Lessons learnt from the French and European experiences

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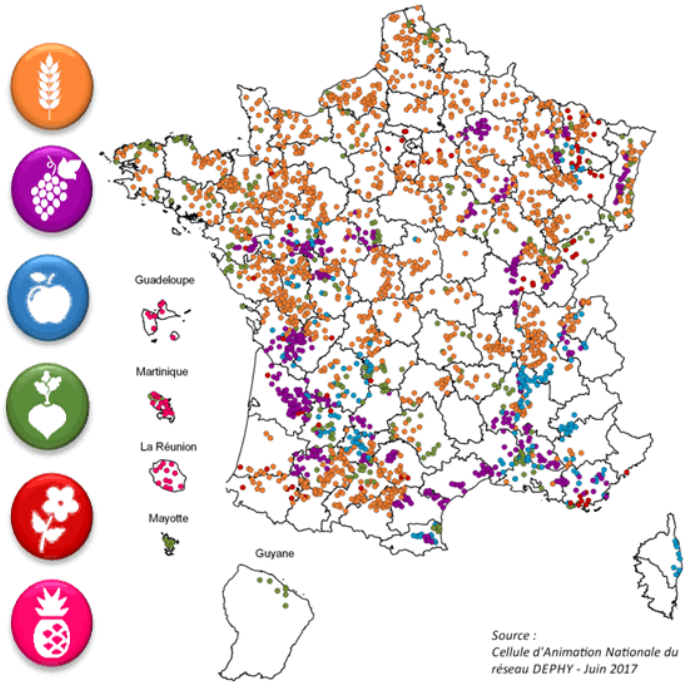
SYTRA

An ambitious plan : Ecophyto

ÉCOPHYTO
RÉDUIRE ET AMÉLIORER L'UTILISATION DES PHYTOS



2009-2014
361
millions €

2008-2018
-50 %
of pesticide use

3000
Reference farms

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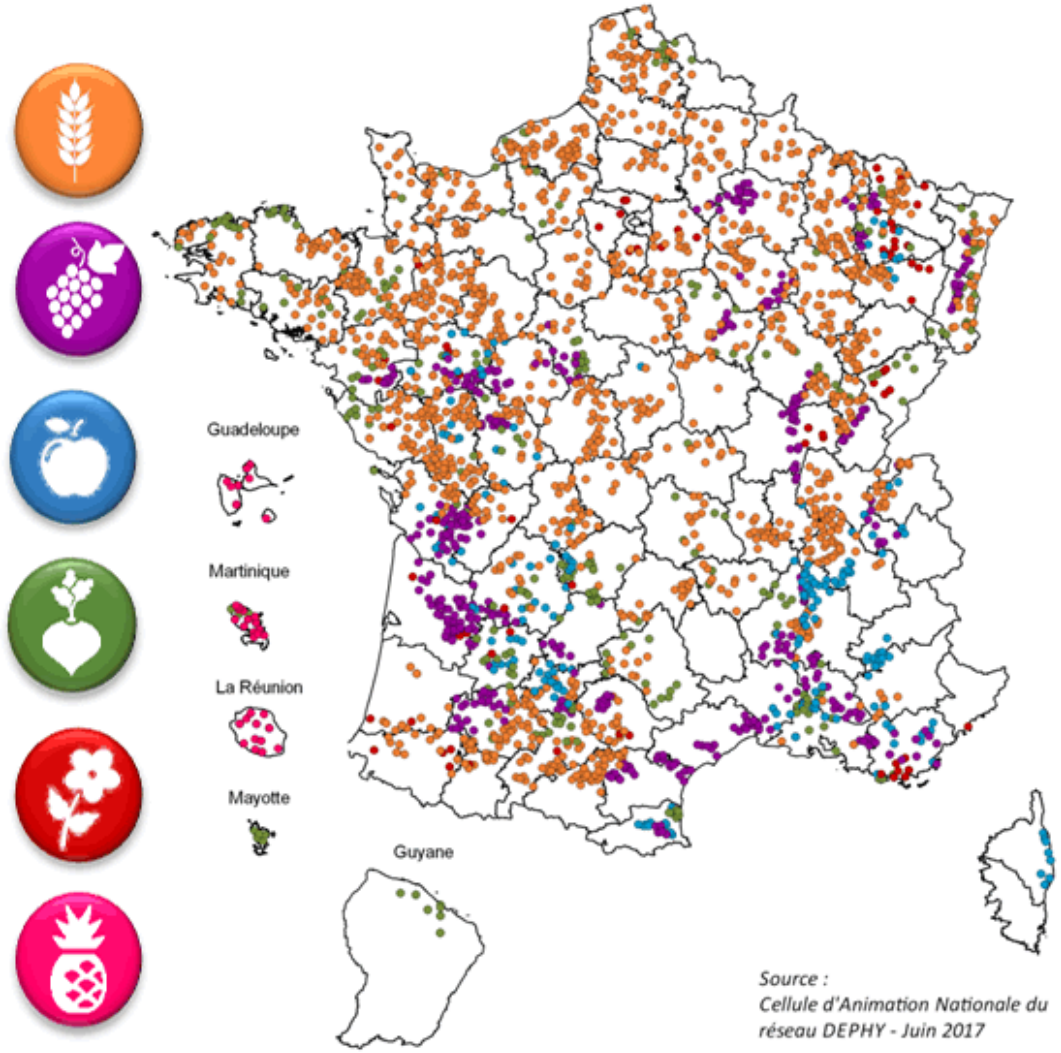
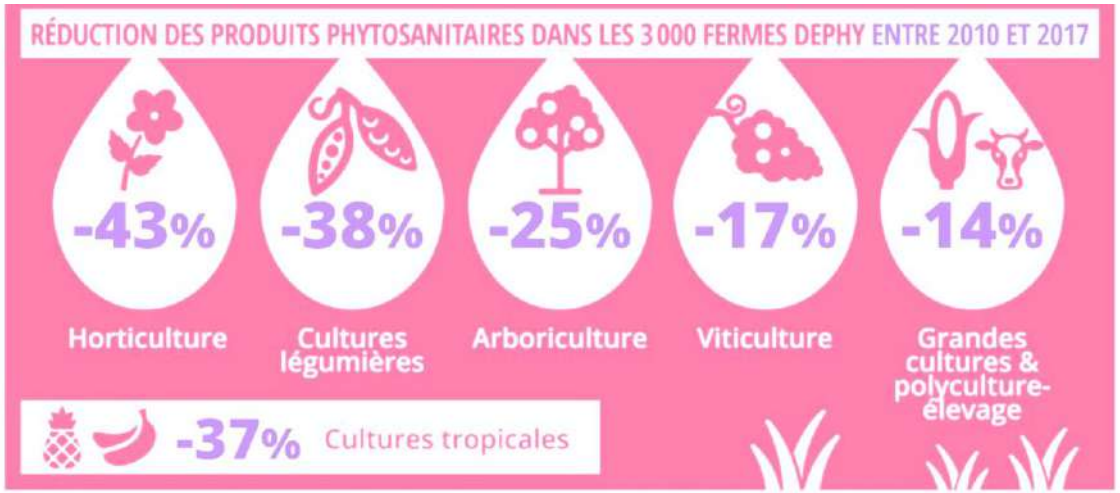
Ecophyto : a success in reference farms





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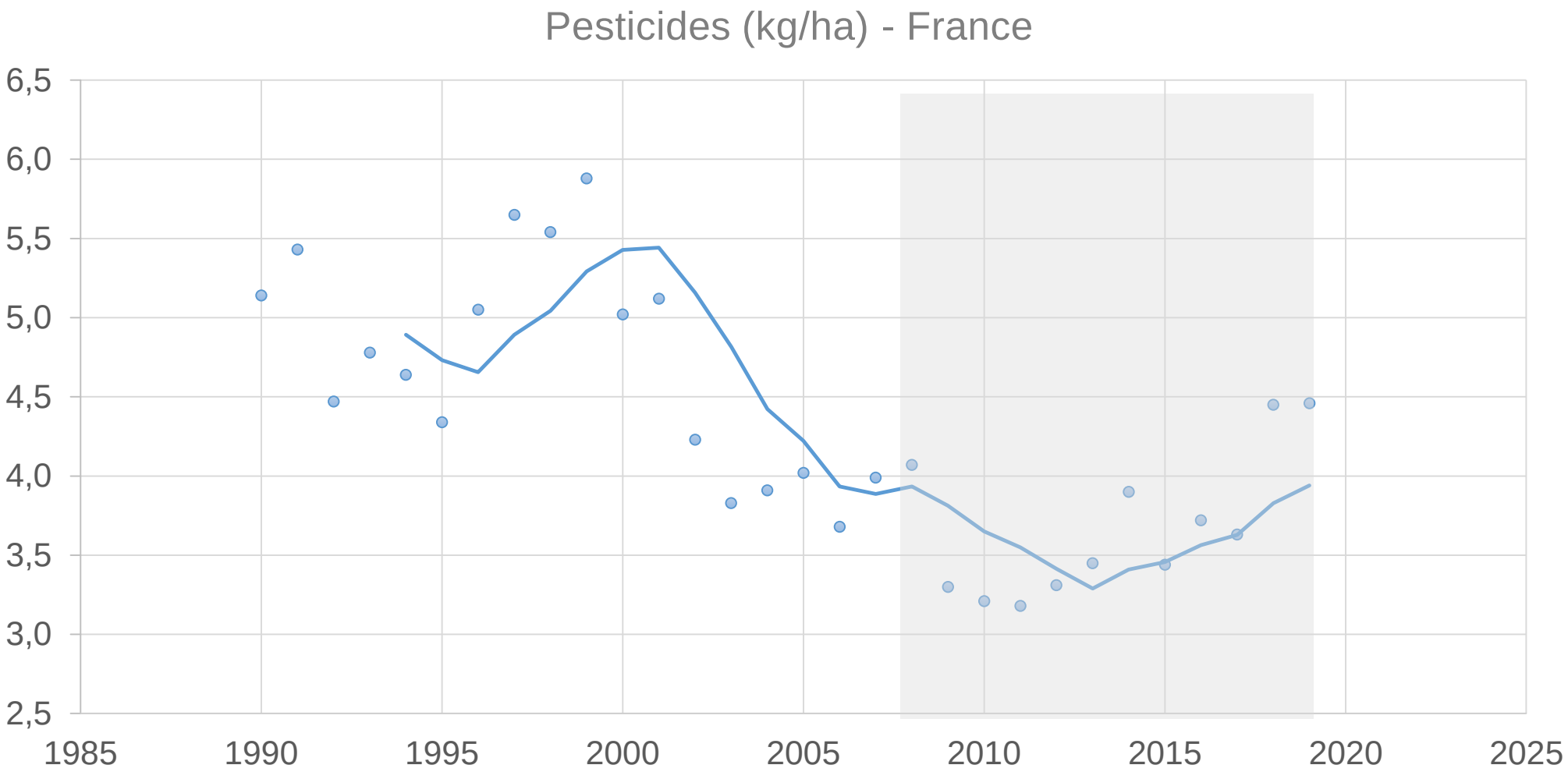
A long term positive pathway of pesticide use



