

Collection of environmental variabels in Flanders

Goedele Vrints

Pacioli 2023

FSDN

- Experiences in Flanders
 - Pesticides
 - Water

Sub-topics – Variables – Categories

Sub-topic	Sub-topic description	Variable description	Categories	Granularity/ Frequency
Pesticide use on the farm	Plant protection product use: <ul style="list-style-type: none"> • dosage per active substance, • target/usage (herbicide, diseases, pest, others), • crop, • timing: vegetative stage of the crop, • (optional: equipment used). 	Dose per active substance (gram/hectare)	<ul style="list-style-type: none"> • Target/Usage; • Crop; • Vegetative stage of the crop at application time; • Equipment used (optional); • Parcel 	<ul style="list-style-type: none"> • Crop level; • Frequency <ul style="list-style-type: none"> ➤ data collected after each spraying ➤ treatment details once a year



Operational Issues:

➤ Time-consuming since each product has to be registered with its type, content and usage for each crop



- Invoice: cost and quantity per product
 - Cross checks on cost per unit
- Not on the invoice
 - Stock
 - Usage on which crop
 - => To control knowledge is necessary

Proposed way forward



Need to “align” the final decisions to the recent legal changes:

- SAIO Regulation Only quantity, no costs ?!
- Implementing Regulation (EU) 2023/564

E.g. ~~moving from the recording of a.s. to~~ the recording of commercial products + conversion to a.s. done by authorities/LAs via IT system (?)



- Based on phytoweb
- On an annual basis

Report: cijferwebsite Flanders

Crop protection product use | Ag x Welkom x +

landbouwcijfers.vlaanderen.be/landbouw/totale-landbouw/gewasbeschermingsmiddelengebruik

Python Pandas

Flanders

TO REGISTER MY CITIZEN PROFILE

Geolock

DEPARTEMENT LANDBOUW & VISSERIJ

Agriculture Fisheries Market information Chain Data

To search

CONTRAST

 Crop protection product use

[Home](#) > [Agriculture](#) > [total agriculture](#)

Sector

Total agriculture

Theme

Environment (total agriculture)

Indicator

- Greenhouse gas emissions
- Energy balance
- Crop protection product use
- Kunstmestgebruik: phosphorus
- Fertilizer use: potassium
- Fertilizer use: nitrogen
- Spatial designation of the declared

Based on an extrapolation of the LMN data, the estimated use of crop protection products in 2020 is 3.4 million kg of active substance. Most of the resources in 2020 will go to the potato and fruit growing crop group. They account for 29% and 24% respectively of the total extrapolated amount of active substance that year. Arable farming (26%), other agricultural companies (26%) and the fruit sector (23%) have the largest share of active substance use.

