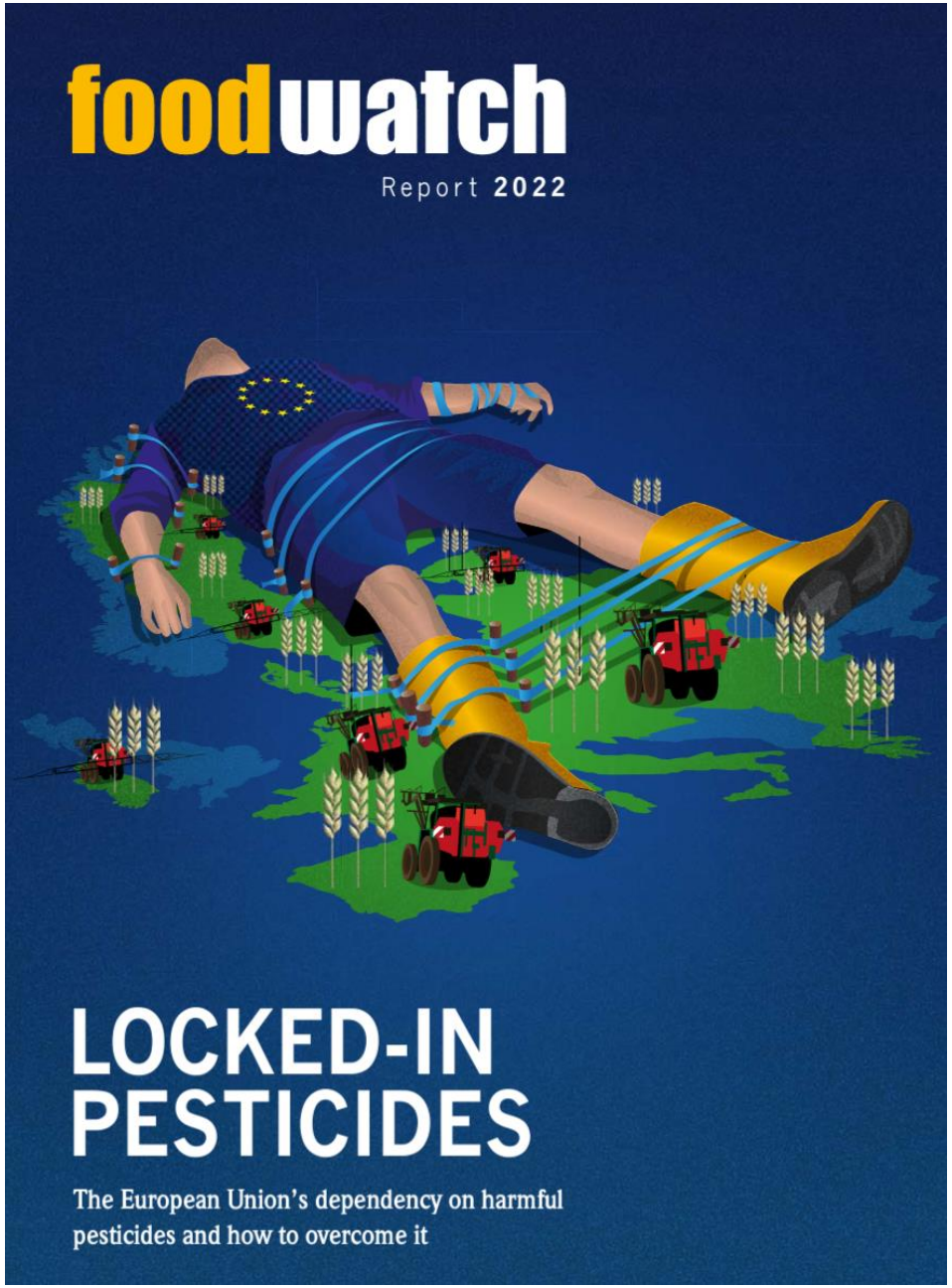
Example Germany:



Created from governmental sales data (by pesticide) linked with the EU authorization status of each pesticide.