Source : FAOstat

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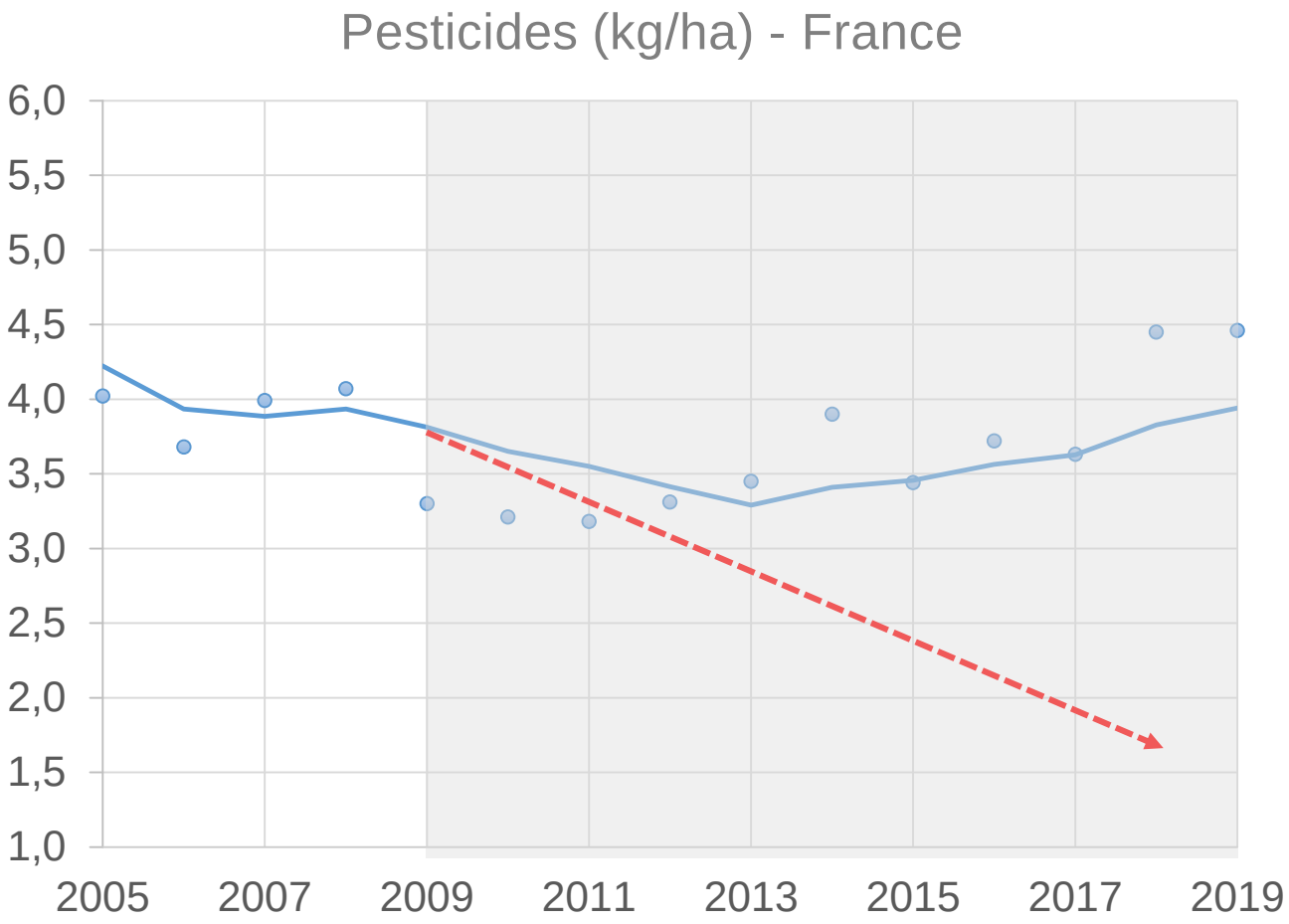
Ecophyto : a global failure



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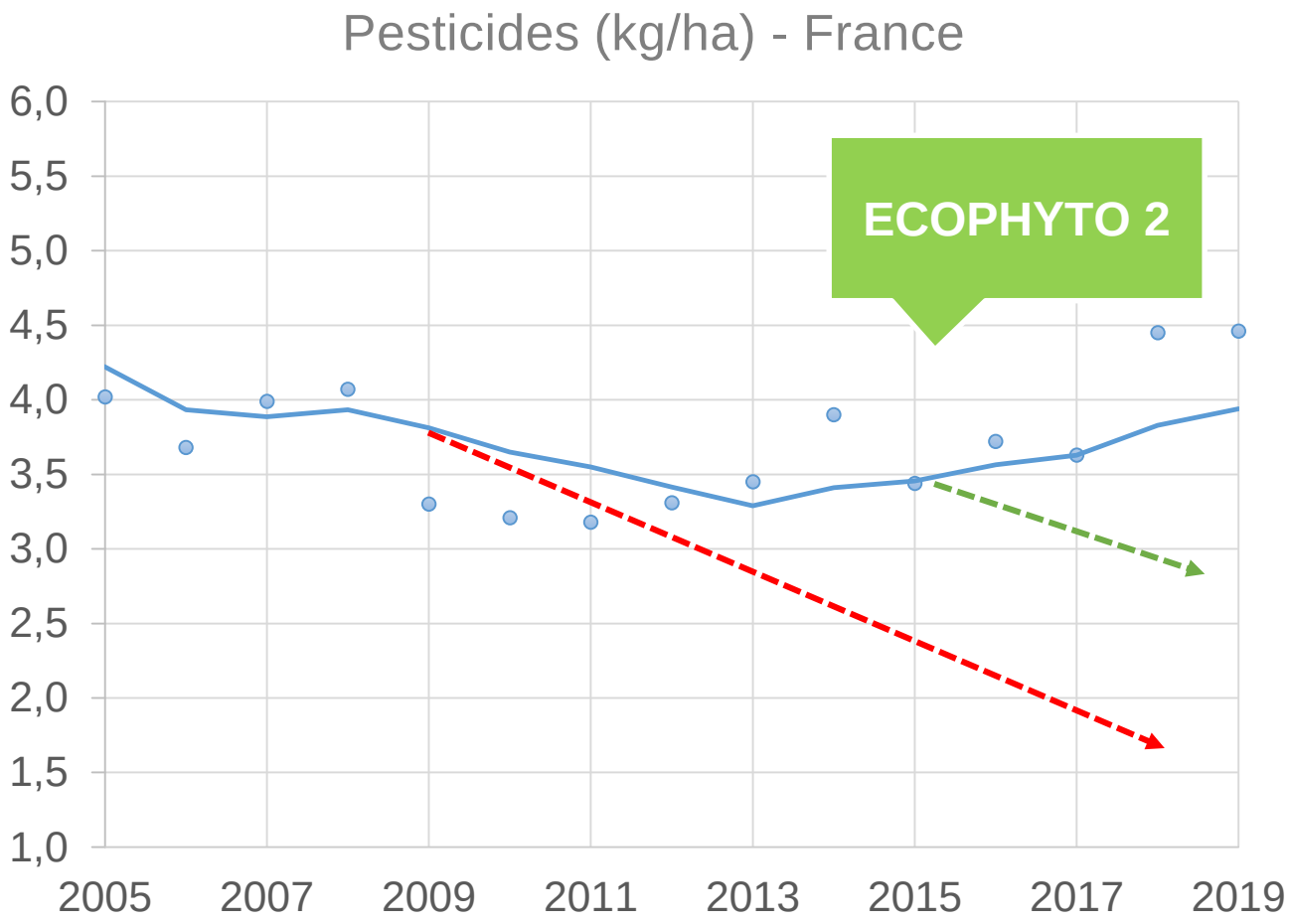
Ecophyto : a global failure – Season 2



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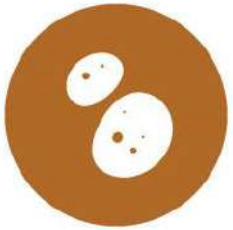
The choice of crops wiped out the gain in practices

The winners

Acreage + 96 %

NODU 3.8



Acreage + 12 %

NODU 18.1

Acreage + 8 %

NODU 4.3

Acreage + 7 %

NODU 3.8

2009 -> 2016

A quantitative explanation

The loosers

Impact

Acreage -3 %

NODU 0

Acreage -18 %

NODU 1.7

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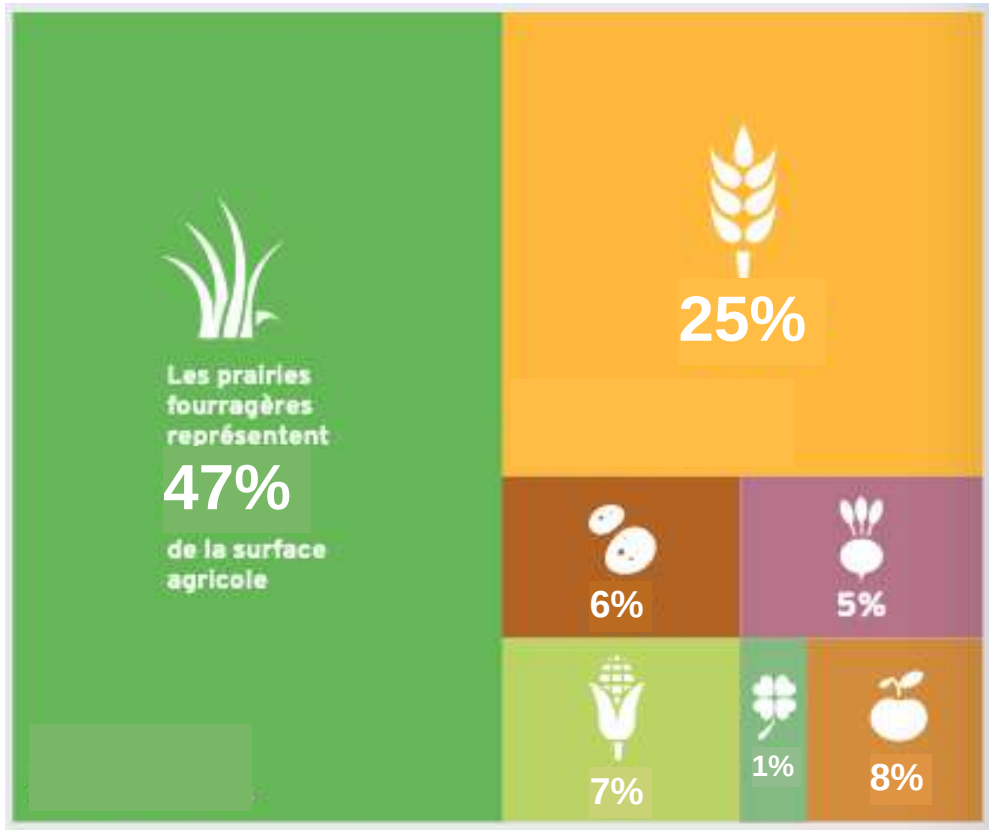
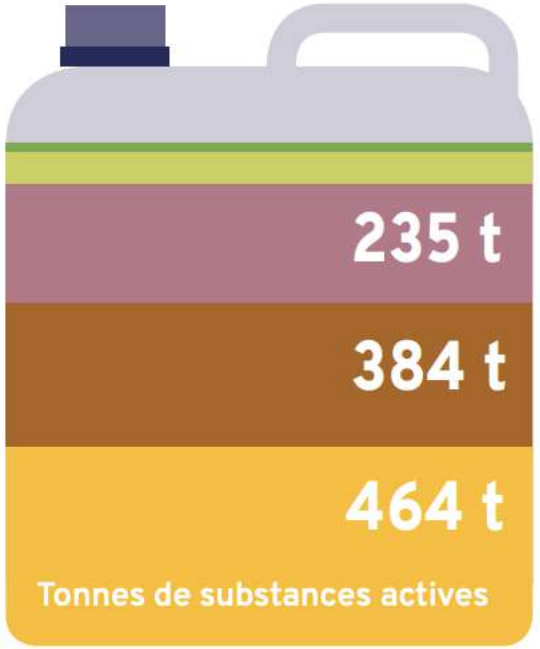
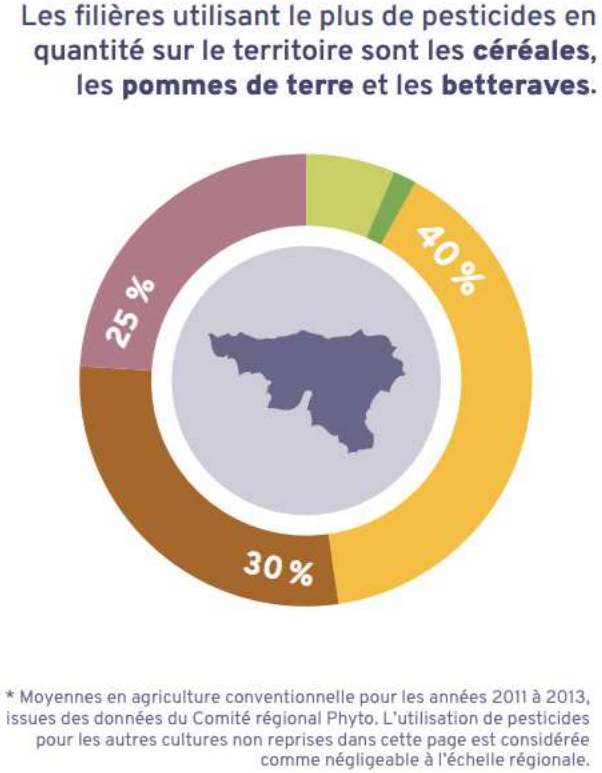
A stop over in Belgium
Potato + beets = 10 % acreage, 55 % pesticides ..







