Pesticides 3.0

New contaminants

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Taking a closer look.

What are we talking about?

And how to evaluate the „new“ substances?

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What are we talking about?

- Substances such as QAC (diary products), Nicotine (tea), DEET (mushrooms), Chlorat (fruits/vegetables), Perchlorat (vegetables) stimulate the question: "*Do they have to be evaluated like pesticide residues according to Regulation (EC) No 396/2005?*"

- Substances which are **NOT** applied against pests - but enter the food chain via contamination: How to evaluate them from the "**food safety perspective**"?

So the overall question is:

Which rules do I have to consider when I find the "New substances" in my food products?

European Legislation

The „rules“ (to be applied) are linked to the cause:

- **Pesticide residues** are **resulting** from the use of a **plant protection product**.
- **Biocide residues** result from the use of a **biocidical product** in or on products of plant or animal origin.
- **Residues of veterinary medical products** result from the use of **pharmacologically active substances** which remain in food obtained from animals.

So in terms of pesticide residues, what does this mean?

Regulation (EC) No 396/2005 ...

... on maximum residue levels of pesticides in or on food and feed of plant and animal origin

→ applies for ALL food products (EU): also for 

→ Maximum Residue Levels (MRLs) are laid down for well-defined food-pesticide combinations (→ Annex II of 396/2005)

→ Where the Regulation's annex contains no MRL, the default value (acc. to Art. 18 of 396/2005) applies: **0,01 mg/kg**

→ In general, no pesticides have to be expected in organic food products. But in case levels of pesticides are detected: They **must not** exceed the limit values (MRL) laid down in Reg. (EC) No 396/2005! (→ NOT MARKETABLE)

Regulation (EC) No 396/2005

Art. 3 (2c), Regulation (EC) No 396/2005 defines pesticide residues as follows:

"residues, including active substances, metabolites and/or breakdown or reaction products of active substances **currently or formerly used in plant protection products** *…., including in particular those which may arise as a result of* **use in plant protection**, *…..”*

→ *Prerequisite for application Reg. (EC) No 396/2005:*

Actual use of substance as a

plant protection product

So the overall question is:

Which rules do I have to consider when I find the "New substances" in my food products?

According to the **System of European Legislation** the cause/source link of a substance should decide, which rule (Regulation) to apply.

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The „pesticide regulation 396/2005" is only valid if you find something in your food product, which is a residue of a plant protection product!

So if I find something ***which is NOT a residue of a plant protection product,*** *then the pesticide regulation* ***396/2005 is NOT valid.***

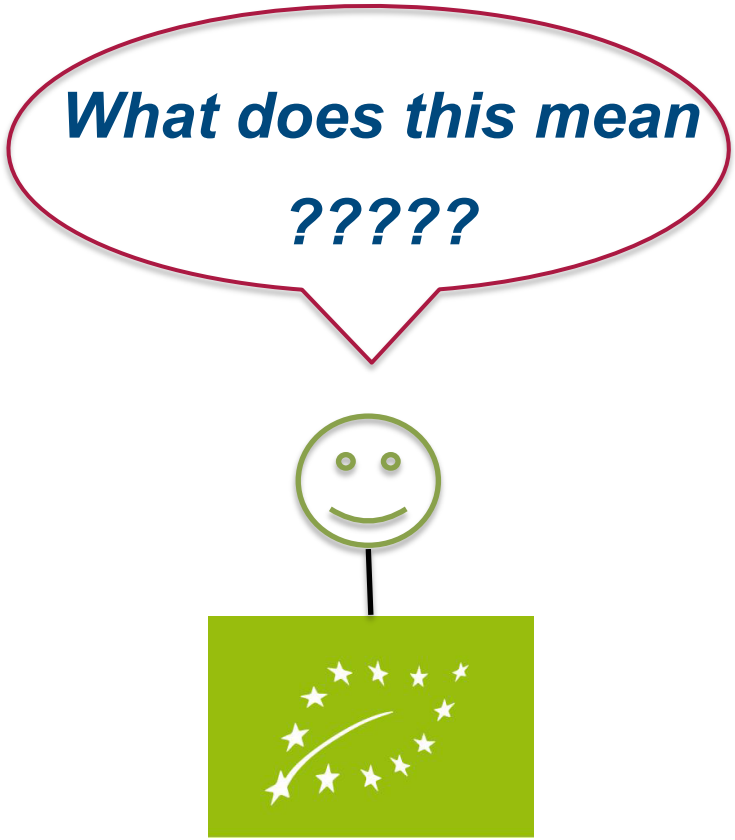
YES!!!

Regulation (EC) No 396/2005

But .... the cause/source link is „***some kind of abandoned***“:

Regulation (EC) No 396/2005 goes beyond **plant protection products** *although this is in contradiction with the title of the Regulation (Regulation …. on maximum residue levels of* ***pesticides****):*

"residues, including active substances, metabolites and/or breakdown or reaction products of active substances **currently or formerly used in plant protection products** *…., including in particular those which may arise as a result of* **use in plant protection**, **in veterinary medicine and as a biocide**.”

