

How do food producers communicate producing methods to consumers?

Results of field research in different German supermarkets and analysis of online communication of various producers

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Background

Consumers' knowledge of food processing is generally low, and their purchase decisions or opinions are influenced by feelings or information they have got from different media [1]. In advertising, often an idyllic production of food is presented [2]. One important channel for information between producer and consumer is the packaging of the product, because most consumer decisions take place directly at the point of sale [3]. The buying behaviour is influenced by the colour, the packaging material, the design and font style and especially the printed information [4]. Some processing methods have to be on the packaging by law, but these are only few, even in the organic food sector [1]. One difficulty in the communication between producer and consumer is that information can be unclear [5] or the understanding of terms are different [6]. Hence our research questions considered how food processing is described on the packaging and in non-packaging promotion, for milk, fruit juice and tomato products, organic as well as non-organic.

ProOrg

ProOrg is a research project that is developing a set of strategies and tools (Code of Practice) to help organic food processors in the selection of appropriate technologies that are in harmony with the organic principles. Part of the Code will be a tool for successful communication between producers and consumers.

Material and Methods

Communication material from producers to consumers were analysed regarding information about processing. Chosen materials are the retail packaging of milk, fruit juice and tomato products in organic and non-organic quality. A full inventory was conducted in 8 supermarkets in Münster, Germany, followed by a frequency analysis. Tables 1-3 outline the collected material.

Table 1: Milks (drinking milk from cow, with lactose) of the inventory

| MILK | Traditional pasteurization | ESL-treatment | UHT-treatment | Sum |
|-------------|----------------------------|---------------|---------------|-----|
| Organic | 8 | 15 | 14 | 37 |
| Non-organic | 5 | 28 | 28 | 61 |
| Sum | 13 | 43 | 42 | 98 |

Table 2: Fruit juices of the inventory

| FRUIT JUICES | Direct Juice | Made from concentrate | Sum |
|--------------|--------------|-----------------------|-----|
| Organic | 77 | 2 | 79 |
| Non-organic | 108 | 93 | 201 |
| Sum | 185 | 95 | 280 |

Table 3: Tomato products of the inventory

| TOMATO PRODUCTS | Passata | whole canned | chopped | Sum |
|-----------------|---------|--------------|---------|-----|
| Organic | 22 | 4 | 16 | 42 |
| Non-Organic | 23 | 18 | 25 | 66 |
| Sum | 45 | 22 | 41 | 108 |

Supplementary analysis of videos from producers of milk and dairy products as well as fruit juices was conducted regarding information on food processing. Videos about tomato products have been excluded due to their limited number and the small variety of producers. Videos were accessed on the homepages of the producers, on their YouTube-channels or elsewhere on YouTube, but clearly assignable to the producers. Producers are from Germany or Austria, the language of the videos is German. They are commercial spots or image films and have an advertising character. Table 4 gives an overview on the videos. The chosen methodology was a qualitative content analysis.

Table 4: Video analysis

| | MILK AND DAIRY PRODUCTS | FRUIT JUICE |
|--|-------------------------|-------------|
| Number of videos in total | 10 | 10 |
| Producers with certified organic products | 7 | 4 |
| Number of Producers | 5 | 4 |
| Producers without certified organic products | 3 | 6 |
| Number of Producers | 1 | 4 |

Preliminary Trial

The pre-test took place in 7 supermarkets in Münster during Winter 2018 without a full product inventory. Fruit juices (n=33, with organic=13, non-organic=20), milks (n=36, with organic=16, non-organic=20) and tomato products (n=13, with organic=8, non-organic=5) were analysed regarding to the information on their processing on the packaging. 26 fruit juices were direct juices, 7 were made from concentrate. In every product group emotional terms like „gentle“, „love“ and „careful“ could be found (milk=15, fruit juice=13, tomato product=22). Fruit juices and tomato passata were promoted with time-associated terms, like "bottled directly" or "fresh from tree" (fruit juice=23, tomato products=6). Translations are our own. Few technical details were indicated (temperature or duration of heating). An obvious contrast between organic and non-organic products was not found within the pre-test.

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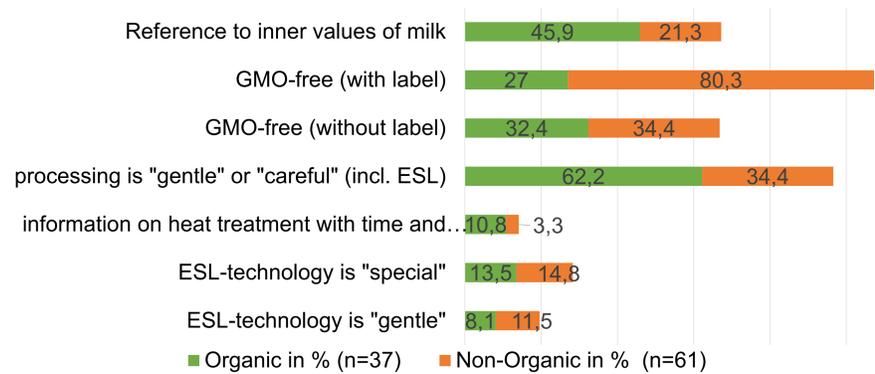
CORE organic