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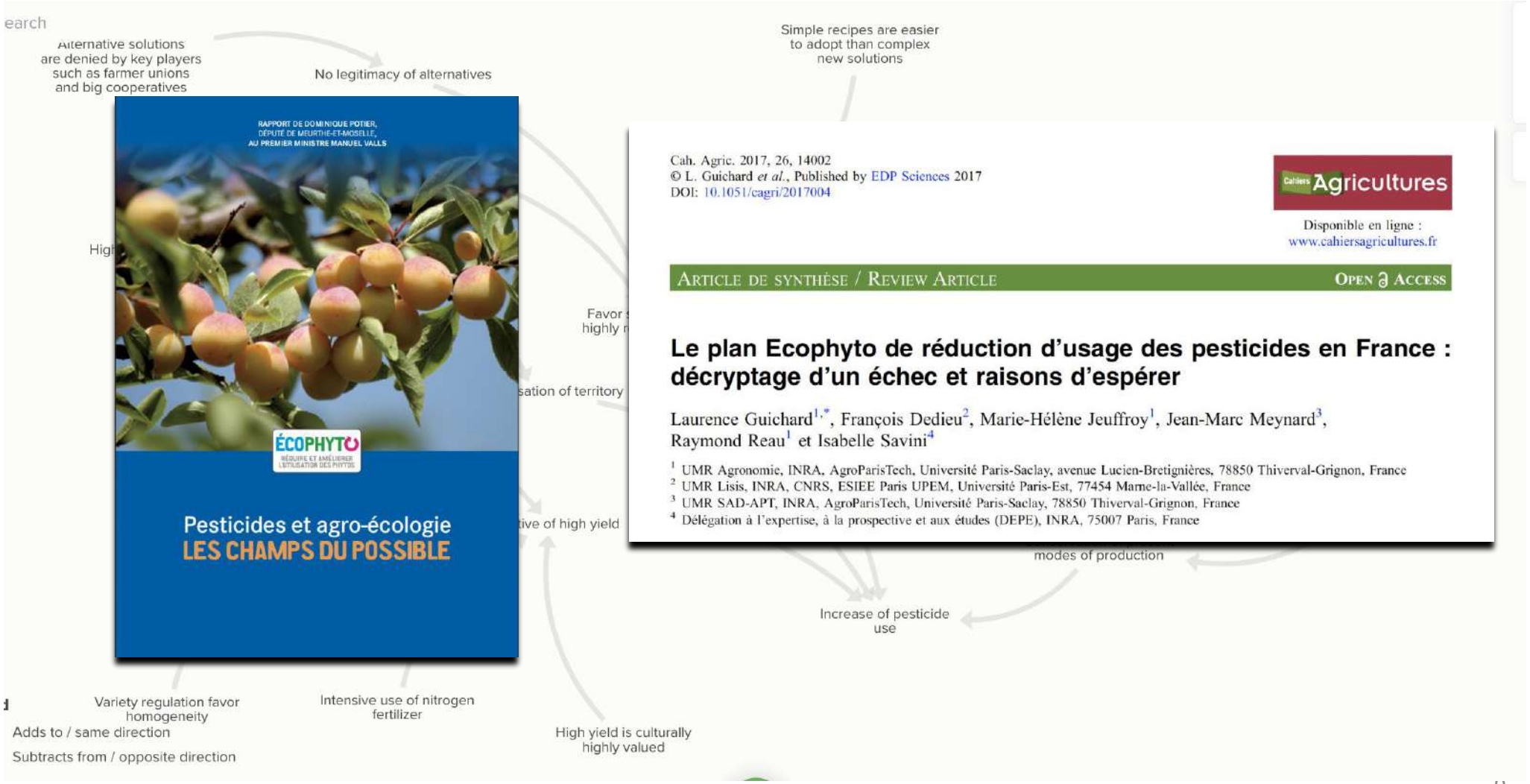
A systemic assesment of lock-ins



Cah. Agric. 2017, 26, 14002
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DOI: 10.1051/cagri/2017004

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ARTICLE DE SYNTHÈSE / REVIEW ARTICLE — OPEN ACCESS

Le plan Ecophyto de réduction d'usage des pesticides en France : décryptage d'un échec et raisons d'espérer

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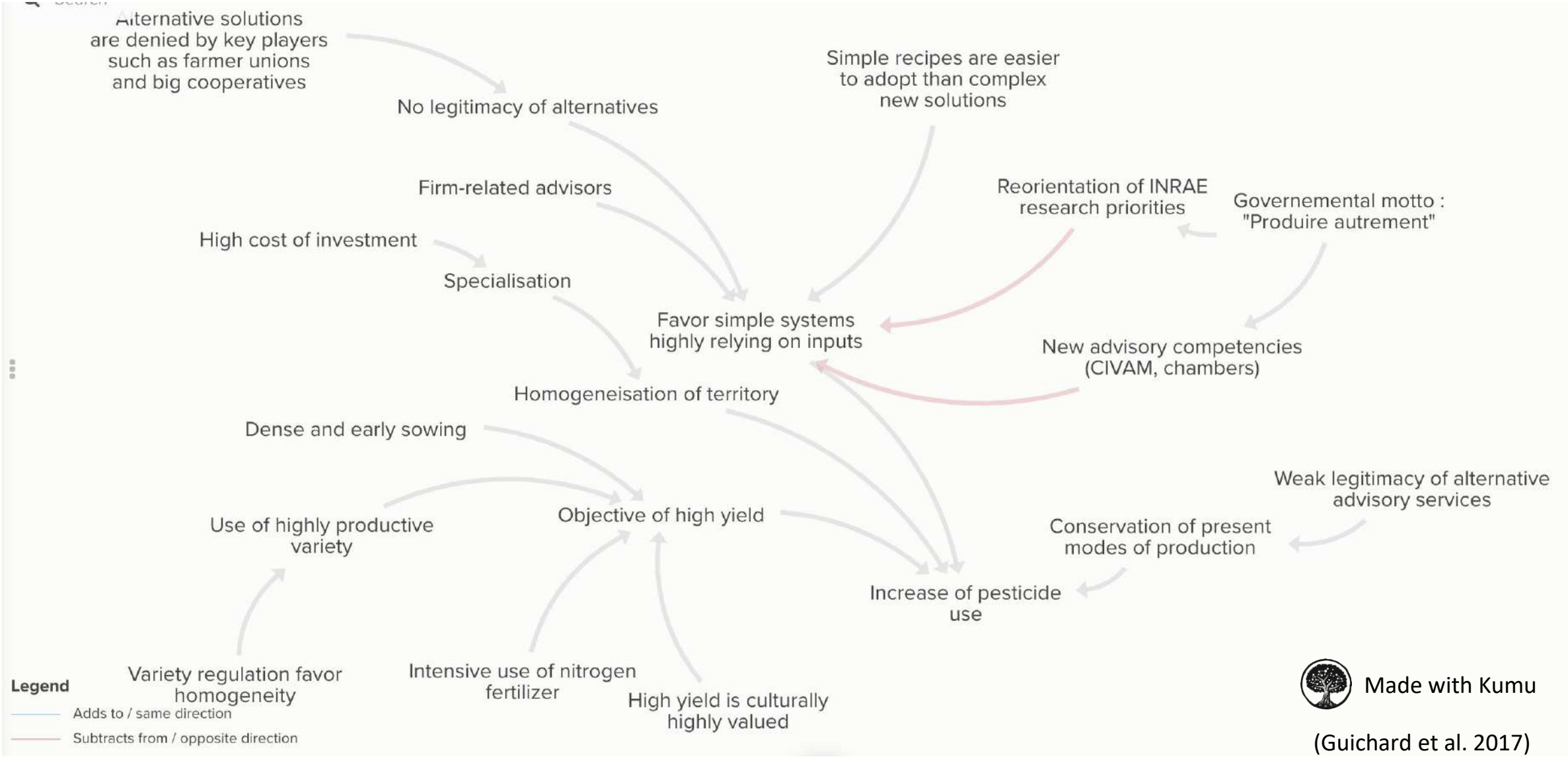
System is locked-in



