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# Food Safety in Finland in 2016





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## **Food Safety in Finland 2016**



## Description

Publisher	Finnish Food Safety Authority Evira
Title	Food safety in Finland 2016
Authors	Finnish Food Safety Authority Evira
Abstract	<p>This report presents for the year 2016 the results of regulatory control related to food safety, official control and monitoring programmes on food and feed, as well as research and risk assessments. The report also assesses, based on those results, the status of food safety and the future needs for regulatory activities in Finland. The report extends the annual report referred to in EU Control Regulation (EC) No. 882/2004 with respect to food safety; the annual report describes the results of control in the various sectors of the food supply chain as a whole.</p> <p>The results of regulatory control and research in 2016 demonstrate a good status of food safety in Finland. Domestically produced food does not contain chemical substances in levels that would be dangerous to the consumer. The foods tested contained food-poisoning causing bacteria in very low concentrations. The number of food-borne epidemics has not increased, but the number of people affected has increased. This was caused by the large scale of epidemics in terms of affected people. The number of food withdrawals was slightly higher than in the previous year. A higher rate of fraudulent activities connected to food than before was detected.</p> <p>As a rule, food sector companies operating in Finland meet food safety requirements excellently or well. The most common areas in which improvement is needed include in-house control, general hygiene, management of temperatures and substances causing allergies, as well as suitability and maintenance of facilities and equipment. Severe shortcomings occur in very low numbers.</p>
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## Kuvailulehti

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Julkaisun nimi	Elintarviketurvallisuus Suomessa 2016
Tekijät	Elintarviketurvallisuusvirasto Evira
Tiivistelmä	<p>Tässä raportissa kerrotaan elintarviketurvallisuuteen liittyvän viranomaisvalvonnan, elintarvikkeiden ja rehujen virallisten valvonta- ja seurantaohjelmien, tutkimusten ja riskinarviointien tuloksista vuodelta 2016, sekä arvioidaan niiden perusteella Suomen elintarviketurvallisuustilannetta ja viranomaistoiminnan tulevaisuuden tarpeita. Raportti syventää elintarviketurvallisuuden osalta EU:n valvonta-asetuksen (EY) No 882/2004 edellyttämää vuosiraporttia, jossa kuvataan valvonnan tulokset koko elintarvikeketjun eri sektoreilla.</p> <p>Viranomaisvalvonnan ja -tutkimusten tulokset vuodelta 2016 osoittavat, että elintarviketurvallisuus on Suomessa hyvällä tasolla. Kotimaassa tuotetut tuotteet eivät sisällä kuluttajalle vaarallisia määriä kemiallisia aineita. Ruokamyrkytyksiä aiheuttavia bakteereita esiintyy hyvin vähän tutkituissa elintarvikkeissa. Elintarvikeväliitteisten epidemioiden määrä ei ole lisääntynyt, mutta epidemioissa sairastuneiden ihmisten määrä on kasvanut. Tähän olivat syynä epidemiat, joissa sairastui lukuisia ihmisiä. Elintarvikkeiden takaisinvetojen määrä oli hieman edellisvuotta suurempi. Elintarvikkeisiin liittyvää petoksellista toimintaa havaittiin aikaisempaa enemmän.</p> <p>Kotimaassa toimivat elintarvikealan yritykset täyttävät elintarviketurvallisuusvaatimukset pääosin oivallisesti tai hyvin. Parannettavaa löytyy yleisesti omavalvonnassa, yleisessä hygieniassa, lämpötilojen ja allergiaa aiheuttavien aineiden hallinnassa sekä tilojen ja laitteiden soveltuvuudessa ja kunnossapidossa. Vakavia puutteita esiintyy hyvin vähän.</p>
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## Beskrivning

