



EXCELLENCE FOR SUSTAINABILITY

Research Institute of Organic Agriculture
Forschungsinstitut für biologischen Landbau
Institut de recherche de l'agriculture biologique



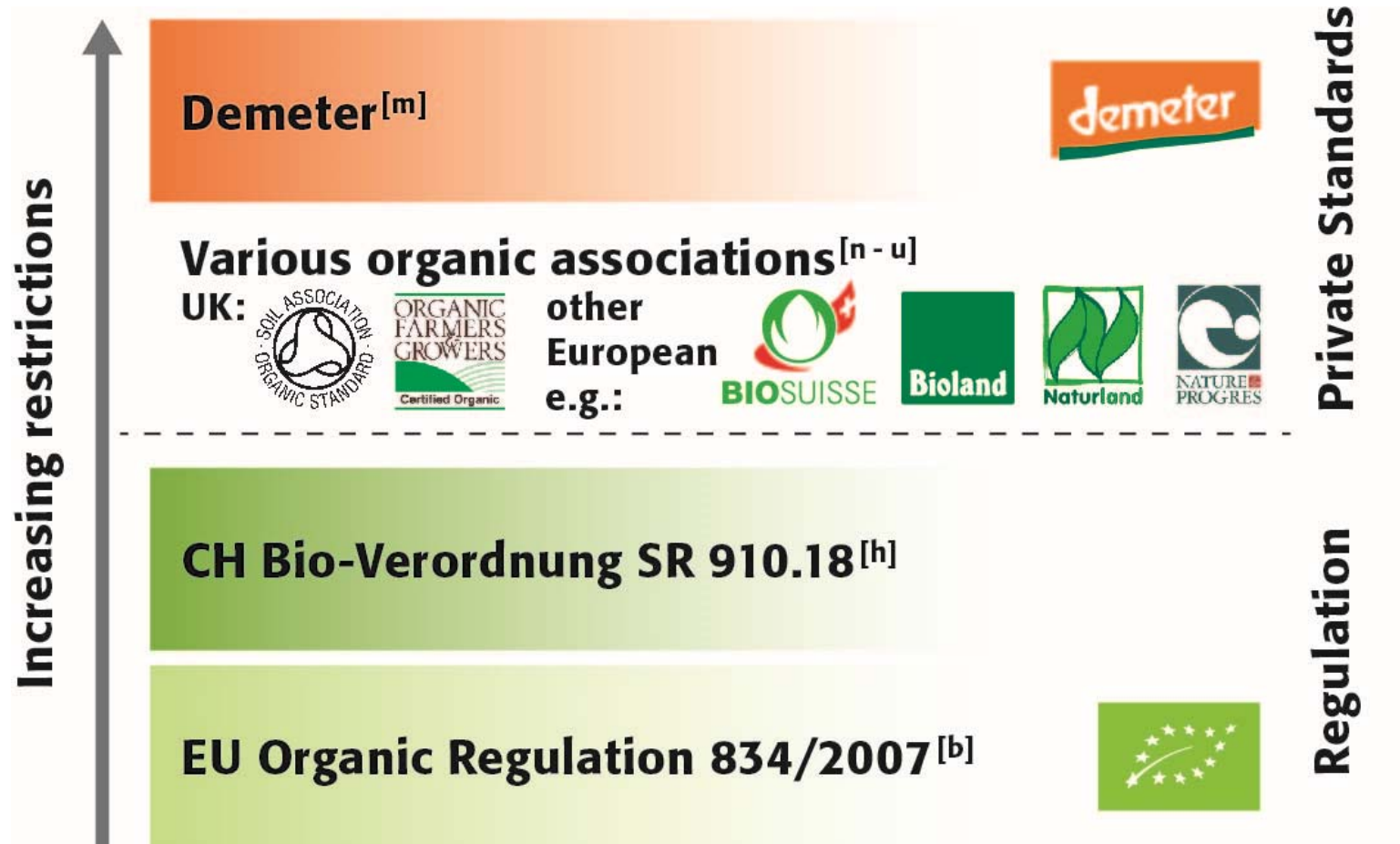
Quality of processed organic food

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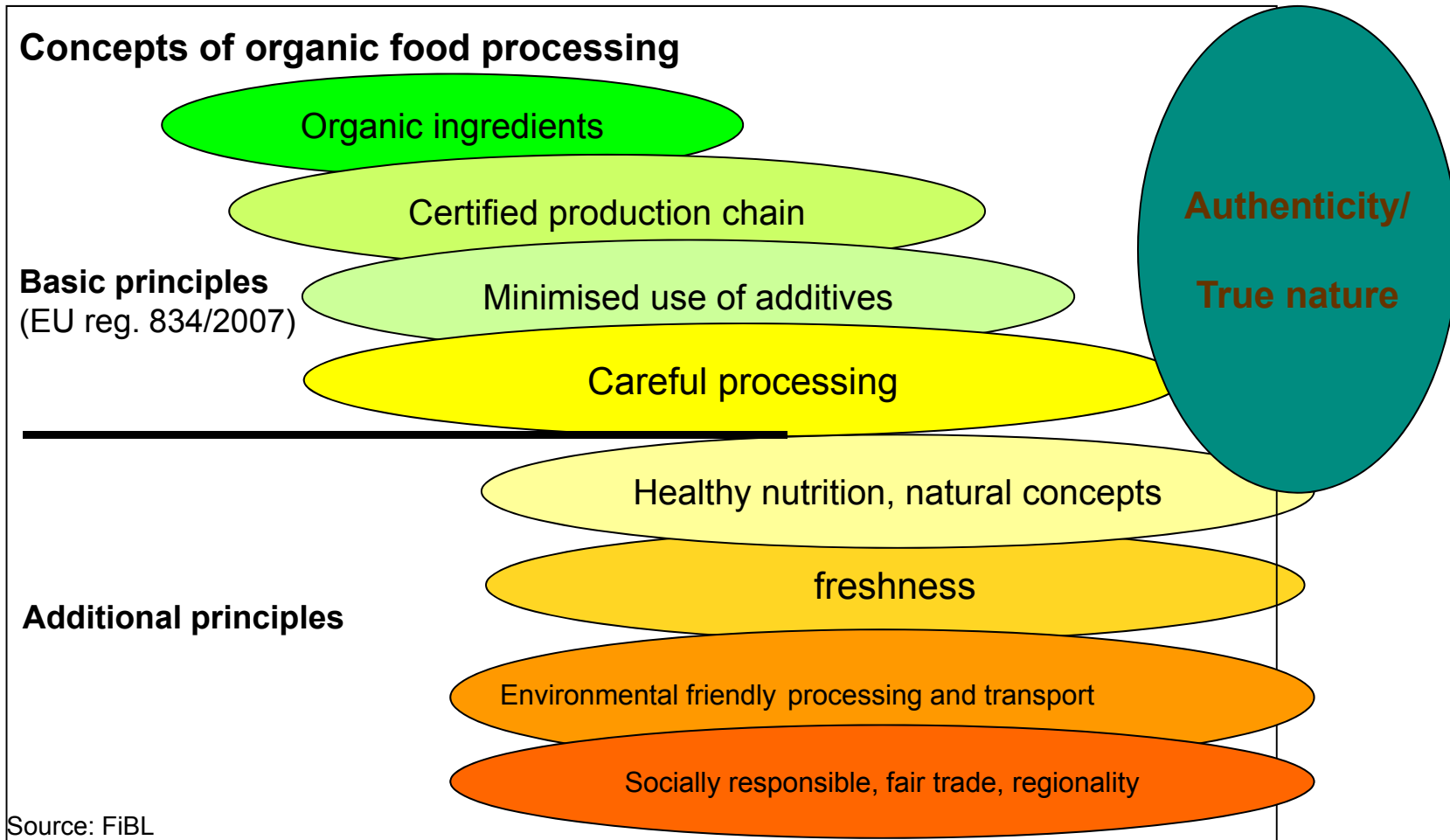
Topics

- › **Basics about organic processing**
- › **Labelsituation in Switzerland**
- › **Find the difference: sensory evaluation of products**
- › **Quality of organic products**

Label pyramid







Underlying principles for organic food processing overview



Underlying principles (EU 834/2007, Art. 6)

- › **organic food must be produced from organic agricultural ingredients**
 - › **separated flows of goods – traceability (origin of ingredients)**