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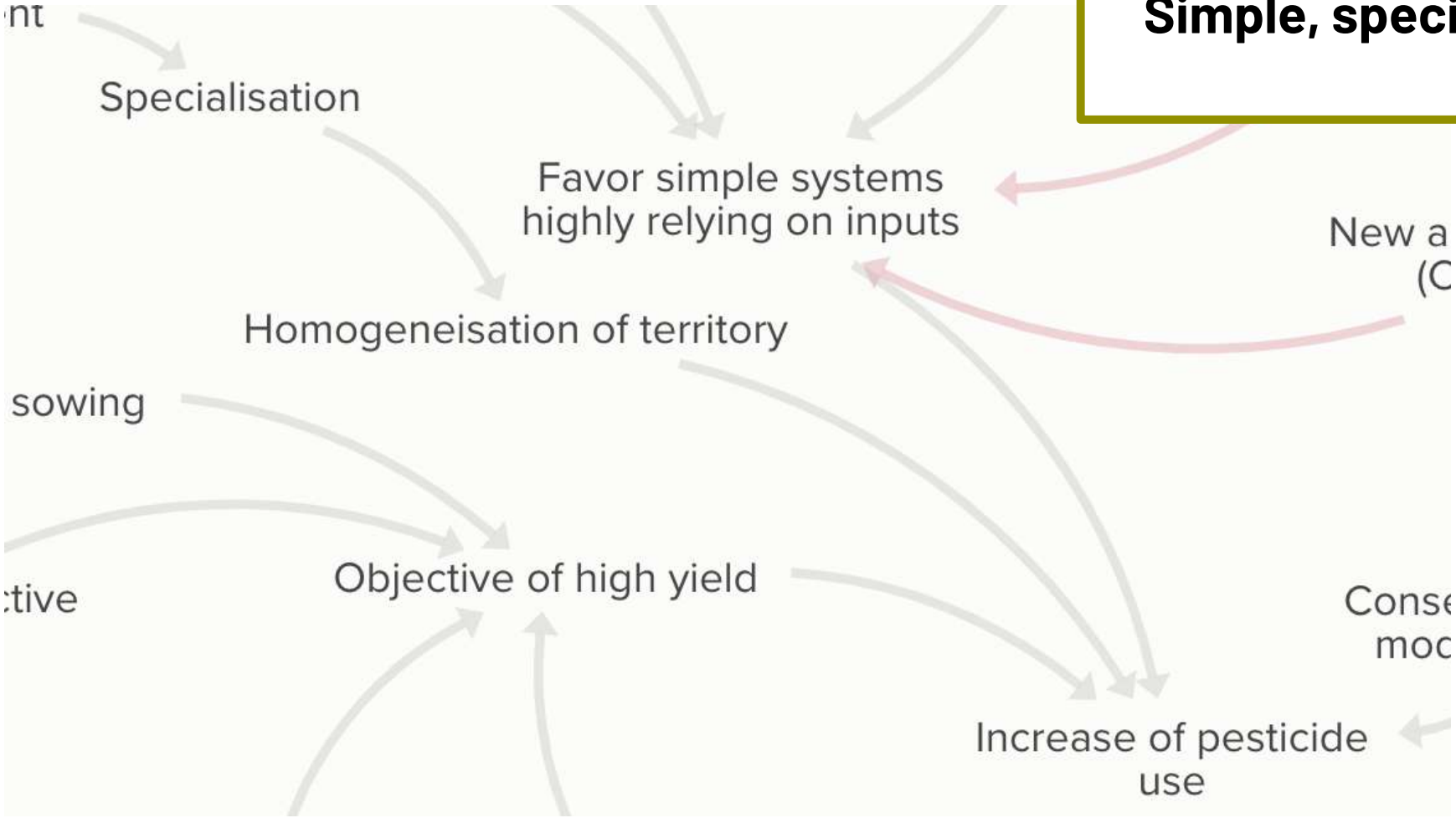
(Guichard et al. 2017)

System is locked-in

The core of the system

Simple, specialized, productive



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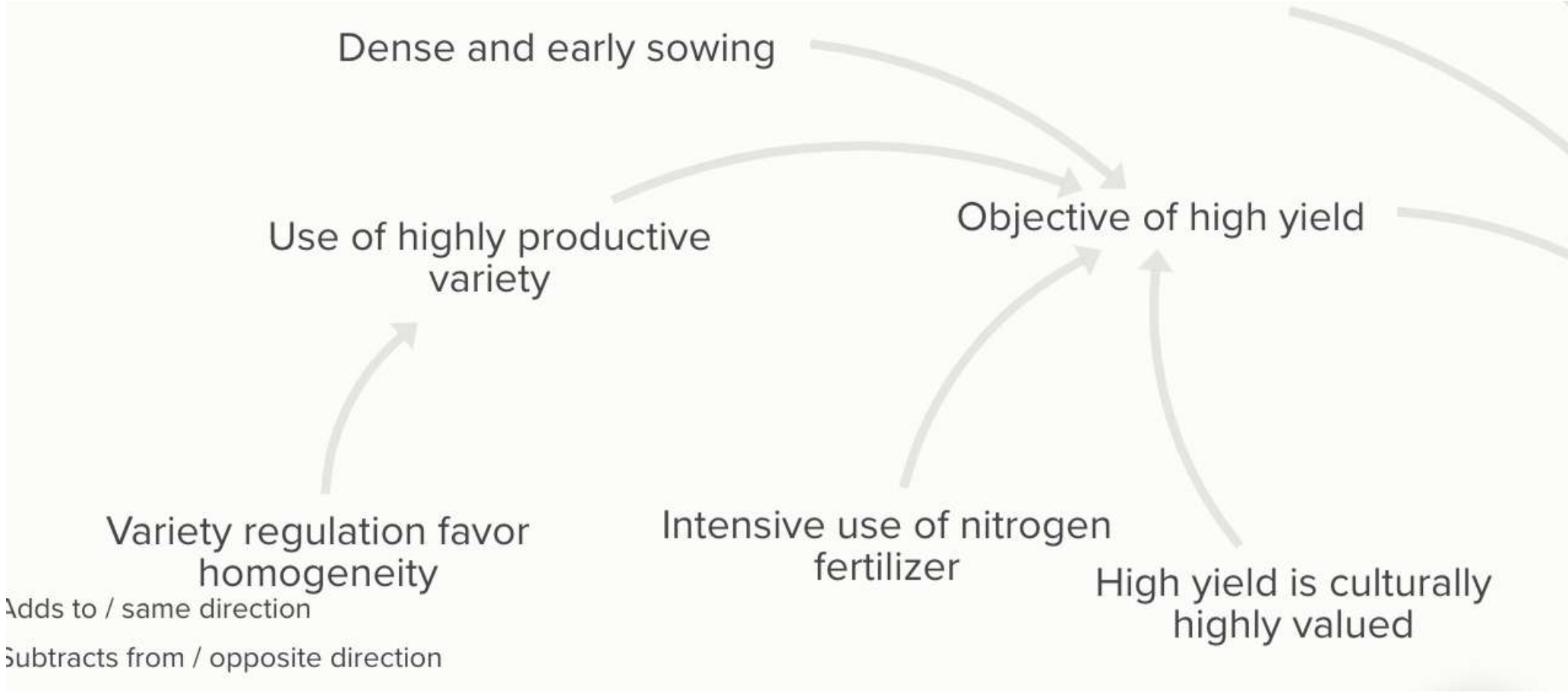
System is locked-in

Yield, the single objective



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System is locked-in

Research

From simple recipes to complex solutions

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System is locked-in

Advisory

Path dependency and conflicts of interest

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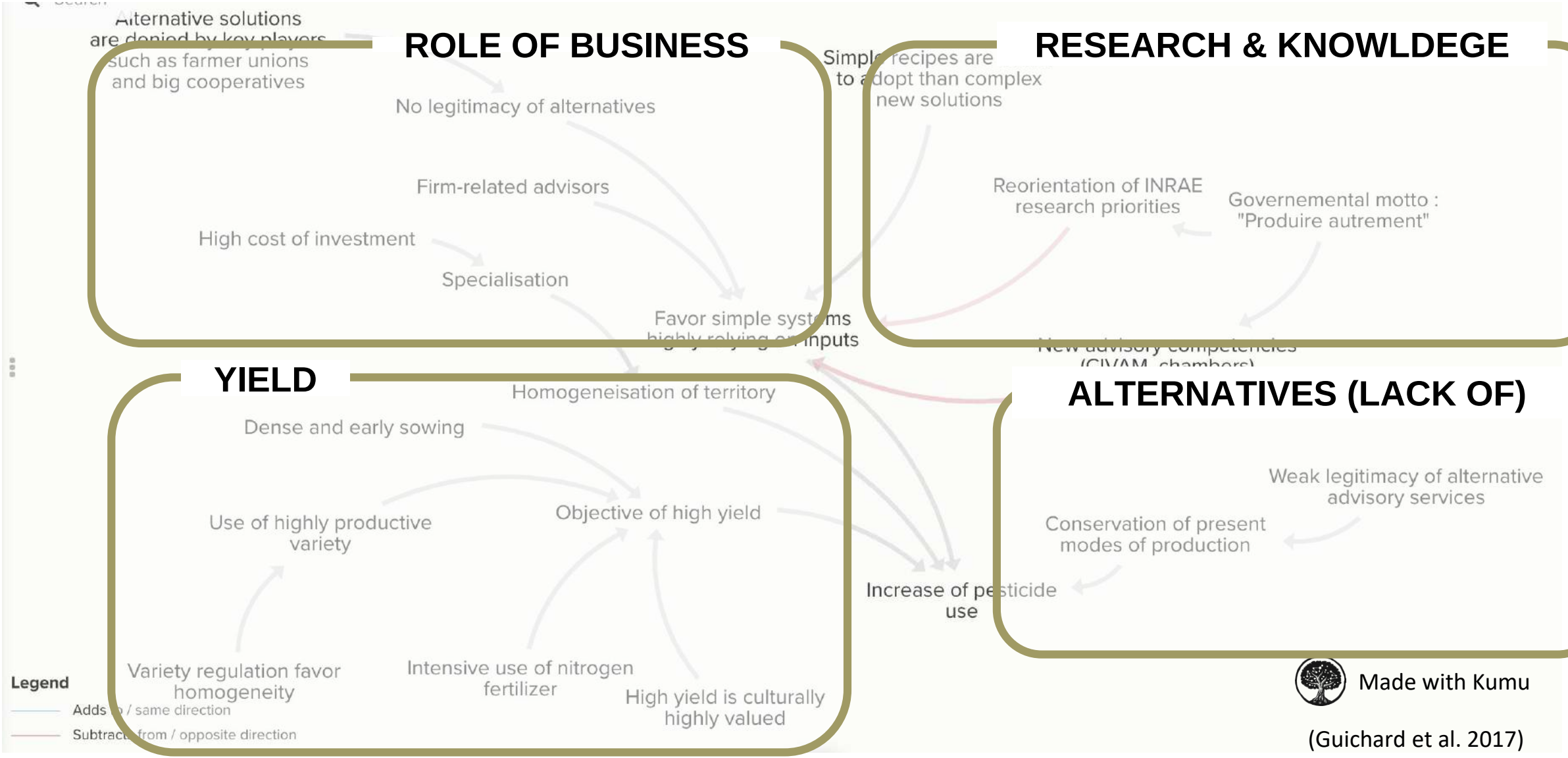
System is locked-in



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(Guichard et al. 2017)

Unlock the system ?