Utgivare	Livsmedelssäkerhetsverket Evira
Publikationens titel	Livsmedelssäkerheten i Finland 2016
Författare	Livsmedelssäkerhetsverket Evira
Resumé	<p>I denna rapport berättas om resultaten av myndighetstillsynen som hänför sig till livsmedelssäkerheten, de officiella tillsyns- och uppföljningsprogrammen gällande livsmedel och foder och undersökningar och riskvärderingar år 2016 och utgående från dem utvärderas livsmedelssäkerhetsläget och de framtida behoven inom myndighetsverksamheten i Finland. Rapporten fördjupar den årliga rapport, som EU:s kontrollförordning (EG) nr 882/2004 förutsätter för livsmedelssäkerhetens del. I rapporten beskrivs resultaten av kontrollen i olika sektorer av livsmedelskedjan som helhet.</p> <p>Resultaten av myndighetstillsynen och -undersökningarna år 2016 visar att livsmedelssäkerheten i Finland befinner sig på en hög nivå. Produkterna som producerats i Finland innehåller inte kemiska ämnen i mängder som är skadliga för konsumenten. Bakterier som orsakar matförgiftningar förekommer i mycket små mängder i de undersökta livsmedlen. Mängden livsmedelsburna epidemier har inte ökat, men antalet människor som insjuknat i epidemierna har ökat. Orsaken till det var sådana epidemier som drabbade ett stort antal människor. Mängden återkallade livsmedel var något större än året innan. Ohederlig verksamhet som hänförde sig till livsmedel observerades mer än förr.</p> <p>Livsmedelsföretagen som verkar i Finland uppfyller till största delen livsmedelssäkerhetskraven utmärkt eller bra. Rum för förbättringar observerades allmänt i egenkontrollen, i den allmänna hygien, i hanteringen av temperaturerna och ämnena som orsakar allergi och i lokalernas och utrustningens lämplighet och underhåll. Allvarliga brister förekommer ytterst sällan.</p>
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## Introduction

This report presents for the year 2016 the results of official control related to food safety, official control and monitoring programmes on food and feed, as well as research and risk assessments. The report also assesses, based on those results, the status of food safety and the future needs of official activities in Finland. This report extends the annual report referred to in the EU Control Regulation (EC) No. 882/2004 with respect to food safety; the annual report describes the results of control in the various sectors of the food supply chain as a whole. The corresponding results for 2015 are published in the Food Safety in Finland in 2015 report. Results for earlier years can also be found on the Evira websites ([www.evira.fi](http://www.evira.fi) and [www.zoonosikeskus.fi](http://www.zoonosikeskus.fi)).

Food business operators are responsible for the safety of their products, for providing sufficient and correct information regarding them, and compliance in their operations. To ensure this, they carry out own check control and sampling activities. The results of own check controls are not included in this report.

## Summary

The results of the official control and research conducted by authorities for the year 2016 demonstrate that food safety is at a good level in Finland. Products produced domestically do not contain chemical substances in levels dangerous to consumers. Very small amounts of bacteria causing food poisoning were found in the analysed food products. The number of food borne outbreaks remained at the same level as in previous years, however, the number of people affected doubled when compared to the previous year. This was due to outbreaks that affected a large number of people. The number of food product recalls was slightly higher than the year before. Fraudulent actions related to food products were detected more frequently than in previous years.

Results pertaining to food business operators operating in Finland are published through the Oiva system. According to the Oiva results, food business operators complied with the statutory requirements well (86%) in all sectors of the industry. Shortcomings were detected in own check control, temperature management, hygiene and labelling. Industrial kitchens and grocery shops achieved the best results, whereas the highest number of shortcomings was detected in restaurants. In approved establishments, shortcomings are found for instance in the suitability and maintenance of facilities and equipment, sanitation, own check control and the performance of the personnel. The publishing of control data has further improved the uniformity of the control procedures and the responsibility of the operators.