PRO-ORG COORDINATOR CREA (ITALY)

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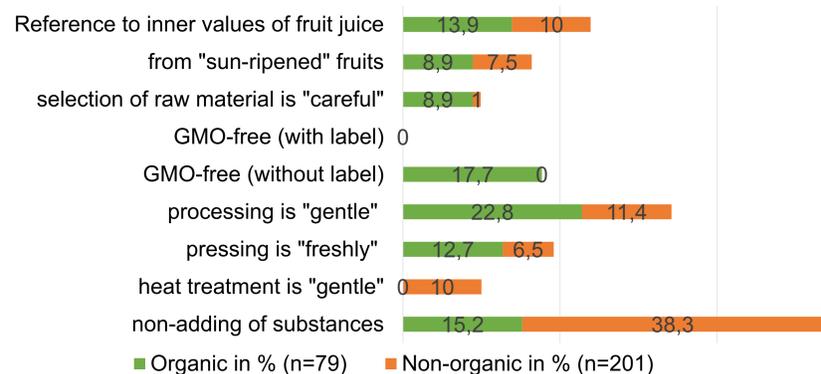
Results

Figure 1: Information items about processing on milk packages



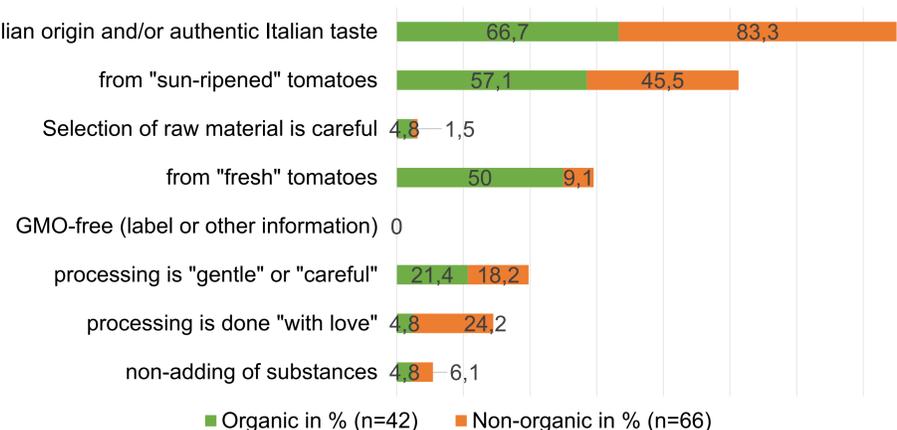
VIDEOS ON MILK AND DAIRY PRODUCTS: In three videos **heating** of the milk is mentioned but shown in a private kitchen and not in an industrial setting. An **idyllic production** is shown in 6 videos. The term "**gentle**" is used in two videos to describe the processing. Three videos stress a **combination of tradition and modern technology**. Quality control in a **laboratory** is shown in 3 videos. A reference to the **regional origin** is given in 3 videos. One video mentions that the products are **without genetic engineering** and another video that they do **not use additives**. What is not shown in the videos is the setting of the fat content of milk, the homogenization or ESL-technology. There is no obvious contrast between videos from organic and non-organic producers.

Figure 2: Information items about processing on fruit juice packages



VIDEOS ON FRUIT JUICE: In 6 videos **hands** are mentioned with expressions like "handpicked" or they are in focus of the camera. The terms "**gentle**", "**careful**" or "**cautious**" are used in 4 videos and are in most cases used to describe the effects of processing towards the product, but in one case also towards the environment. Three videos use terms of **freshness**. In 5 videos an **idyllic production** is presented. Three videos show the shredding or pressing of fruits, in the other videos it switches from whole fruits to juice without any fragmentation of the raw material. One video gives information on **heat treatment** (with temperatures). Two videos show the quality control in a **laboratory**. There is no obvious contrast between organic and non-organic producers.

Figure 3: Information items about processing on tomato product packages



Conclusion and Outlook

Detailed information on processing is rare on the packages of all three product types. Processing is often described with emotional terms like gentle or careful, or the time associated adverb „fresh“. For tomato products, the Italian origin is often mentioned on the packaging. The raw material for fruit juice and tomato products is described as „sun-ripened“, which could evoke pictures of an idyllic production. An obvious contrast between organic and non-organic products was found for information about the non-use of genetic engineering: this was more present on non-organic milks and organic fruit juices. Genetic engineering is forbidden for organic products in general, so perhaps organic milk processors feel less need to describe their products as free from genetic engineering on the packaging. On the other hand, some organic fruit producers do this. The reasons for this will be examined in further research of the project ProOrg. The videos show an idyllic production. Emotional terms are used to describe processing, while only selected processing steps are shown. The inventories will be repeated in Germany and several European countries for a transnational comparison of the results.

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A full list of all references used in the preparation of this work can be requested from the authors at lisa-borghoff@fh-muenster.de strassner@fh-muenster.de