Photo by Markus Winkler on Unsplash

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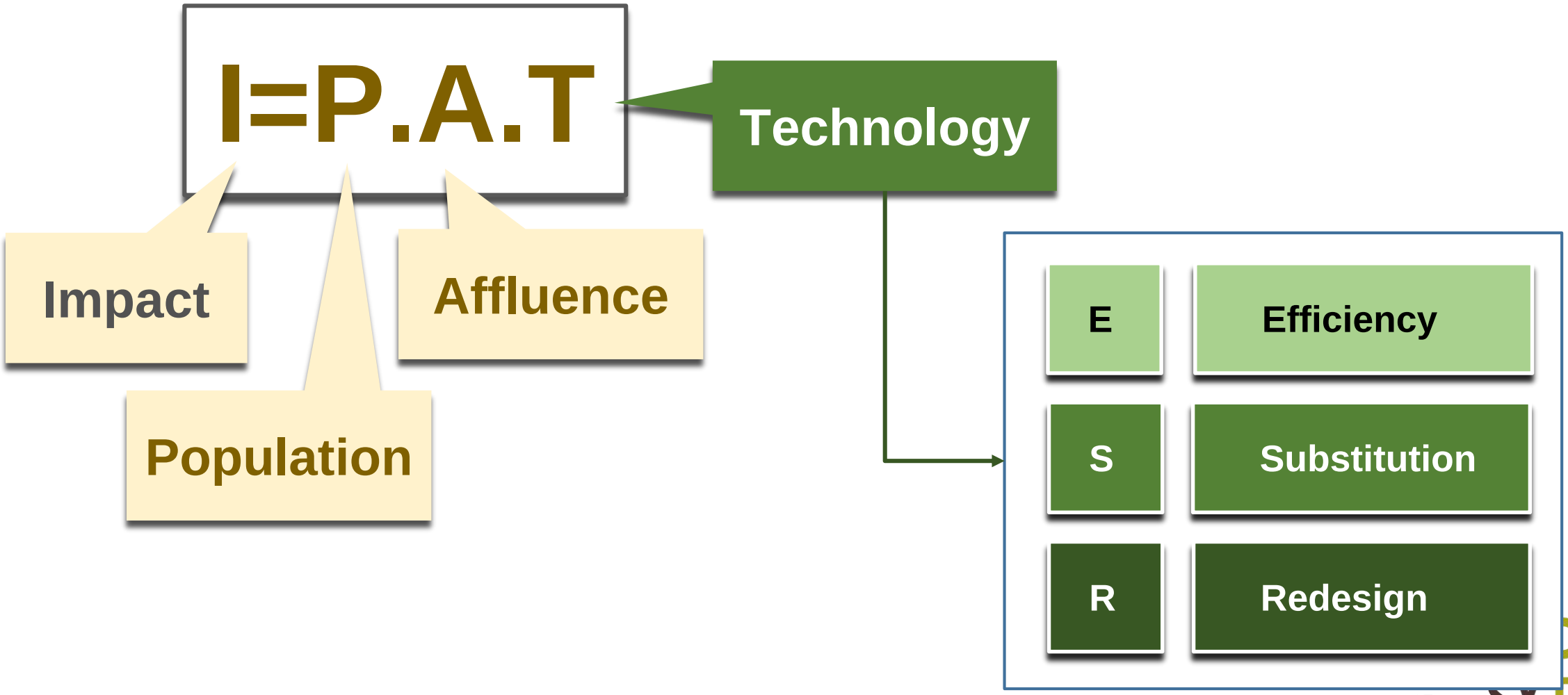
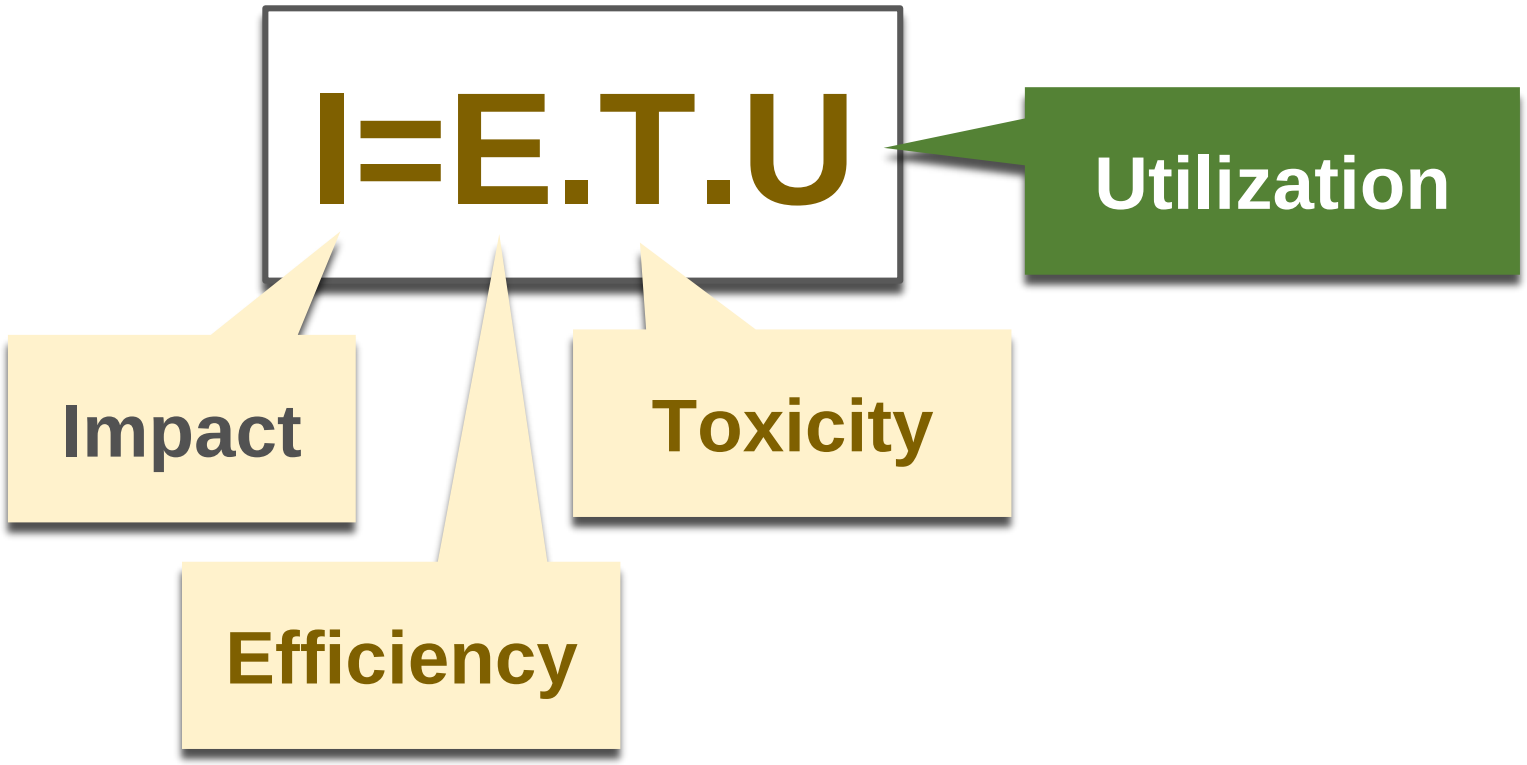
Modeling the impact and the technology transitions



Modeling the impact of pesticides



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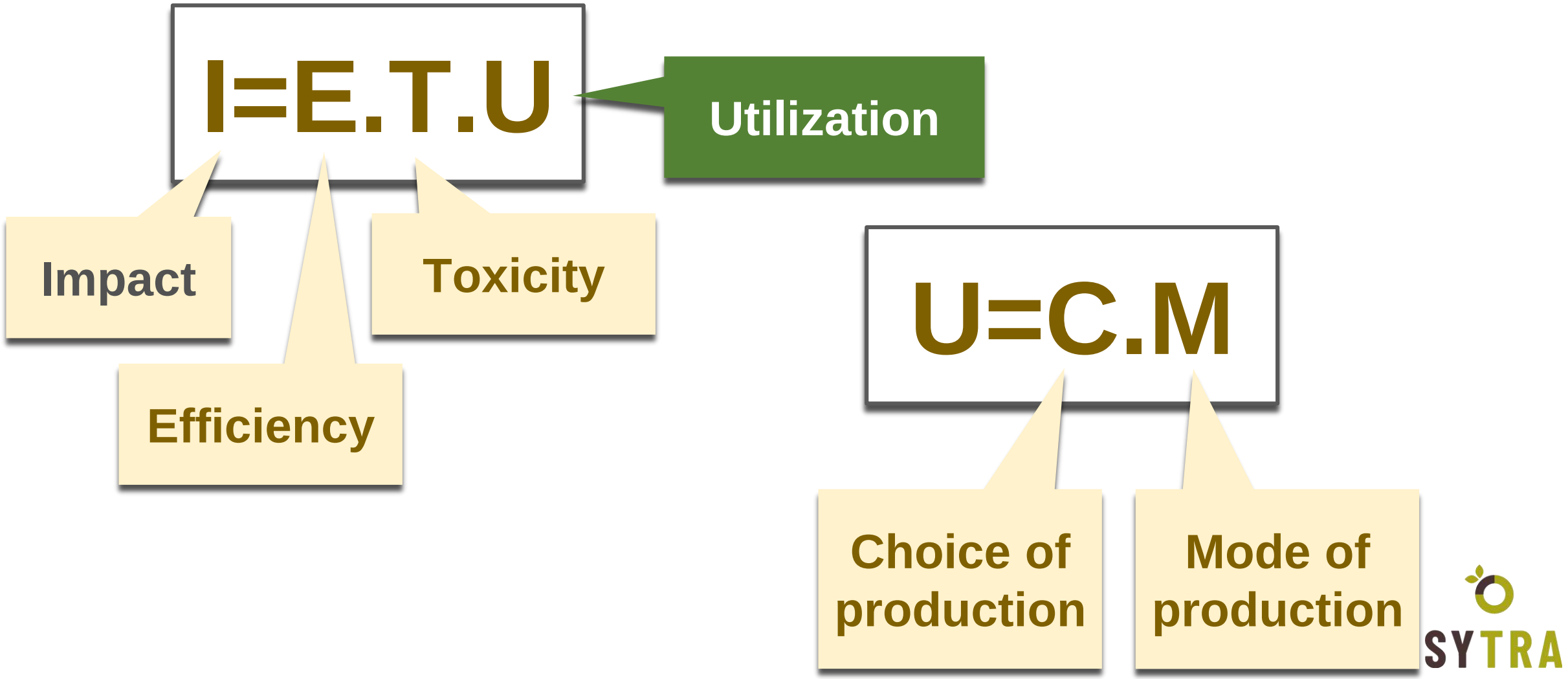
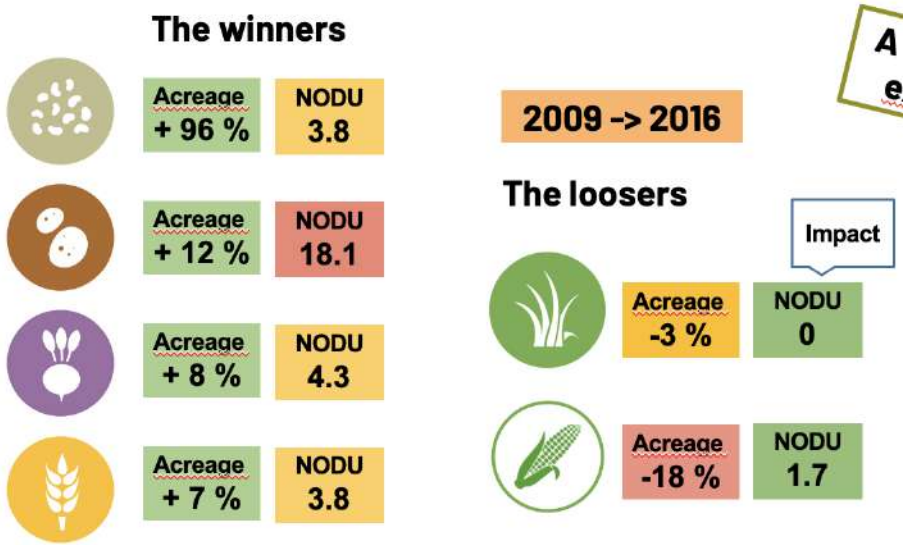