- › **restriction of the use of food additives and processing aids**
 - › **positive list in the annex of Regulation 889/2008**
- › **exclusion of substances and processing methods that might be misleading regarding the true nature of the product**
 - › **authenticity**
- › **Organic food must be processed with care preferably using biological, mechanical and physical methods.**
 - › **carefull processing**

Private Labels in Switzerland

				
owner	federation of swiss organic farmers	Coop	Migros	Alnatura
Specific regulations for processing	yes	yes	no	no/yes*
Restrictions in technology	yes	yes	no	no/yes
Restrictions in the use of additives and processing aids	yes	yes	no	no/yes

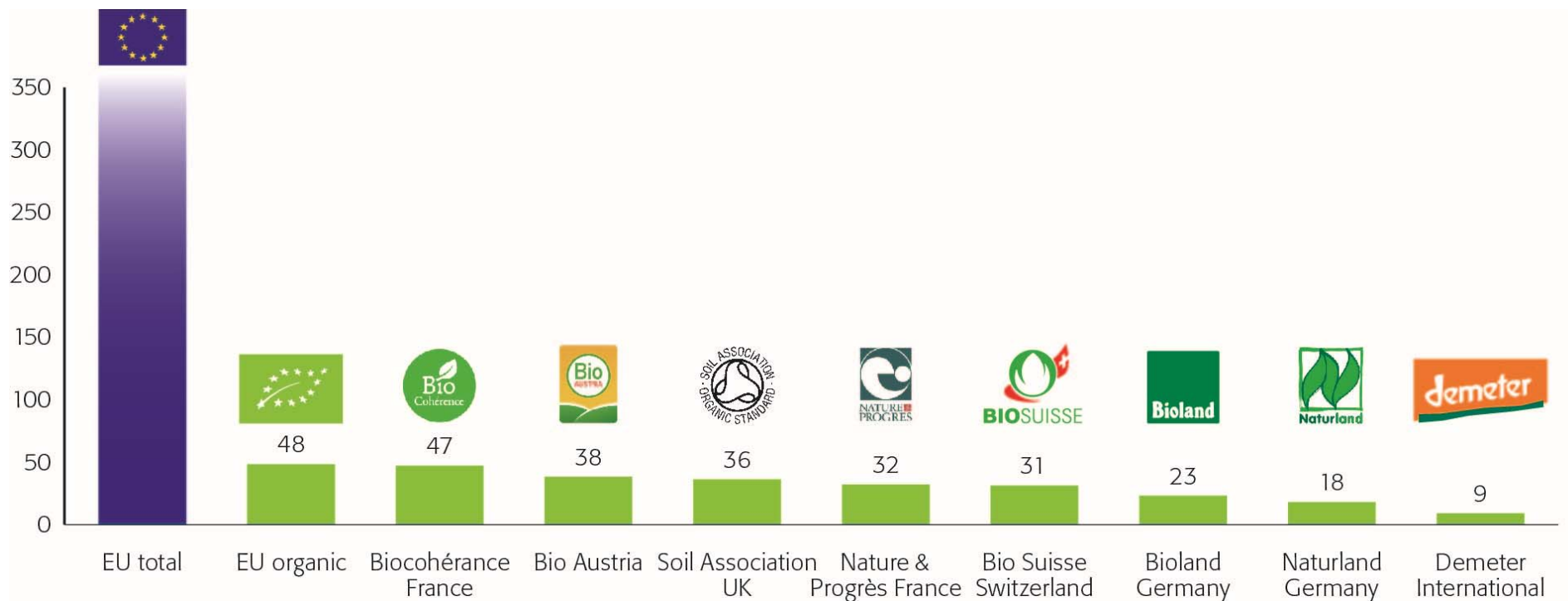
* Restrictions not published, but the quality work group with external experts has the last word