The year 2016 was the first year in which the results of all planned food control activities were published in the Oiva system for the publication of food control results. 87% of all Oiva control results were excellent or good. A total of 1,887 inspections were carried out in approved food sector establishments, 84% of which achieved excellent or good results. The most common issues in the establishments concerned shortcomings in sampling and own check control testing, traceability and general labelling. 23,285 inspections were conducted in other food premises, 87% of which achieved excellent or good results. The most frequently repeated issues concern shortcomings in the temperature management of food products, as well as nutritional and health claims. The results resemble those obtained in the previous years.

The Oiva system has generally harmonised food control and increased the efficiency of real time data collection and the use of control data in planning and developing the operations.

The control activities planned by the food control authorities were mainly achieved. Some of the targets were not met in terms of either the number of inspections or inspected requirements. Special situations (such as food borne outbreaks and recalls) that have a direct impact on food safety were handled well.

Future challenges within official activities concern the international nature of the production of raw materials for food products; the networking of and chains built by the companies in the sector; multi-channel sales and marketing; new forms of production, technological advances, the differentiating and diversifying consumer needs, the effects of urbanisation on the consumption and production of food products, the effects of the ageing of the population, risk tolerance, circular economy and climate change. The control of food product frauds and distance selling pose new kinds of challenges for official control. For the competitiveness of Finland,

the promotion of food product exports is an important focus area in official activities. In the near future, meat inspections and the skills of small and medium-size enterprises regarding food product and export requirements will be developed. The improvement of the risk-based approach and harmonisation of local control activities, as well as the overall efficiency and digitalisation of official activities, remain among the goals for the near future.

## 1. Official control system for food safety

The human resources for official control in food safety related tasks in 2012–2016 are presented in Table 1.

**Table 1.** Food control personnel in full-time equivalents (FTE)

Authority	2016	2015	2014	2013	2012
Evira	324	321,0*	314,0*	313,0	298,0
ELY**	24,3	3,6	2,8		
Regional State Administrative Agencies	13,2	13,2	17,0	15,3	14,8
Municipalities	230,4	263,5	276,4	296,0	290,2
Customs	80,0	82,0	84,0	84,0	84,0
Valvira	1,1	1,2	1,2	0,8	0,8
The Finnish Defence Forces	2,2	2,3	2,2	2,7	3,2
Åland (estimate)	5,4	5,4	5,4	5,4	5,4
Others, incl. authorised inspectors	14,3	18,9*	18,9*	8,2	8,2

\* Feed control included in the resources

\*\* Organic control is included in food safety from 2016 onwards

About 730 full-time equivalents (FTEs) were invested into official activities in food control. The figures exclude reindeer meat control conducted by municipal veterinarians under the Regional State Administrative Agency for Lapland, and the work hours of the fee-based official veterinarians working for Evira. The figures also exclude the work invested in testing official samples in local laboratories. The figure representing hygiene testers' work time is a rough estimate. The number of municipal control units was 62.

The implementation of planned controls will be analysed in the following chapters. Municipal food control plans were largely implemented in 68% of the control units. The planned controls of Regional State Administrative Agencies were also implemented for the most part.

## 2. General information regarding food safety

### 2.1. Companies in the food sector

Figure 1 describes the number of companies in the food product and food contact material sectors in 2016.