Modeling the impact of pesticides



U=C.M

Choice of production

Method of production

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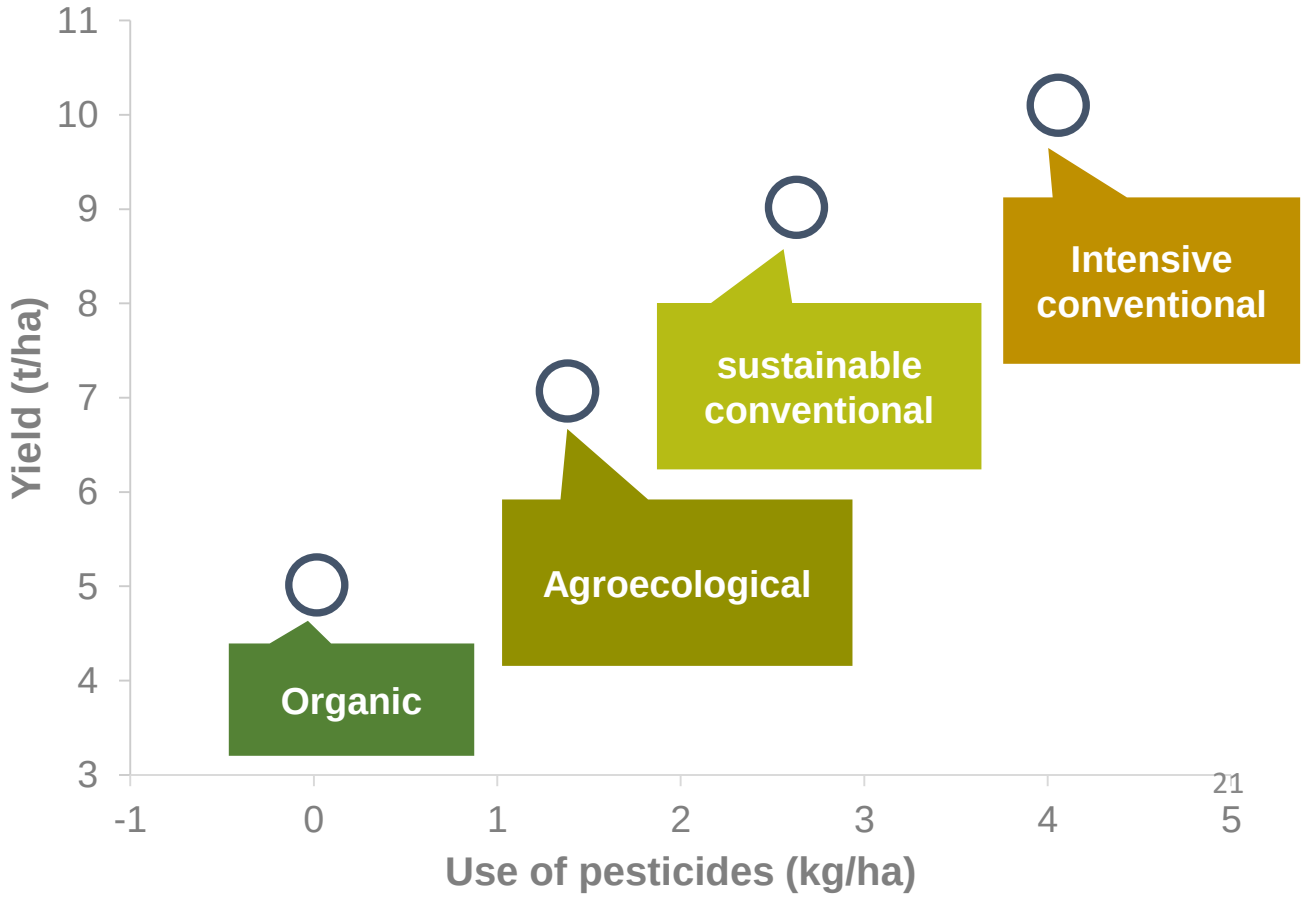
Methods of cultivation of cereals - Belgium

Methods of production

	Production	Engrais azotés			Produits P.P.	
	Rendement moyen interannuel	N minéral	N organique	N total	Traitements	Quantité de s. a.
	t/ha	kg N/ha	kg N/ha	kg N/ha	Nombre/an	kg/ha.an
Agriculture biologique	5	0	60	60	0	0
Agriculture écologiquement intensive	7	165	30	195	2	1,3
Agriculture conventionnelle raisonnée	9	175	20	195	4	2,6
Agriculture conventionnelle intensive	10	185	10	195	6	4,0



(Antier, Petel, and Baret 2017)

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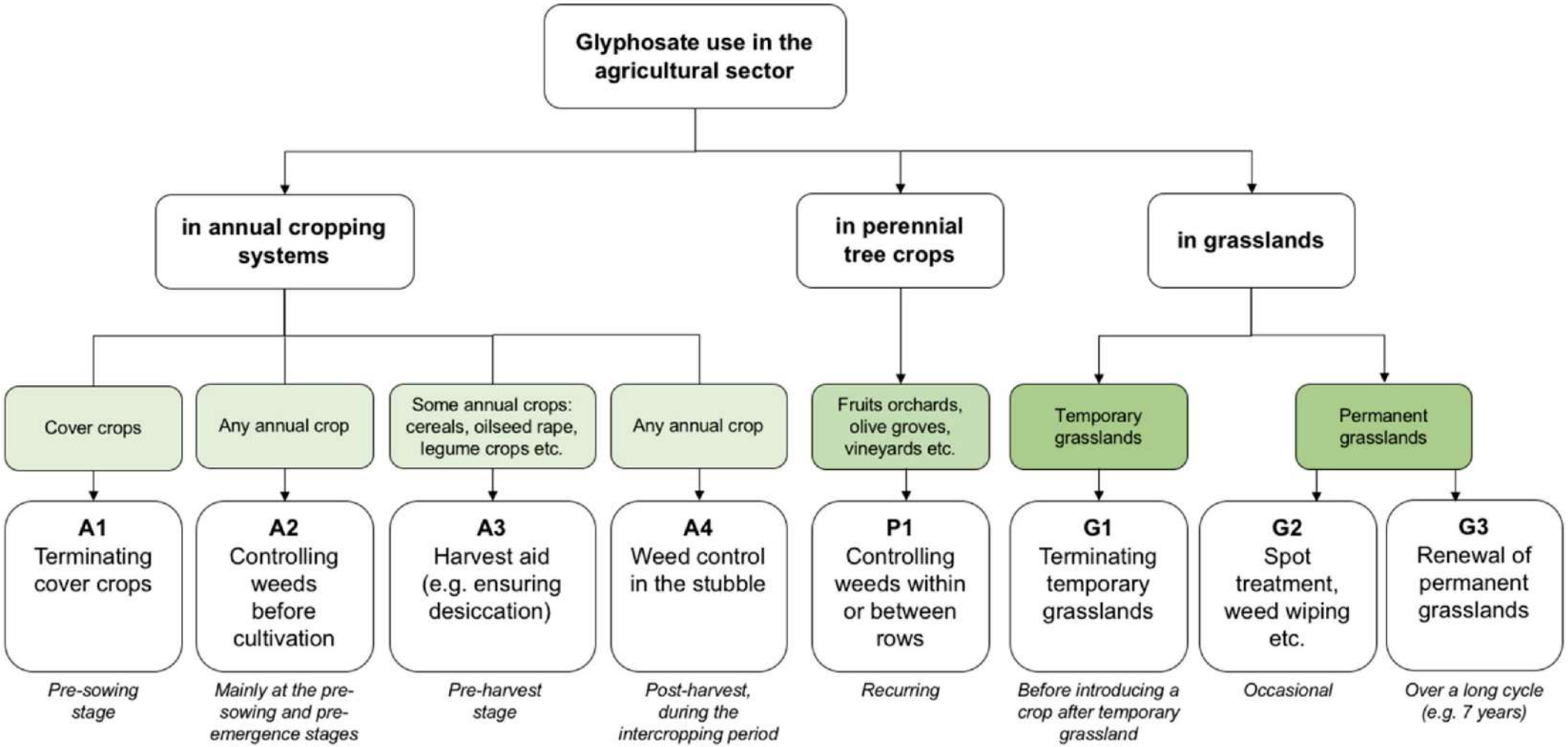
Glyphosate use

Utilization



(Antier et al. 2020)

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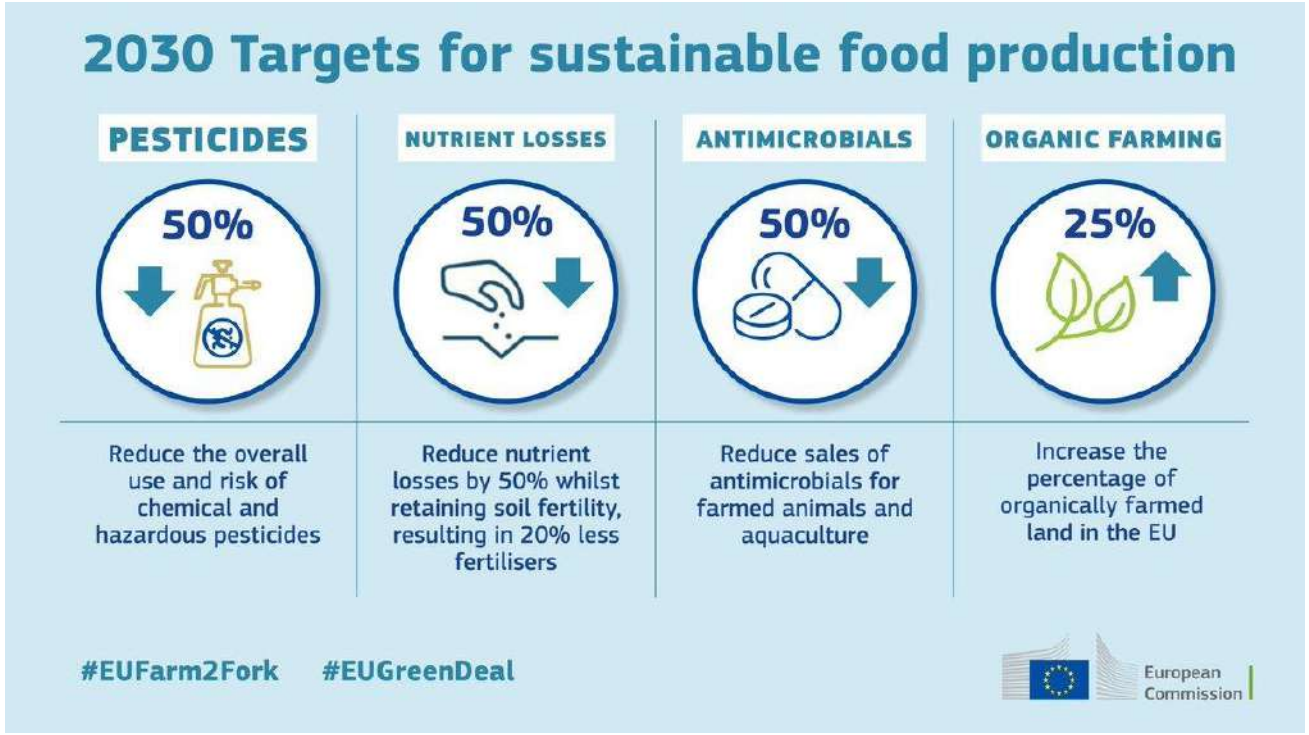
Pesticide reduction is high in the agenda