Principles



- › “Bud”Products are **processed with care**, preservation of the raw materials are taken into account and **unnecessary processing steps are avoided.**
- › A “Bud”Product fulfils the expectations of the consumers. Processing, presentation of the product and the information on the packaging are therefore of importance

Restricted Use of Additives



Taste the difference: additives



Degustation Dried Abricots

- › **M-Bio Aprikosen**
 - › Dried Abricot, entsteint
- › **M classic Aprikosen**
 - › abricot, antioxydant: **sulfur dioxid (E 220)**



Yoghurt raspberry

> M-classic

Joghurterzeugnis mit Himbeeren, 3.5% Fett im Milchanteil yoghurt (**skimmed milk powder, cream, milk protein**), sugar 9.2%, raspberry 8%, **modified starch, coloring plant extracts, flavor**.

> M-Bio

Joghurterzeugnis mit Himbeeren, 4% Fett im Milchanteil Vollmilchjoghurt (whole milk**, **skimmed milk powder**, milkprotein****), cane sugar raw* 7.8%, raspberry* 7.5%, **maize starch*, coloring fruit concentrate***, lemon juice*, **natural flavor**.

** Aus Schweizer Bio-Produktion. * Aus zertifizierter Bio-Produktion

> Coop Naturaplan / Bio Knospe

Vollmilchjoghurt raspberry (3.8% Fett im Milchanteil), whole milk (homogenisiert, pasteurisiert (Schweiz)), cane sugar raw (Mittel- und Südamerika), raspberry 8% (Polen, Serbien), **milk protein, tapioca starch**.

Alle landwirtschaftlichen Zutaten stammen aus biologischem Anbau

> Biomilk - Demeter

Himbeerjoghurt, Vollmilch mit 3.8% Fett past. (CH) *, raspberry (EU) 10%*, cane sugar raw (BRA) 6.6% *°

*Aus kontrolliert biologischem Anbau, ° demeter

Taste the difference: processing technologies

Orange juice



milk



Orange juice

- › **Naturaplan / Bio Knospe**

100% orange juice* (Kuba, Mexiko)

* pressed freshly harvested, frozen

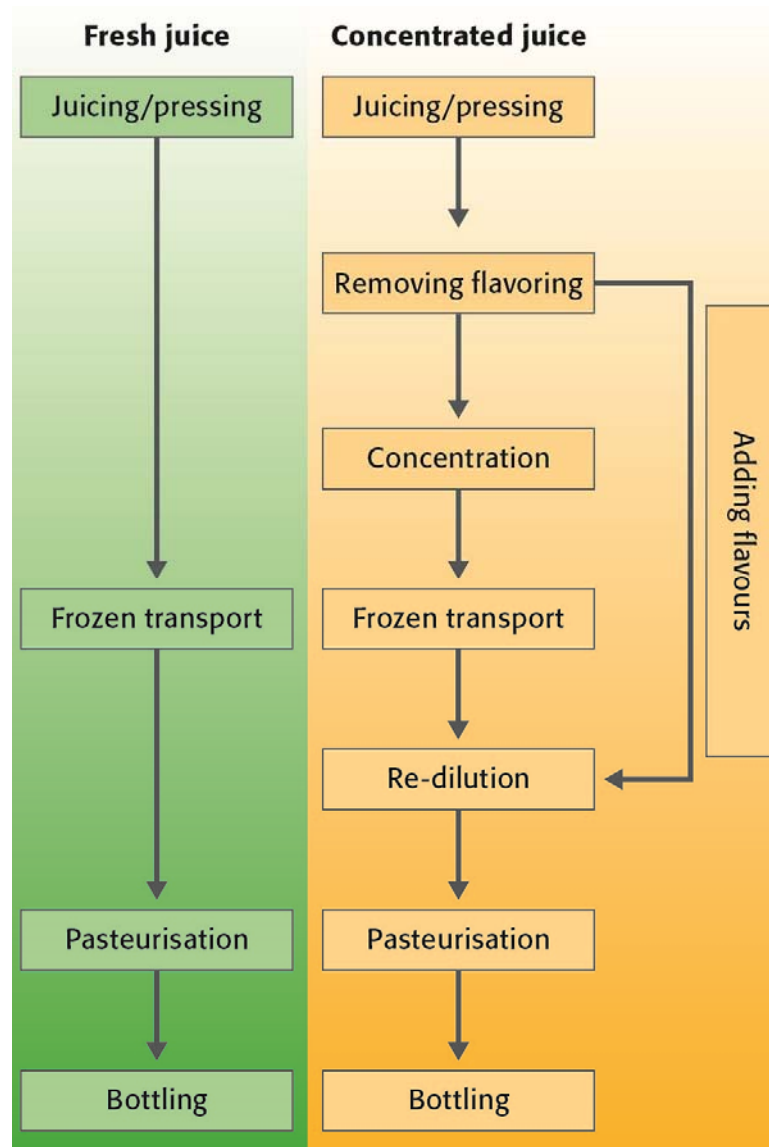
- › **Qualité et prix Orangensaft Coop**