1. Conclusion

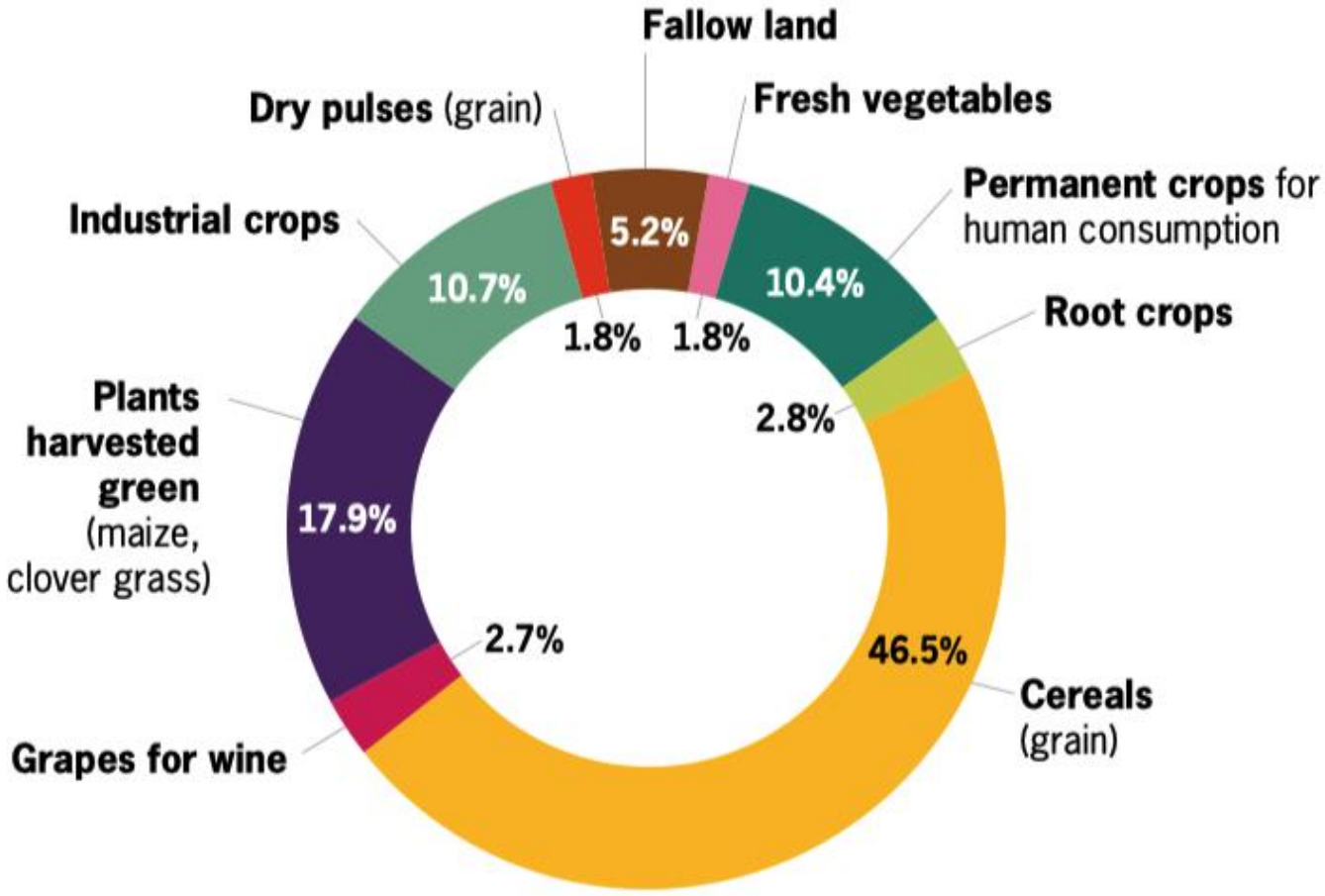
- conventional farmers always substitute one prohibited chemical with the next chemical
- **LOCK-IN**
- pesticides are not (anymore) a defence against „plagues“ – they are a key tools in *a* ***economic and environmental race to the bottom***



https://www.foodwatch.org/en/locked-in-pesticides-europes-dependency-on-harmful-pesticides-and-how-to-overcome-it

Escaping the „lock-in“

A crop-by-crop approach



EU crop distribution on arable land

Cereals and „maize on EU arable land = 64% > 50-60% of the pesticide use

Unser Ziel: bis 2023 gänzlich pestizidfrei

Der Weizenanbau ganz ohne Pestizide ist eine grosse Herausforderung für die landwirtschaftlich Beschäftigten und die Verarbeiter*innen.

MEHR ERFAHREN >

MIGROS

On farm level....