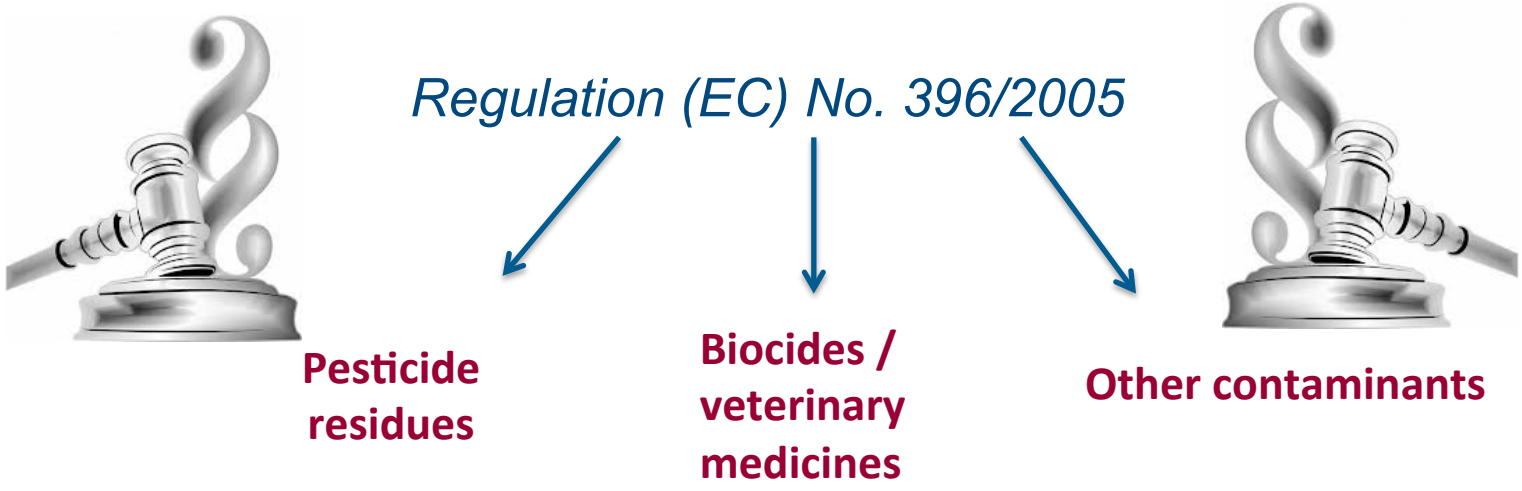

What does this mean
?????

- As **residues of biocides** and **veterinary medicines** are **NOT residues of plant protection products**, the application of Regulation (EC) No 396/2005 goes **beyond pesticides**.
- This regulation thus can be applied for residues of other products **as well**.
- Substances found in food products can have other sources than the use of plant protection products (like Perchlorate, Chlorate, QAC etc.). BUT also in such cases, **Regulation (EC) No 396/2005 might be applied**.

The **clear distinction** between **pesticide residues of plant protection products** and **other substances**

(like f. ex. contaminants, which results from an unintended contamination - f. ex. via the production process)

is softened and not so clear anymore.



Regulation (EC) No 396/2005

What does this mean?

In short:

You can **NOT** draw the conclusion that:

"Regulation (EC) No 396/2005 is applied ***only when a residue is a residue of a plant protection product****."*

Or in other words:

The „pesticide regulation 396/2005 might be valid – even if you find something in your food product, which is NOT a pesticide residue – but entered into your food product by (process) contamination.

And what does this mean for me?

Maybe the 0,01mg/kg default value of the pesticide regulation 396/2005 will be applied for your product as well – even for substances resulting from a contamination.

What makes it even more complicated ....

- Different EU-member states have different points of view how to interpret the Regulation (EC) No 396/2005
- On a EU-level, Regulation related to contaminants also exist, f. ex.
  - Veterinary medicines: Reg. (EC) No 470/2009 / (EC) No 37/2010
  - Biocides: Reg. 528/2012 / Directive 98/8/EC
  - Contaminants: Reg. (EC) No 315/93 / Reg. (EC) No 1881/2006

- Commitment for a harmonised EU-approach is limited (f. ex. Chlorate).
- Alternative approach: Toxicological data (f. ex. Acute Reference Dose / Acceptable Daily Intake) are used for calculating the toxicological risks / exposures of of contaminants (PRIMo-Model).

Summary

- The evaluation of „New Substances“ is not straightforward
- The cause / source is “some kind of abandoned”
- The application of pesticide Regulation (EC) No 396/2005 is (currently) not limited to pesticide residues only
- Substances, which enter the food chain via contamination might also be evaluated by according to the requirements of Regulation (EC) No 396/2005 (default value of 0,01 mg/kg)
- In terms of food safety (Article 14 Reg. (EC) No 178/2002): Toxicological assessments are performed (PRIMo-Model)

Thank you

Gracias

Grazie

Hartelijk dank

Danke