Orange juice **from concentrate** (Brasilien, Kuba)

Manufacturing process of orange juice



direct juice



from concentrate

Milk

- › **Past, Naturaplan Bio Vollmilch**

Whole milk with 3.9% fat, pasteurised, homogenised

- › **Heidi Vollmilch**

Whole milk with 3.9% fat, **high temperature pasteurisation**, homogenised

- › **UHT Naturaplan Bio Vollmilch**

Whole milk with 3.9% fat, UHT, homogenised

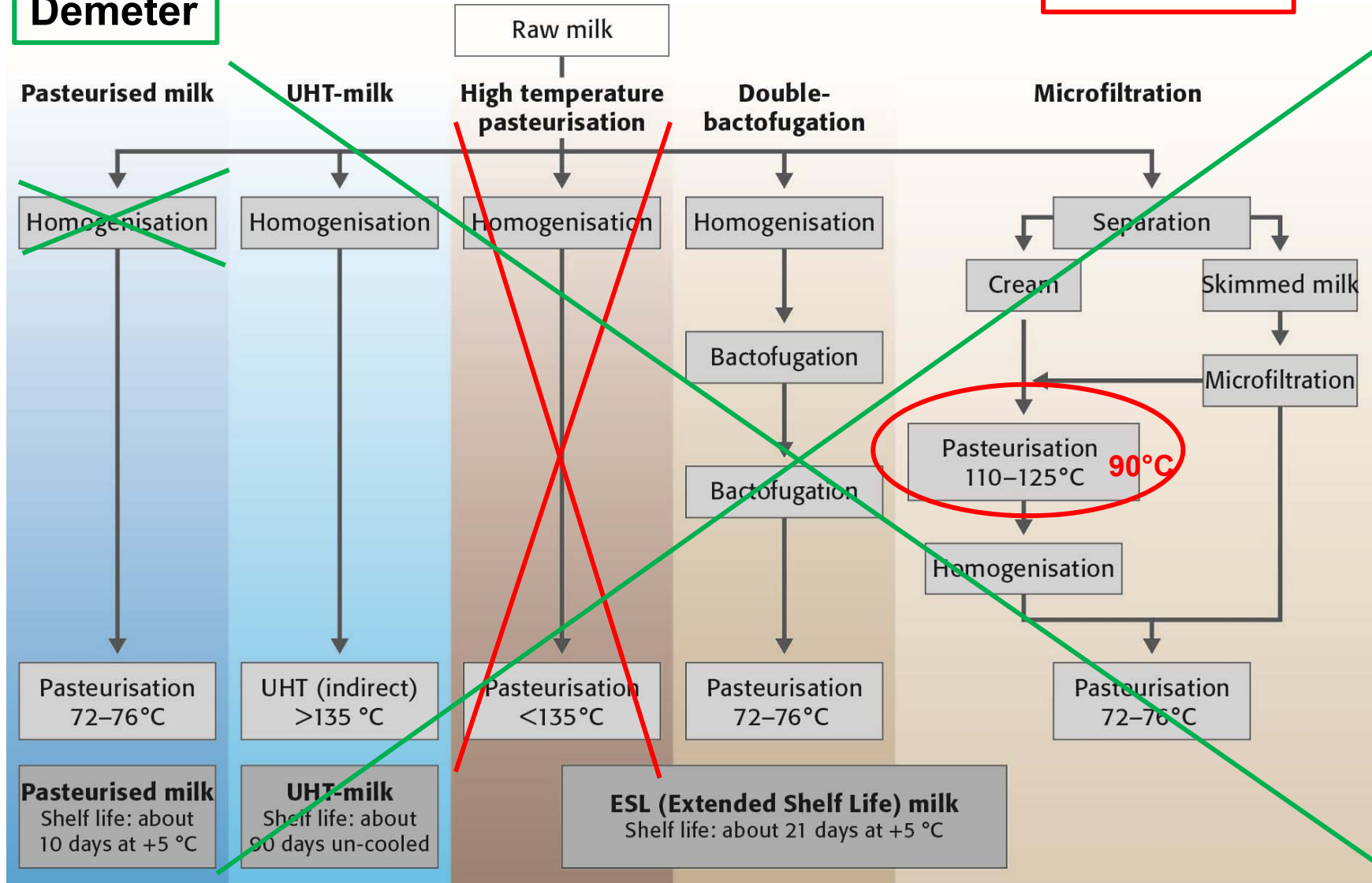