Farm to Fork



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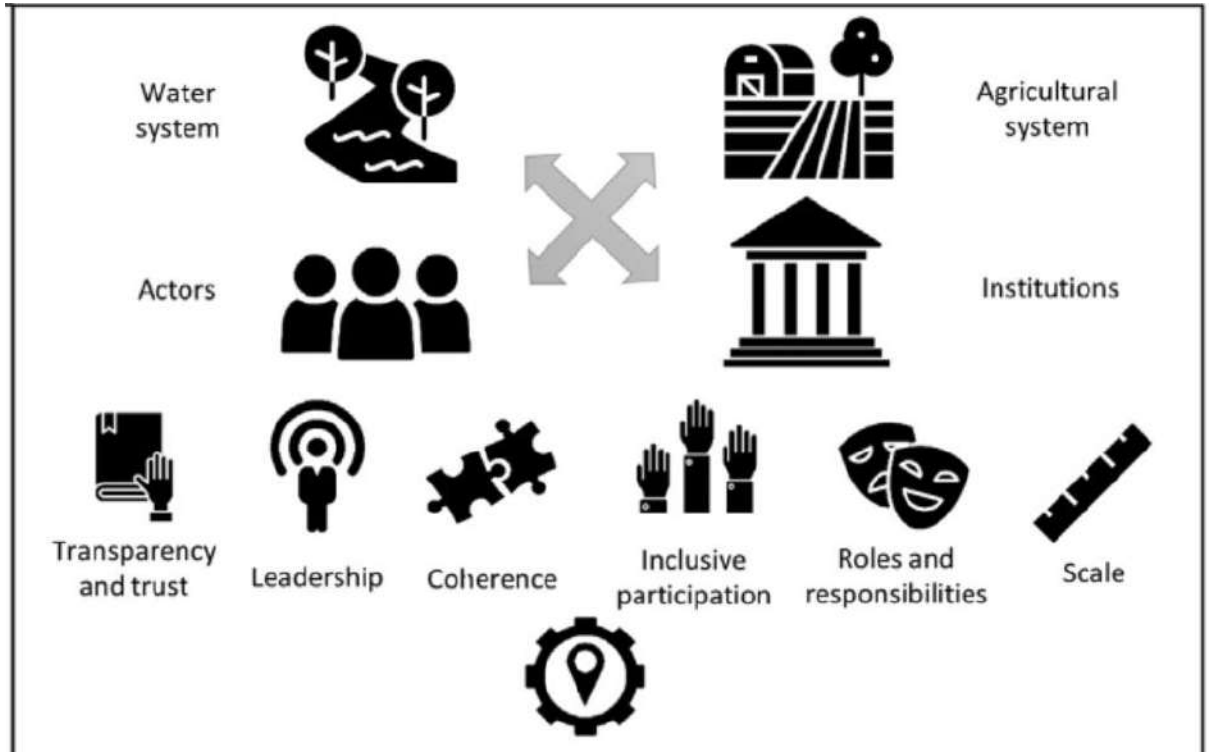
Some hope : Muenchen



(Belmans et al. 2021)

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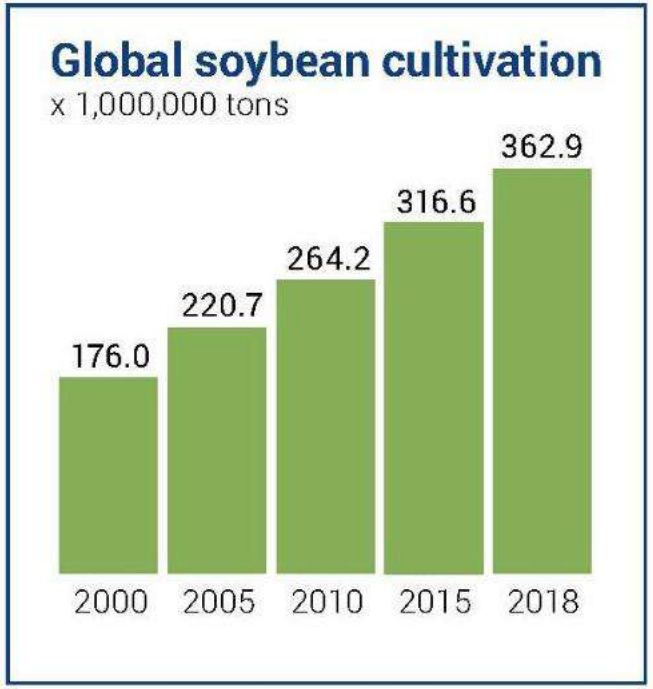
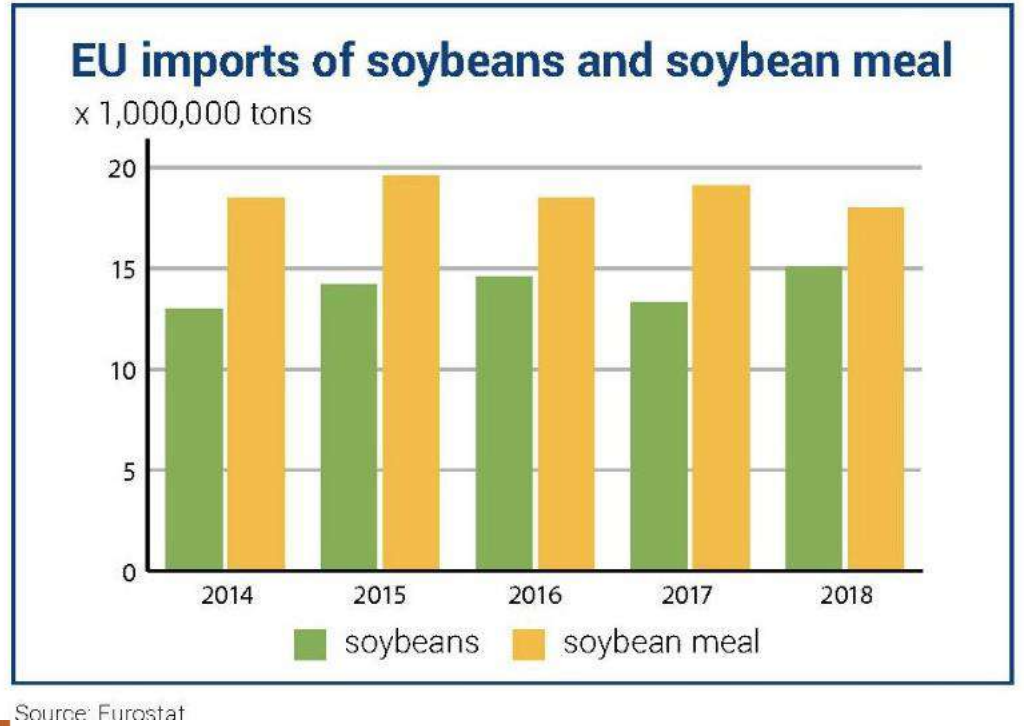
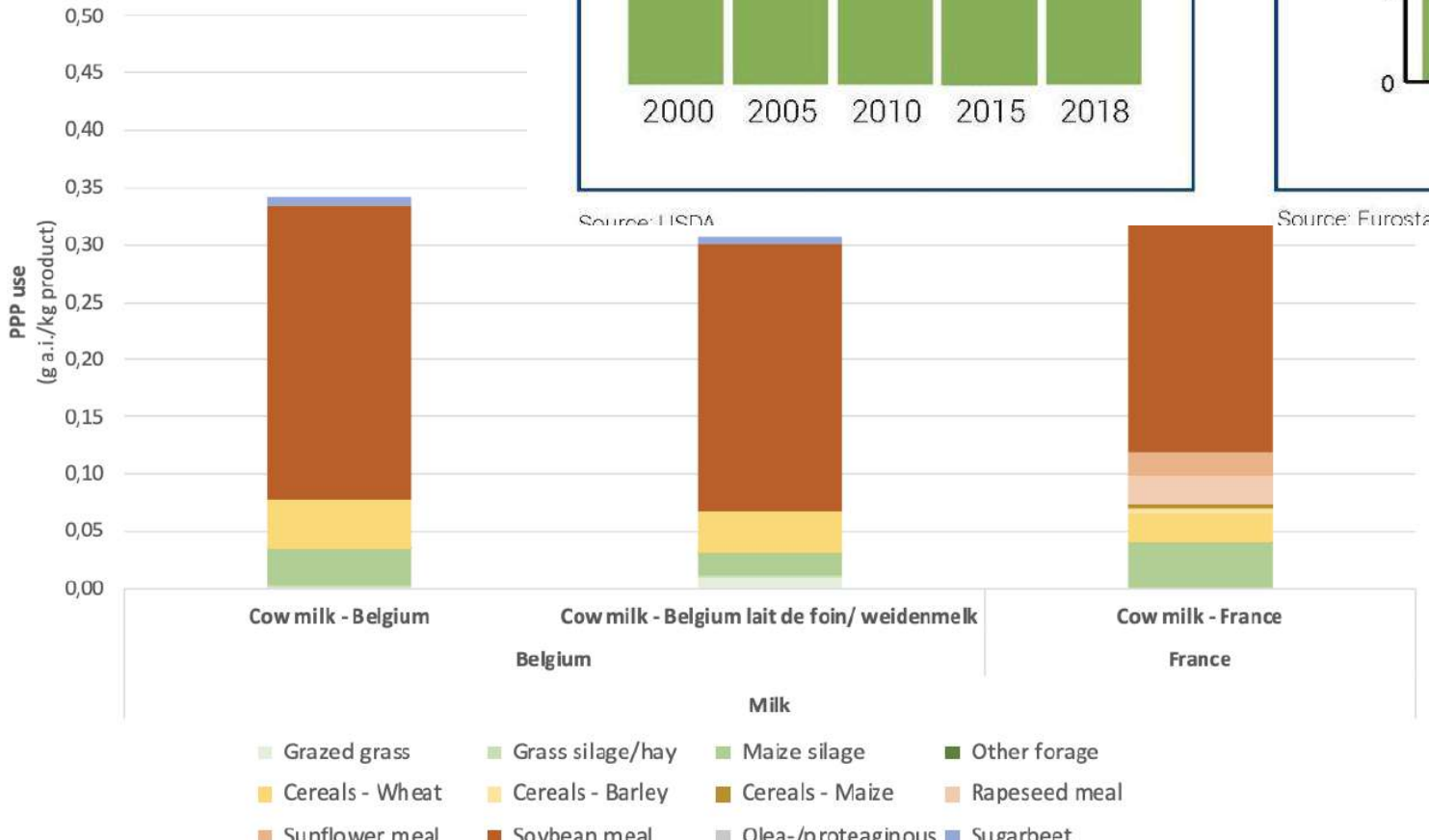
Soybean