Insecticides (11%)

functional biodiversity

spatial heterogenity

adjustment of sowing time (arable crop)

Herbicides (49%)

wider crop rotation incl. intercropping

mechanical weeding

Fungicides (34%)

wider crop rotation incl. intercropping

spatial heterogenity incl. mixed variety cropping

resistant varieties

reduction of N-fertilization

Growth Regulators (5%)

reduction of N-fertilization

choice of varieties

pesticide tax

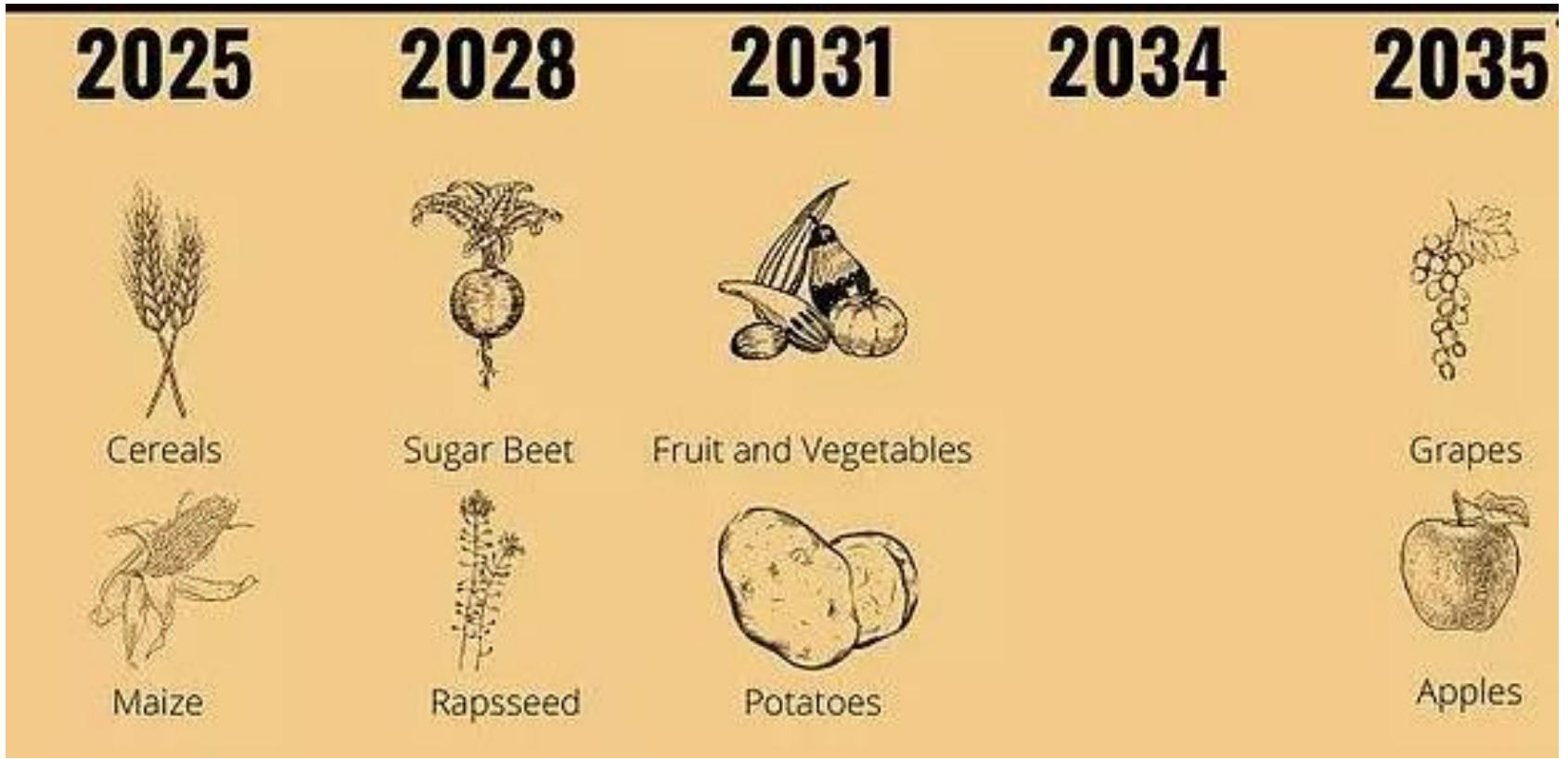
CO_2 price €180/ton

redirection of subsidies

withdrawal of authorizations - HHP first

change of belief system

international agreement on *fair* agricultural trade



Development of a crop-by crop approach

Key questions:

- What **large scale** crops could be grown ***rather easily*** without pesticide use?
- What prevents farmers from doing so?
- How can obstacles be removed?
  - What is the belief system preventing change?
  - What could be positive & negative incentives?

*for fresh consumption, export

*“The science is good. The solutions are known. What is required is the courage to act at the scale and speed that history demands“**

Thank you very much

*Professor Edgar Gutiérrez-Espeleta in The Guardian refering to the 7th UNEP GEO Assessment
https://www.theguardian.com/environment/2025/dec/09/food-fossil-fuel-production-5bn-environmental-damage-an-hour-un-geo-report-