- › **Demeter Milch**

Whole milk, pasteurised

Preservation of milk

Demeter

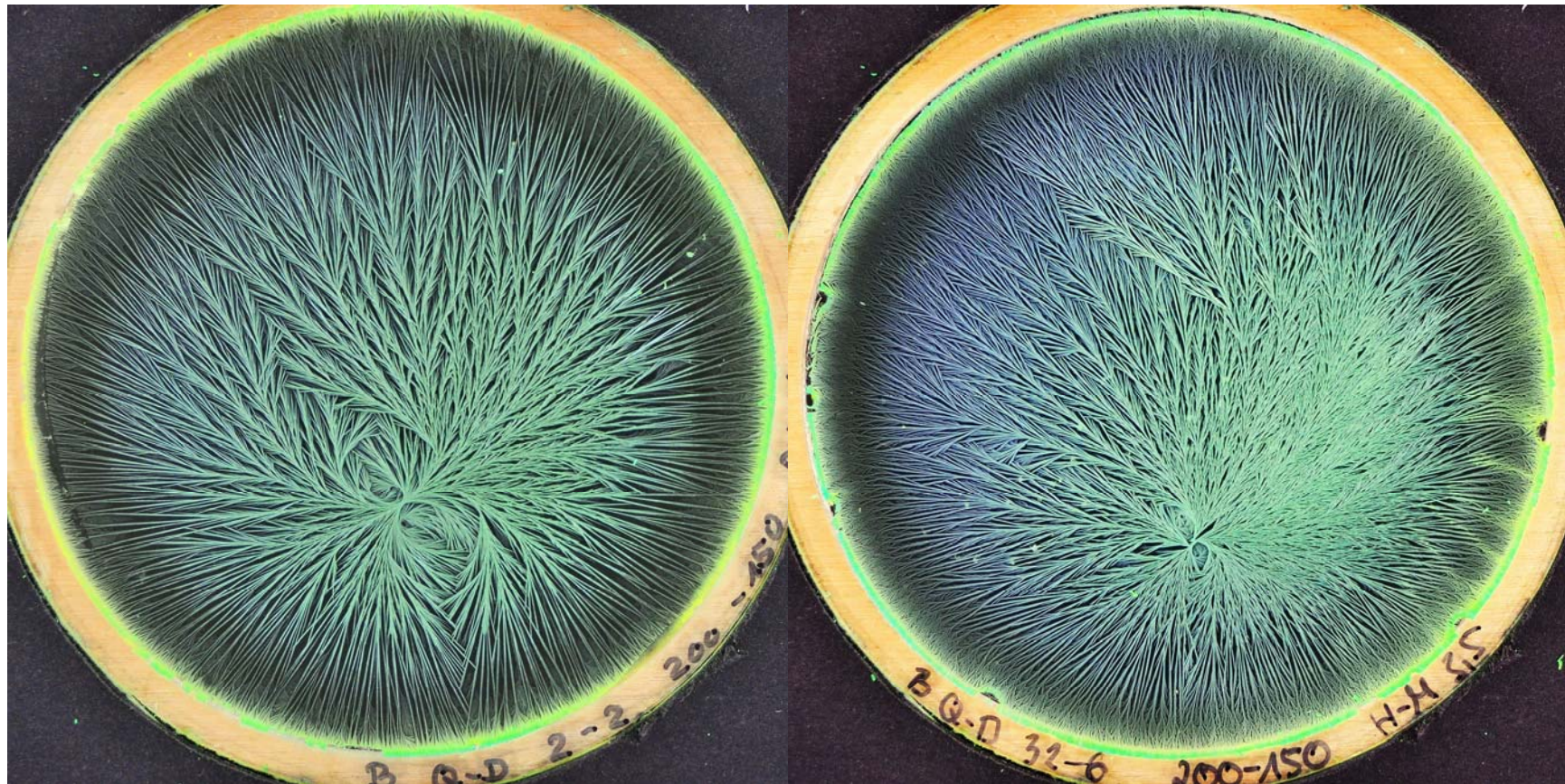
Bio Suisse



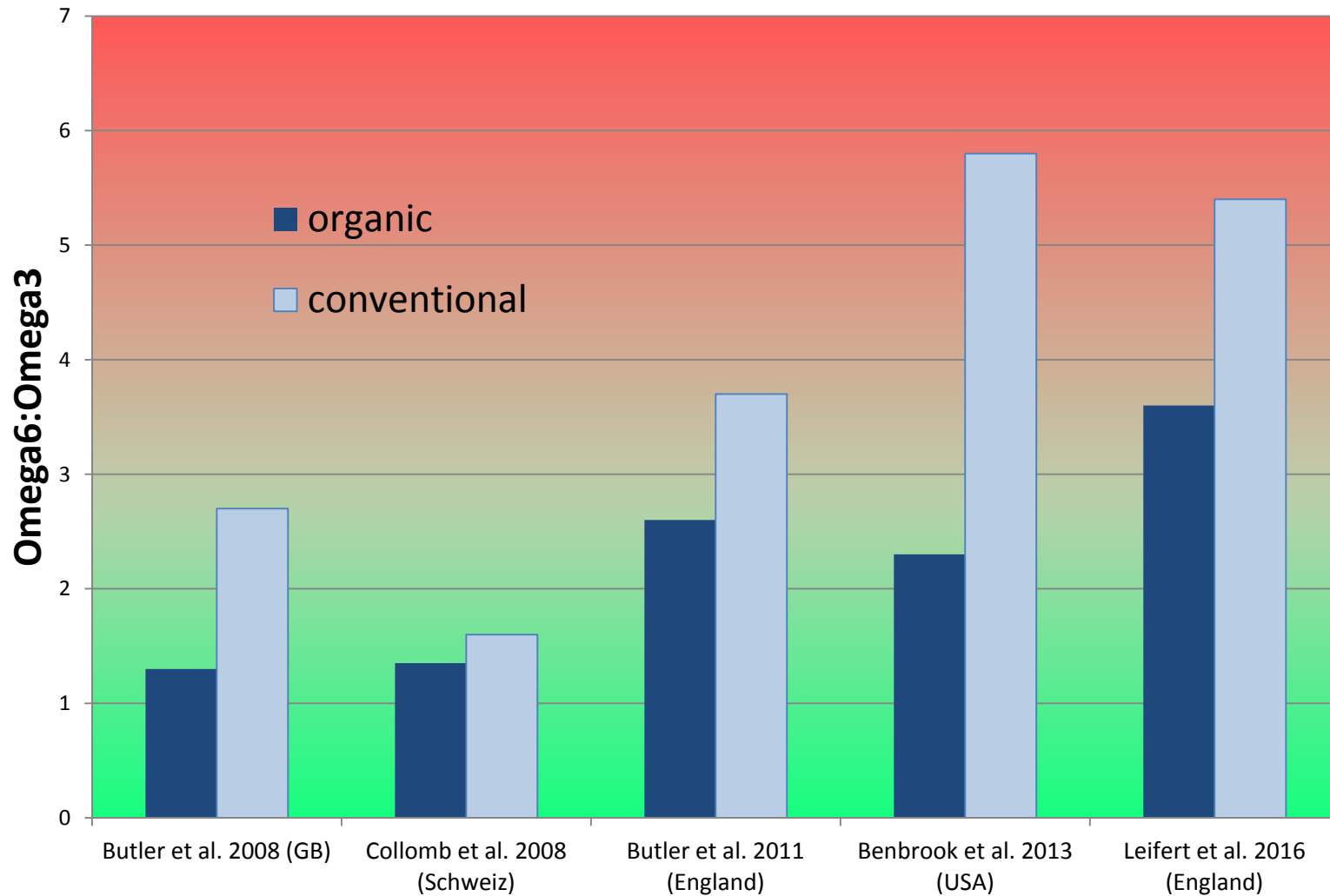
Bio-crystallisation of milk

Organic milk, pasteurized

Organic milk UHT-processed,
homogenised

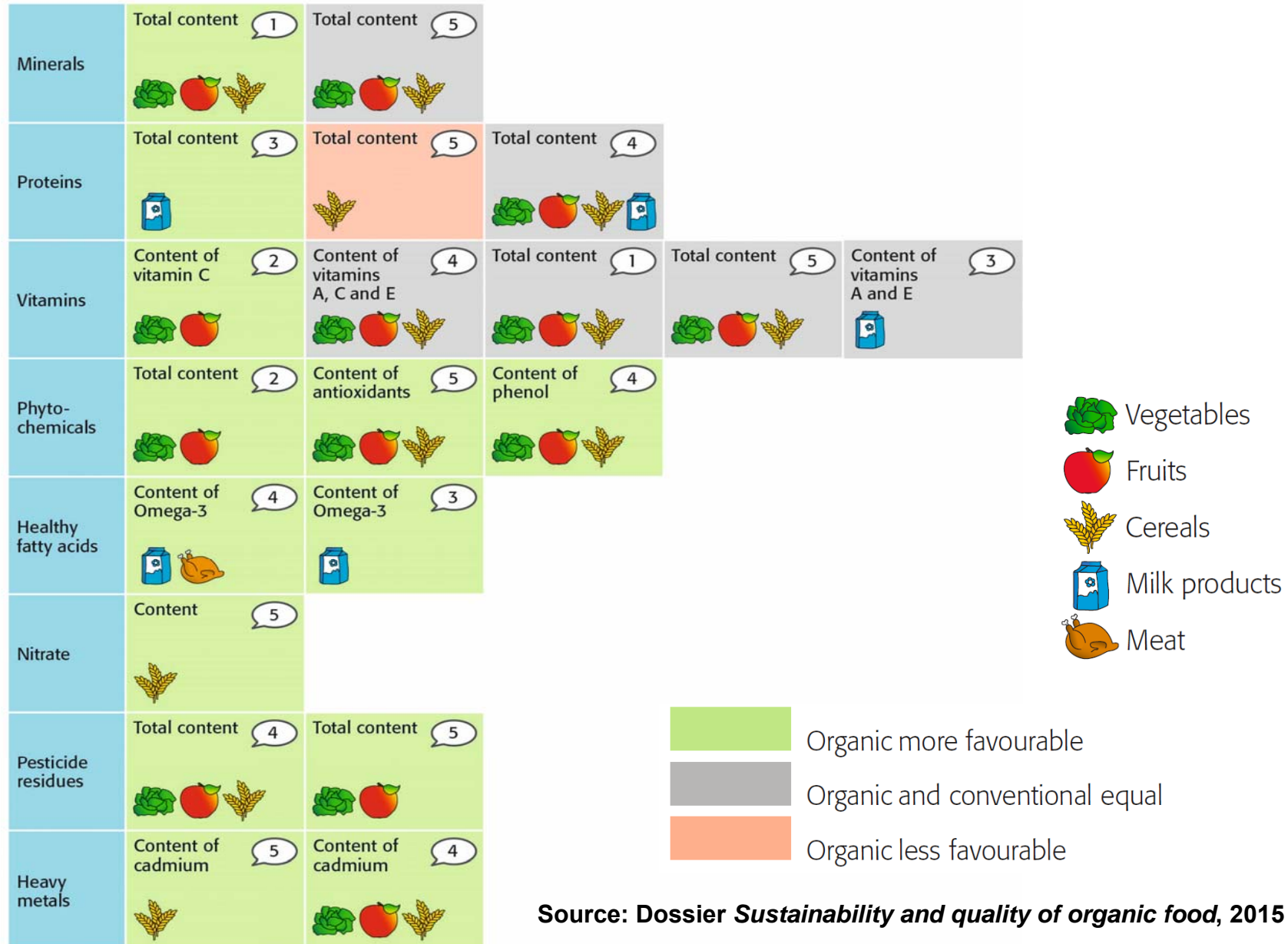


Ratio of fatty acid composition of milk



Comparison of Conventional and Organic Products

Ingredients Trends



