



Nederlandse Voedsel- en
Warenautoriteit
*Ministerie van Economische Zaken,
Landbouw en Innovatie*

Food Safety Problems specific to the Short Chain

Selected Case studies from the Netherlands

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Problems of the “short chain” Artisan ; ambachtelijk

Merriam - Webster: **Artisan** : One that produces something, as cheese or wine, in limited quantities often using traditional methods

Connotation for the public:

- Natural
- Pure
- Healthy
- Tasteful
- Safe



The short chain in NI consists of approximately 25,000 companies

Most of these are bakers 3500 and butchers 1800

Big part of the group is mobile 11,500 and sells on markets

Often they own both a shop and a market stall

All are subject to EU 852 which has been translated into hygiene codes by the trade organisations

The total number is slowly decreasing.





Solely from the standpoint of food safety:

“Big industry”

- Knows its procedures,
- Work according to HACCP and GMP
- Have quality control officers
- Have a reputation to protect

Artisan producers may have less knowledge and resources and their product may be a side-line of other activities, such as farming



- Three cases to illustrate the specific problems of the short chain with respect to food safety:
- The cheese farmer who didn't change his boots
 - The farmer's wife who made delicious pudding
 - The butcher who prepared fried rice dishes and soups, but couldn't cool them fast enough



In 2006 a cluster of *Salmonella* infections was discovered in Twente, an area in the east of The Netherlands

The distribution of the cases corresponded to the sales areas of two supermarkets

One of the products that were unique to these supermarkets was a locally produced cheese

In the cheese, no *Salmonella* was found with the standard method (25g sample)

On the farm that produced the cheese the specific fagetype *Salmonella* was found only in a drainpipe



When the outbreak persisted the RIVM found the *Salmonella* strain in a year-old cheese by enrichment culture using 1 Kg samples

Turned out that the farmer knowingly violated the rule that he should change boots going from the cowshed to the cheese making department.

He thought it was a stupid and unnecessary rule.



Many farms sell their own products directly to the public. Sometimes they have shops and make special products to sell in that shop.

A farmer's wife had extra time on her hands after the children left home and decided to start making "farmers custard" (boerenvla) to sell at the farm.

All goes well at the start. Then she begins to experiment with the recipes and finds out that heating only to 80°C gives a better taste than heating to 90°C.

She doesn't know that the heating is a safety step
The pudding is often full of *Bacillus cereus*



A butcher has a very successful sideline of ready-to-eat dishes. He wants to increase that line of business.

He buys immense (800 liter) preparation vessels, but thinks the optional cooling system is too expensive.

His soups and rice dishes are found to contain high numbers of *Clostridium perfringens*.



Common factors in these three examples:

- Lack of knowledge about the process
- Ignoring known rules, because one doesn't see the sense
- Not following prescribed steps because one doesn't realize it is part of safety measures
- Underestimating the risk of cutting corners

Contributing factor: the ultra-detailed nature of Hygiene codes and HACCP plans



Example of a section of the hygiene code for restaurants and hotels

Temperature measurement (Food & Commodities Act, Food Hygiene, Art. 3)

1. For temperature measurements use an electronic thermometer with a sensor that can be thoroughly cleaned and disinfected (not a mercury thermometer!)
2. Check whether the sensor is clean. Disinfect it and rinse it off before you measure the temperature of an unpackaged product. See also the working instruction 'Washing up by Hand'. The sensor may also be disinfected with an alcohol cloth specially for this purpose.
3. Place the sensor between the delivered, refrigerated or frozen raw materials or products.
4. Remove the sensor only when the temperature no longer goes up or down.
5. Note down the temperature reading on the Weekly Hygiene Form.
6. Clean the sensor after use.
7. Test the thermometer regularly, but at least once a year. For example, in boiling water (100 C) or in melting ice (0 C).



CAUTION
THIS MACHINE
HAS NO BRAIN
USE YOUR OWN





Based on these observations the following counter measures were taken by the NVWA:

- Make sure that all artisan food producers are known.
- Divide them in groups according to their safety record (green, orange, red). Most attention goes to red, green is rarely inspected.
- Offer compliance assistance to new companies
- Enforce only those rules that affect food safety
- Give additional training to inspectors
- Measure effect by monitoring complaints and disease cases



Even difficult questions will be answered