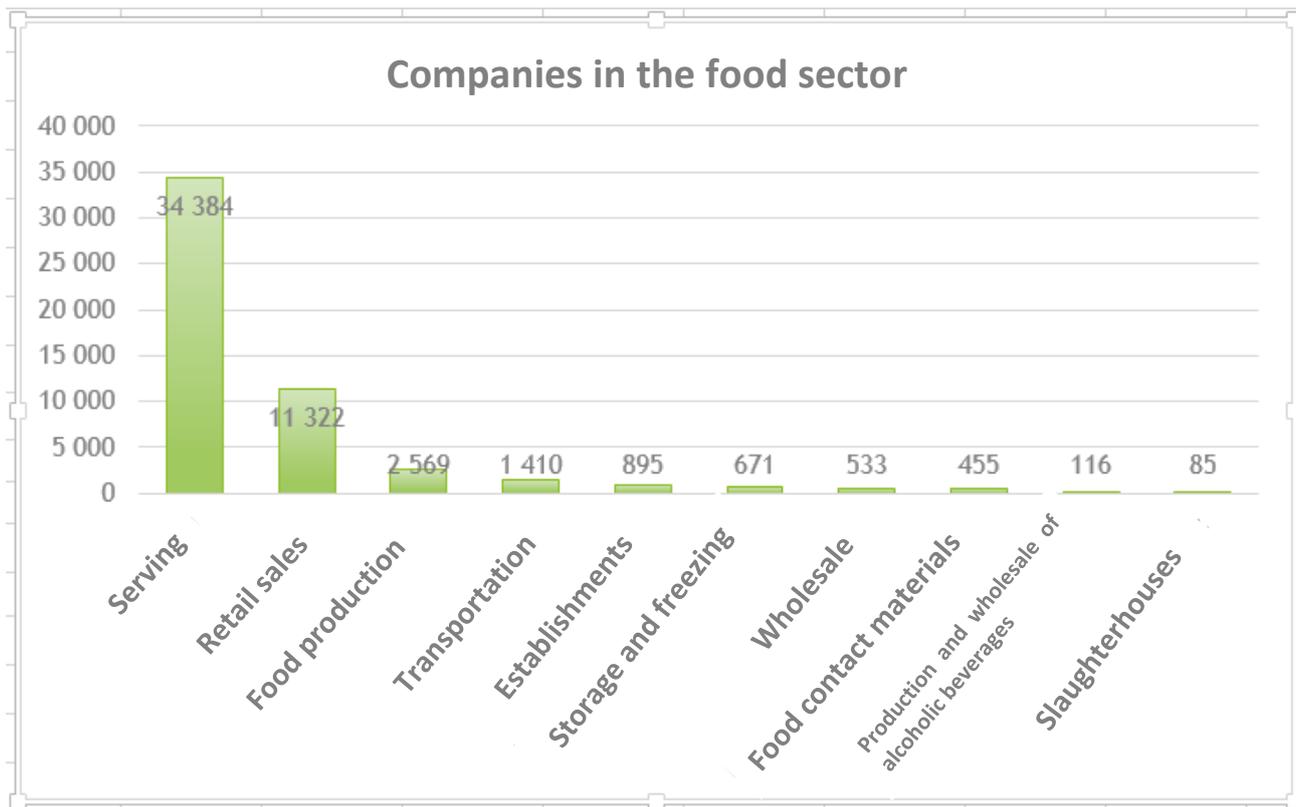


Figure 1. The number of food product and food contact material companies in the official system

## 2.2. The Oiva results of food control

Planned food control is implemented by using the Oiva system that also informs consumers of the food control results of companies in the form of the Oiva report. The Oiva results of retail shops and serving establishments have been published since 2013 and those of the food industry since the beginning of 2016.

Taking into account follow-up inspections, about 30,000 Oiva controls were conducted in food business operators, 67% of which were in serving establishments and 18% in retail sales. While the new risk classification and Oiva systems have slightly improved the implementation of planned control, the recommended targets are still not met. The area that most requires improvement is the food contact material control.

As of the end of 2016, 74% of retail shops and serving establishments have been inspected according to the Oiva system. Some of the small, low-risk operators will only be inspected occasionally; therefore, their Oiva results will only be available after they have been inspected according to the system for the first time. The percentage of retail shops and serving establishments that were rated excellent or good increased until 2015, the percentage in the year under review being 86.6% (2016) (87.6% in 2015, 86.0% in 2014 and 82.3% in 2013). 84% of establishments were rated excellent or good.

## 2.3. Hygiene proficiency

The proficiency certificate to verify hygiene proficiency is required of all personnel who work in the food premises and handle unpacked, perishable foodstuffs.

The number of Evira approved proficiency examiners is over 2,100. In 2016, 108 new proficiency examiners were approved. The approval of new proficiency examiners is a response to the need identified in the field.