Source: Dossier *Sustainability and quality of organic food*, 2015

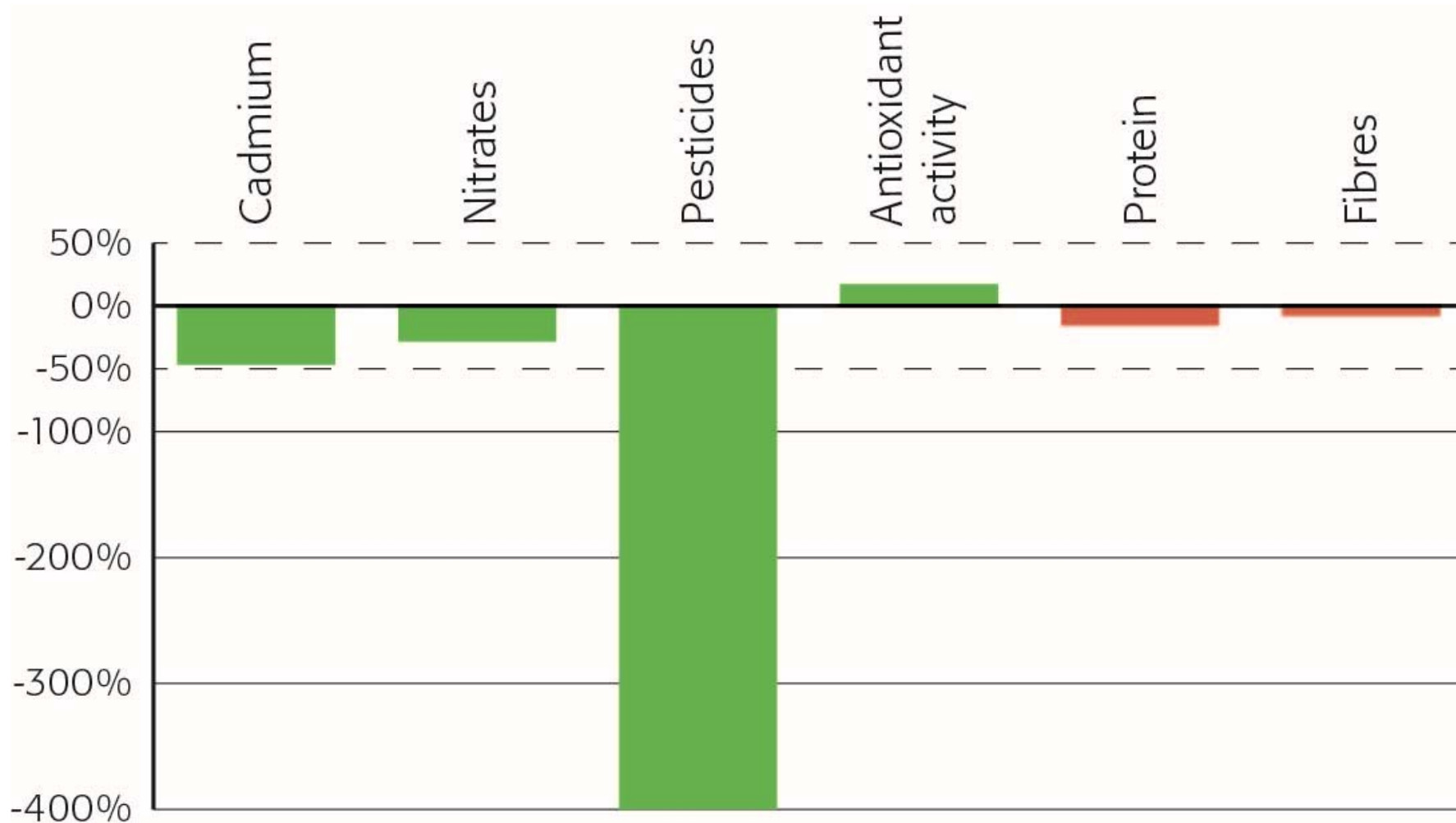
Meta-analyses 2016: clear differences in milk and meat! (organic versus conventional)

196 scientific publications for milk and 67 meat

- › organic milk and organic meat contain 50% more Omega-3-FS than conventional products
- › organic milk contains 40% more conjugated linoleic acid (CLA)