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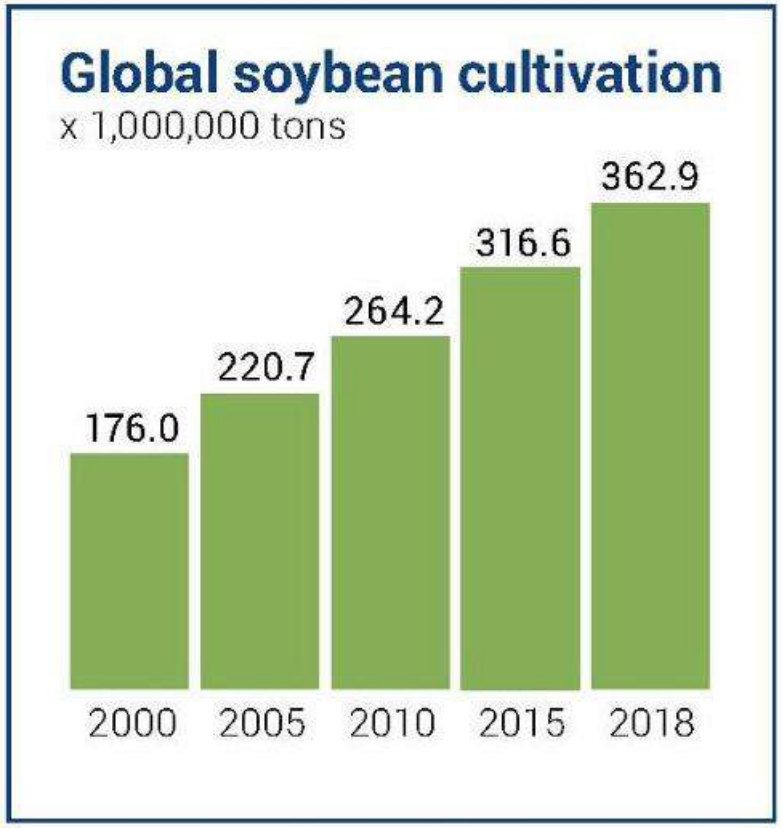
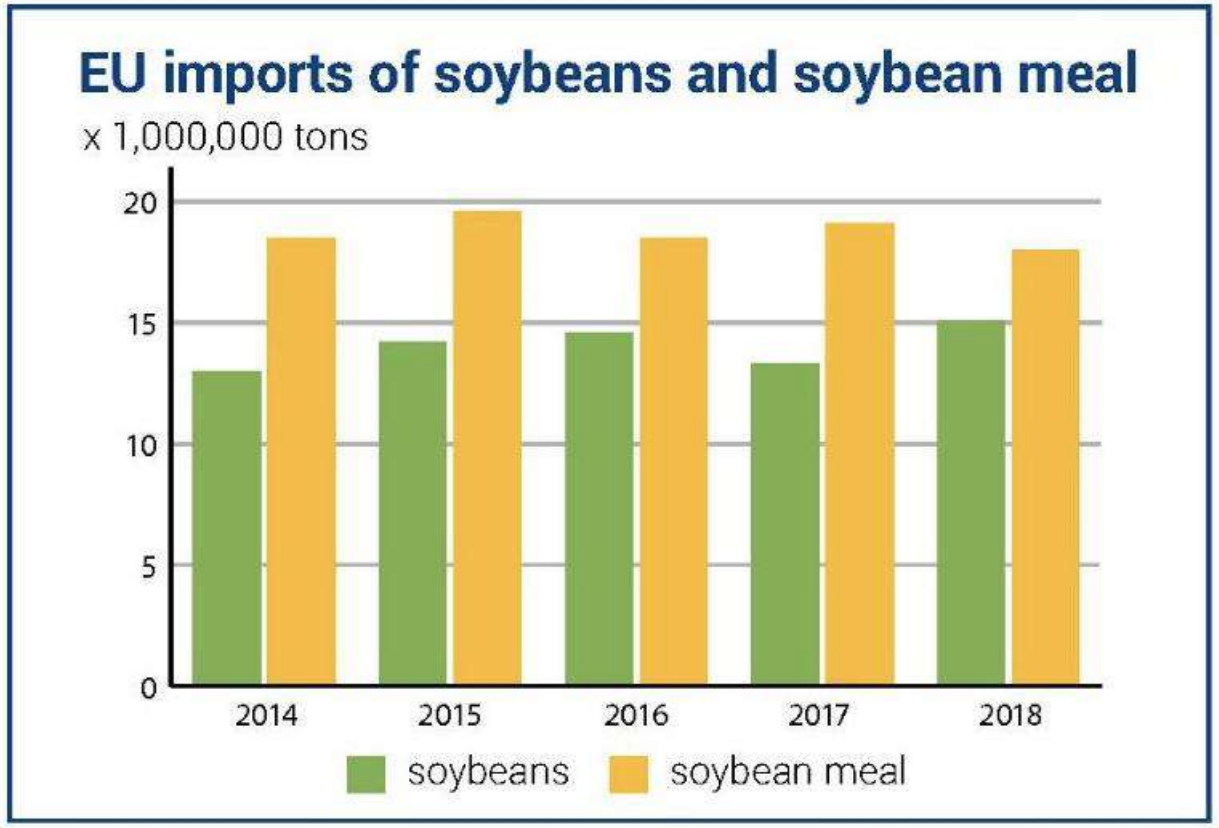
A major concern : soybean importation



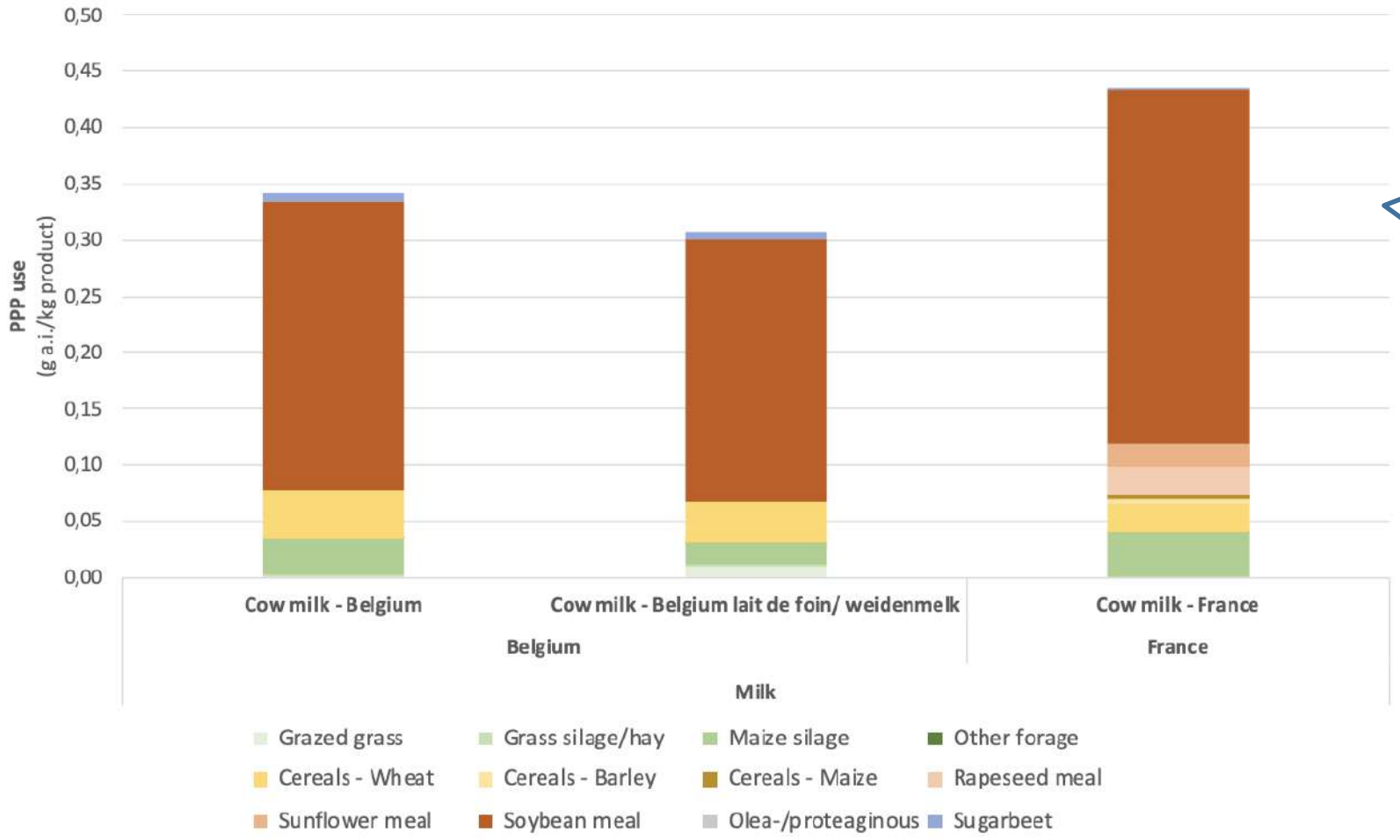
Source: USDA



Source: Eurostat

SYTRA

A major concern : soybean importation



0.20 to 0.30 g of soybean related pesticide active ingredient in one liter of European milk

Figure 20. Total pesticides use (g a.i./kg edible product) associated with non-organic milk in different countries.

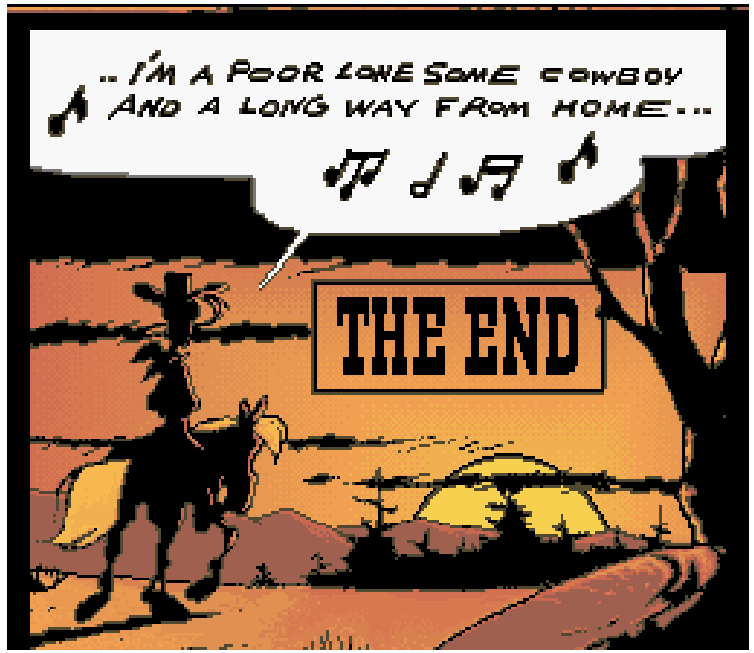
SYTRA

Some conclusions

- Change the metrics (yield is has been)
- Build short term and long term
- Unfocus from fields, practices and farmers
- A systemic approach of lock-ins
- Coordinate action with different communities of actors
- Transparency of pesticide content of final product

SYTRA

Some conclusions



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SYTRA

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