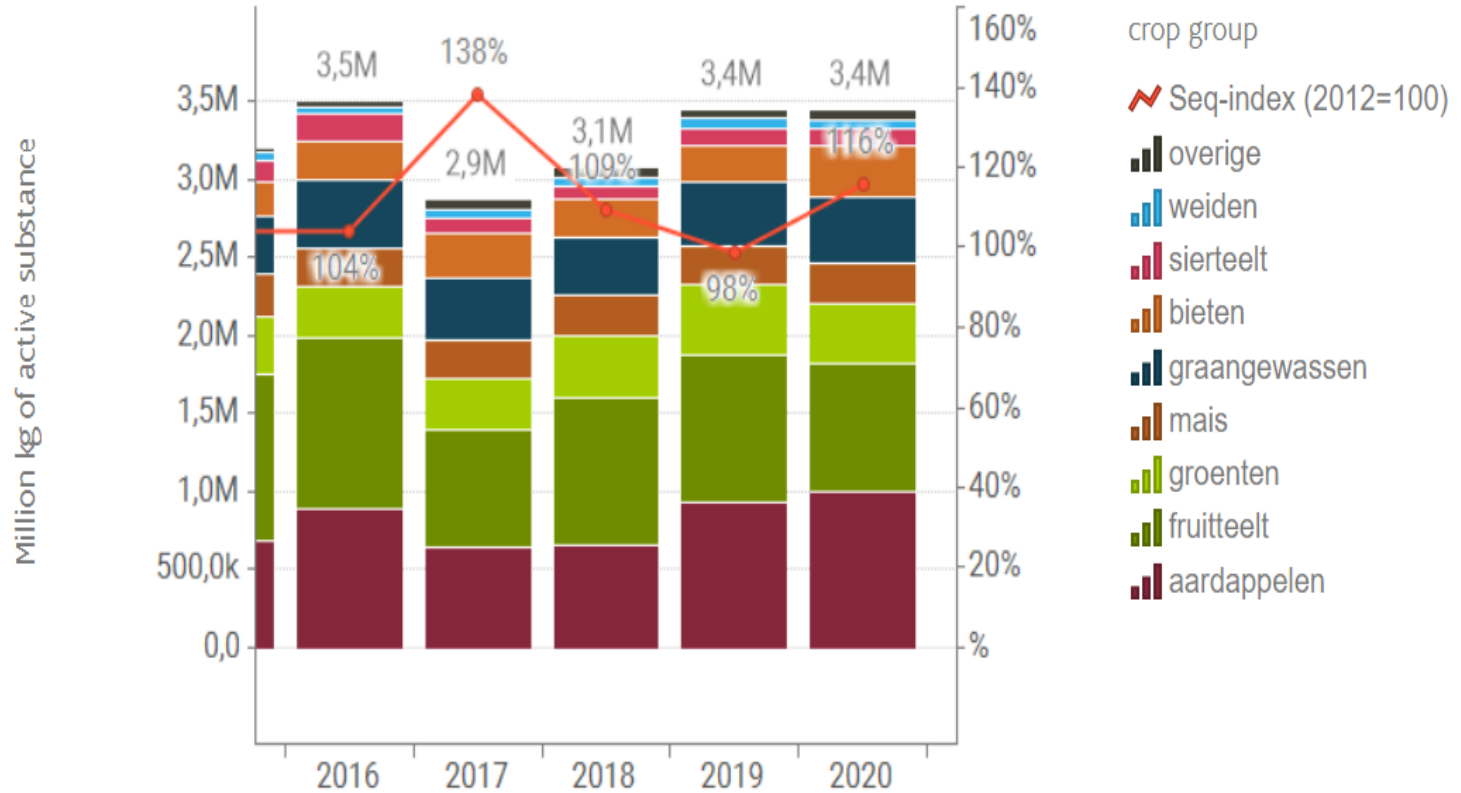
Farmers use crop protection products to safeguard their harvest. However, use is not without risks for the environment and the health of humans and other non-target organisms if used improperly. The use of crop protection is influenced by weather conditions, cultivation area, legislation and technology (crops, crop protection products and machines).

The total use of crop protection products by Flemish agriculture and horticulture is calculated via an extrapolation of the data from the [Agricultural Monitoring Network \(LMN\)](#).