 - › positive effects on cardiovascular diseases such as high blood pressure, arteriosclerosis, thrombosis, etc.
- › Organic milk contains slightly higher proportions of iron, vitamin E and carotenoids
 - › protection against free radicals, reduction of cancer risk

reason for this: organic guidelines limit the amount of concentrated feed (less grain maize, corn, soy), more grass and hay consumption

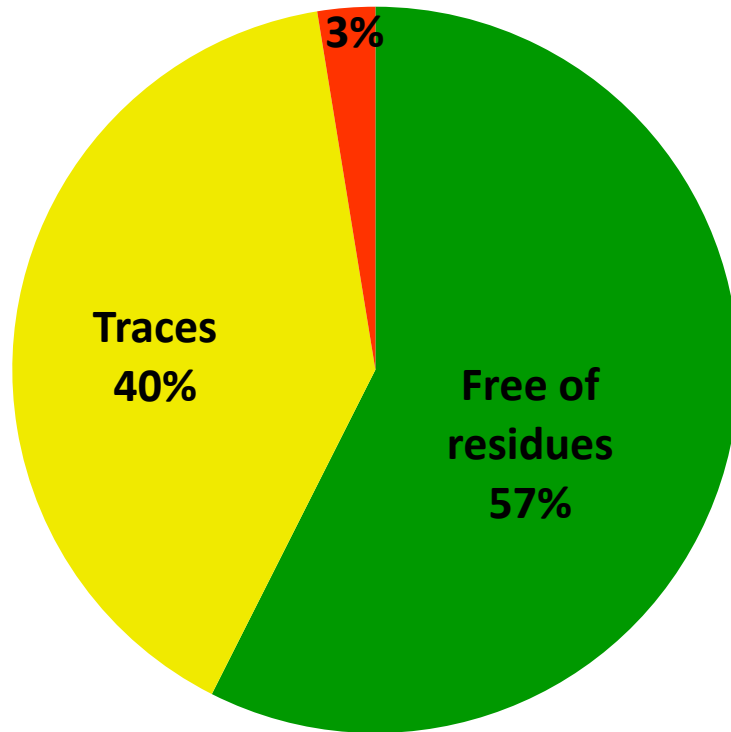
Baransky: Metaanalysis of fresh products



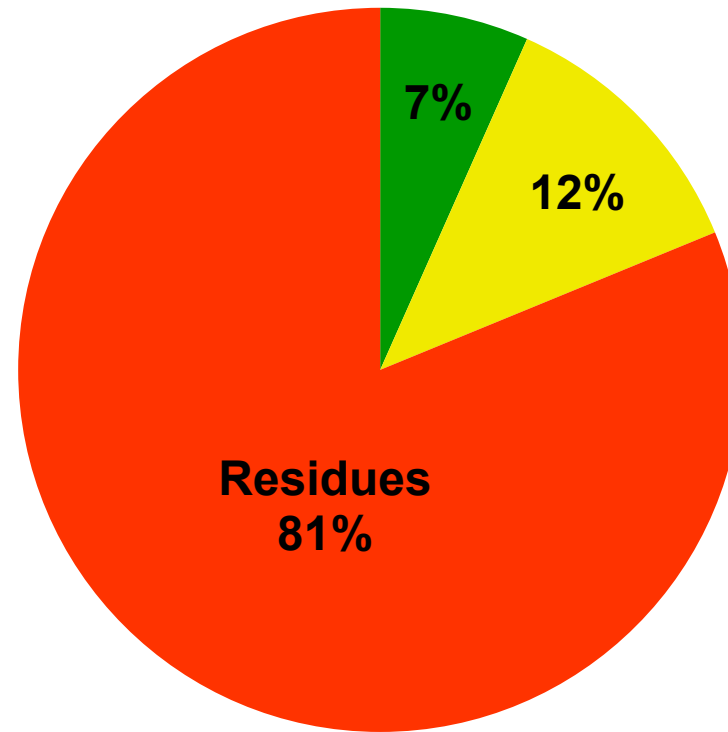
Source: Baransky *et al.* 2014

Pesticide residues

Organic fresh products



Conventional fresh products

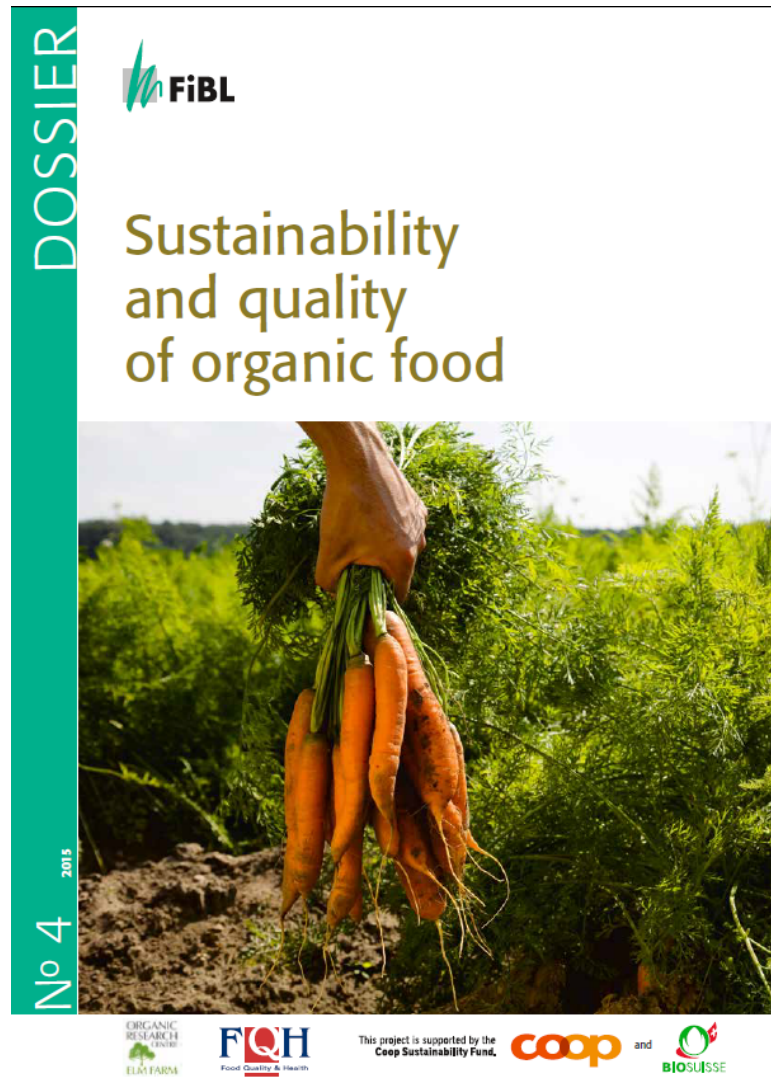


Is organic food better



- › fewer additives
- › no artificial sweeteners, stabilisers, or preservatives
- › no addition of glutamate as a flavour enhancer
- › No artificial colouring
- › No artificial flavours
- › No hydrogenated fats
- › No, or only traces of pesticides

Thank you for your attention!



<https://www.fibl.org/nc/de/shop/startseite.html>