Active substance and SEQ

subdivided by crop group

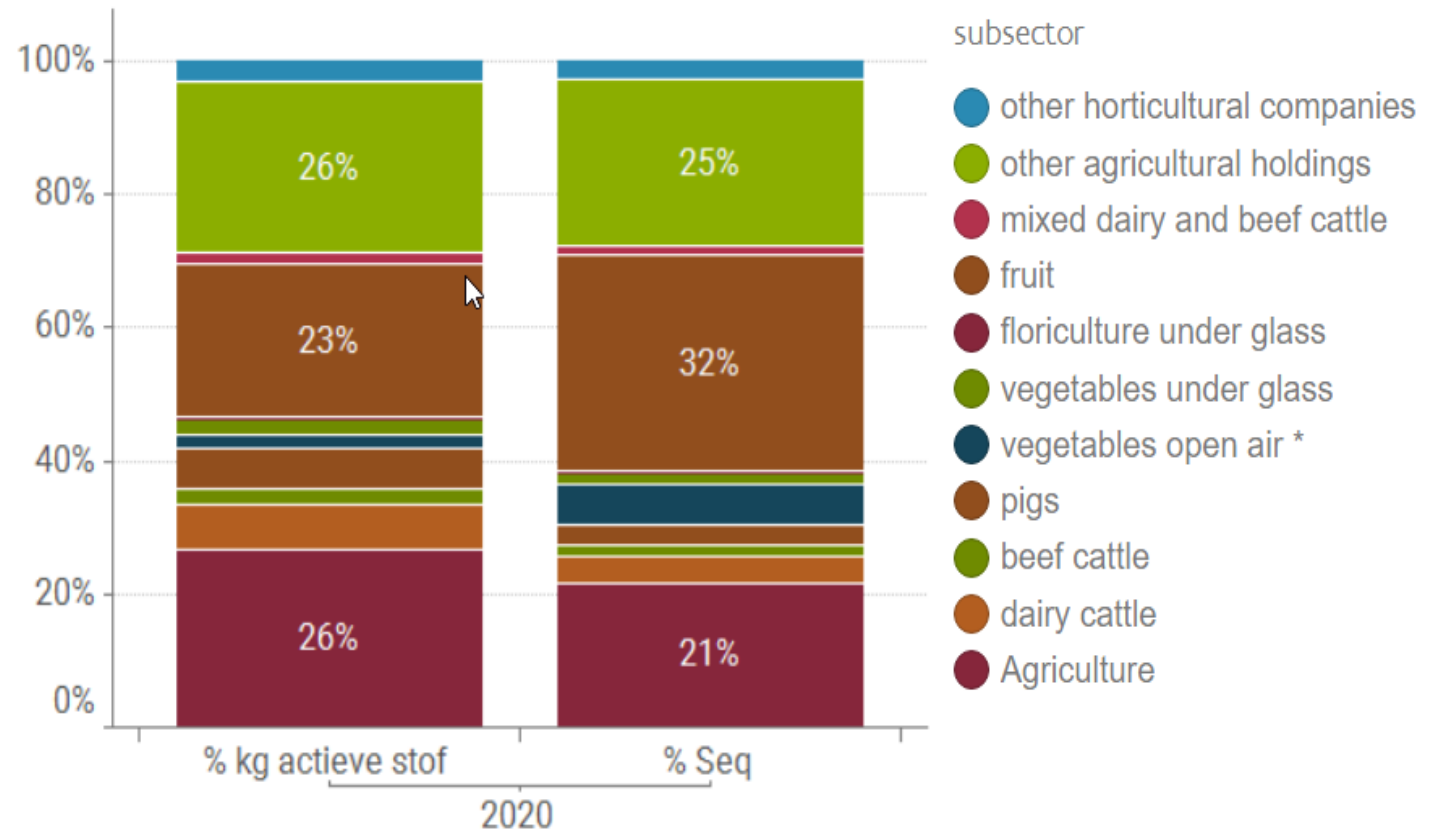
Active substance and Seq per crop group



Active substance and SEQ

subdivided by subsector

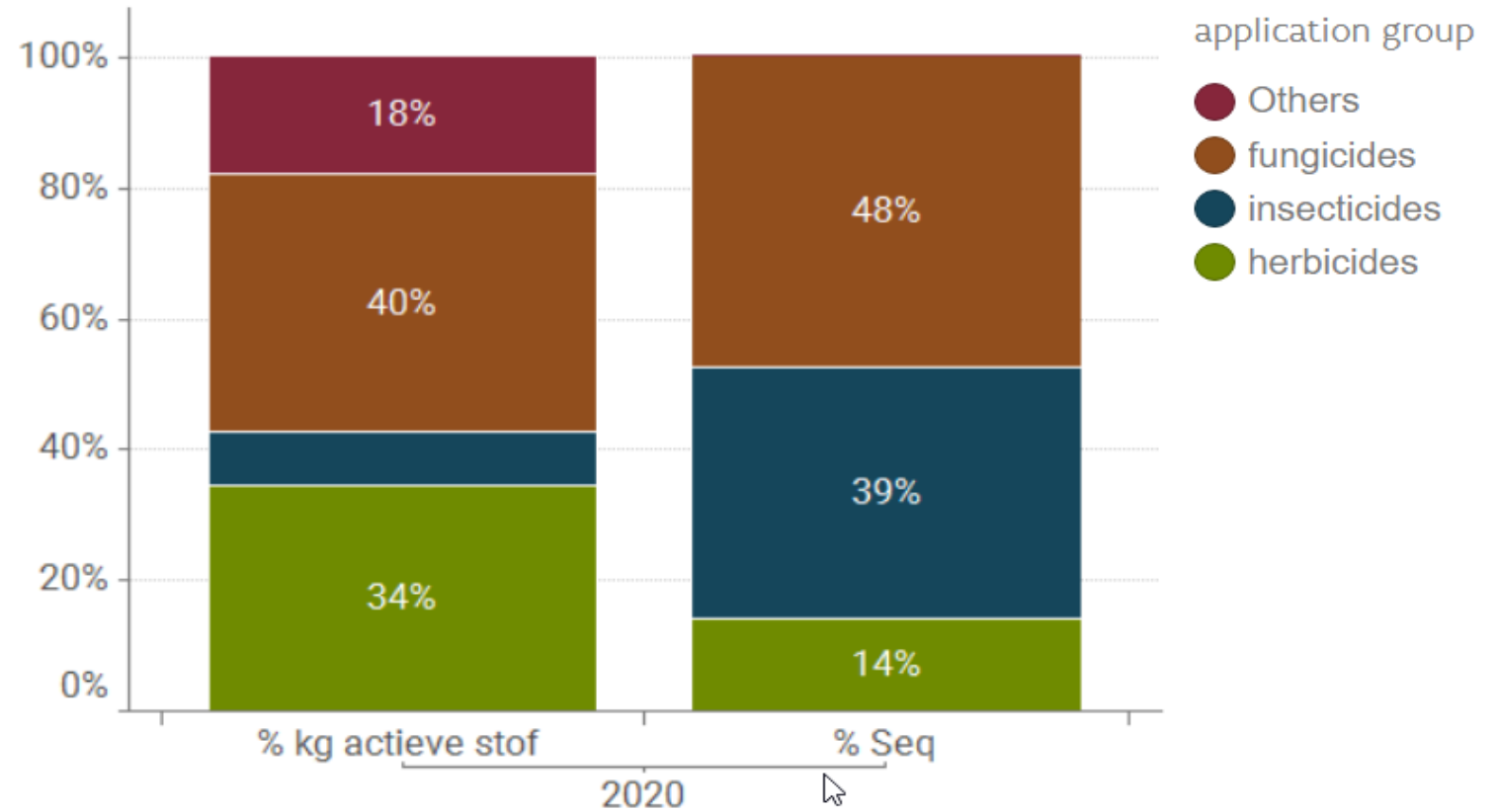
Share of active substance and Seq per subsector



Active substance and SEQ

subdivided by application group

Share of active substance and Seq per application group and year



What is really meaningful?

Kg active substance per ha per crop (weighted averages 2012-2020)

crop	herbicides	insecticides	fungicides	Others	total
apples low stem	3.39	0.84	27.63	1.23	33.10
storage potatoes	4.36	0.37	12.22	1.06	18.01
early potatoes	4.67	0.29	8.80	0.14	13.90
grain corn	1.40	0.01	0.00	0.00	1.41
fodder corn	1.28	0.01	0.00	0.00	1.29
strawberry outdoors	3.33	0.94	16.32	32.62	53.21
strawberry under glass	1.02	0.84	17.09	3.16	22.11

HRI = "Harmonised Risk Indicator"

Harmonised risk indicators for pesticides

[Harmonised Risk Indicators](#) are needed to estimate the trends in risk from pesticide use. Harmonised Risk Indicators are defined in the [Directive 2009/128/EC](#) establishing a framework for Community action to achieve the sustainable use of pesticides (the Sustainable Use Directive). These indicators are necessary to measure progress in meeting the main objective of the Directive - the reduction of risks from pesticide use for human health and the environment. The European Commission shall calculate them for the EU, and Member States should calculate the Harmonised Risk Indicators at a national level. The data to be used for the calculations shall be statistical data collected in accordance with Union legislation concerning statistics on plant protection products, i.e. [Regulation \(EC\) No 1185/2009](#) on pesticide statistics, and other relevant data.

Pesticide use (biocontrol)

Pesticide use (biocontrol)	Use of biocontrol products and measures	<ul style="list-style-type: none">• Share of UAA on which biocontrol measures and/or biocontrol products are used at least once per year• Share of UAA on which biocontrol products other than pesticides were applied at least once a year (%)	<ul style="list-style-type: none">• Farm level• Yearly
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BUT considering that macro-organisms and biocontrol measures are not included in the PPP package:

=> need to define a typology of “biocontrol measures”

[Geen titel]

Bio pesticides = products allowed in organic farming

- PPP

- a 'tag' on every PPP allowed in organic farming (based on phytoweb and extra research)
 - Problem: some fungal, bacterial and viral preparations don't have standard units KG/L a.s.
- Assigned each product to a type of products (bacterial preparaton, Pheromone, natural mineral, ...)

Reporting:

Total of AS

number of ha treated

share compared to total PPP use

Per crop / crop group

annual evolution

- Natural predators : no quantities, only number of ha treated

➔ Work in progress, not reported yet.

Conclusion

- Invoice must be the basic
- link between commercial products and AS must be done by the authorities
 - LA or EU?
 - ⇒ How to report? What will EU do?

Water

- Indicators
 - Shallow water
 - Ground water
 - Tap water
 - Rainwater re-use
- Annual questions: Difficulties to collect
 - Do you use?
 - How much do you use
- Extra survey: every 5 years?