The proficiency examiners organised a total of 11,064 proficiency tests around Finland. As of the end of 2016, a total of 172,370 proficiency tests have been organised. The number includes regular proficiency tests, tests

for special circumstances, certifications granted on the basis of an examination and renewals of the proficiency certificates. The annual number of proficiency tests has remained at the same level (Table 2).

Proficiency examiners granted a total of 63,862 proficiency certificates. As of the end of 2016, the number of proficiency certificates granted was 1,078,671. The number of proficiency certificates granted each year has remained at the same level in average (Table 2).

**Table 2.** Proficiency tests organised and proficiency certificates granted in 2002–2016

<b>Year</b>	<b>Proficiency tests</b>	<b>Proficiency certificates</b>
	number	number
2016	11,064	60,862
2015	11,228	63,323
2014	11,965	67,525
2013	11,572	67,768
2012	11,595	66,877
2011	11,906	68,281
2010	11,920	69,552
2009	11,582	66,126
2008	11,629	63,944
2007	11,076	63,791
2006	10,868	67,288
2005	12,602	79,080
2004	14,694	108,777
2003	13,823	114,428
2002	4,846	51,049
<b>Total</b>	<b>172,370</b>	<b>1,078,671</b>

The approval of one proficiency examiner was cancelled due to significant inadequacies and errors in their operations.

The audits carried out in 2009–2016 demonstrated at least minor remarks in the in average of nearly every proficiency examiner, and an average of 16% of audits every year result in the cancellation of a proficiency examiner's rights (Table 3).

**Table 3.** Audits to proficiency examiners conducted by Evira and audit results in 2009–2016

<b>Audit results</b>				
<b>Year</b>	<b>Examiners audited</b>	<b>Note</b>	<b>Cancellation of examiner's rights</b>	<b>Requests for police investigation</b>
	persons	number	number	number
2016	6	4	2	0
2015	1	0	1	0
2014	2	1	0	0
2013	18	16	2	0
2012	40	34	6	0
2011	51	42	9	4
2010	35	32	3	1
2009	14	10	4	0
<b>Total</b>	<b>167</b>	<b>139</b>	<b>27</b>	<b>5</b>

Table 4 summarises the results of the Oiva inspections regarding the verification of hygiene proficiency. According to the results, 90.9% of inspected food premises received the Oiva rating of A that indicates that

the food business operator had ensured that each employee that handled unpacked, perishable foodstuffs had a proficiency certificate that follows the model set out by Evira. In addition, the operator has kept records, as stipulated by the food legislation, to ensure that its employees' hygiene proficiency is up to date as a part of their own check control. A total of 7.7% of all food premises had minor shortcomings in keeping their records, which lead to a B rating. A small number of operators (1.4%) was rated C, which indicates that the operator had not ensured that the employees had proficiency certificates and that records were not kept. 0.1% of inspections resulted in a D rating. The D rating indicates that the operator has repeatedly been rated C, but has not rectified the issues in due time. A total of six food premises were rated D, all of which were registered food premises. The distribution of the results of Oiva inspections were virtually identical in both approved and registered food premises. The results are similar to those obtained in 2015.

**Table 4.** The results of the Oiva inspections regarding the verification of hygiene proficiency

<b>The Oiva results in 2016</b>								
<b>4.6 Verification of hygiene proficiency</b>								
<b>Food premises</b>	<b>Inspected</b>	<b>Results</b>				<b>Guidance and instruction</b>	<b>Notice</b>	<b>Coercive measures</b>
	number (%)	A number (%)	B number (%)	C number (%)	D number (%)			
<b>Approved establishments</b>	301 (3.2)	3,297 (87.9)	32 (9.5)	9 (2.7)	0 (0.0)	31	15	0
<b>Registered food premises</b>	9,482 (96.8)	9,191 (91.0)	769 (7.6)	137 (1.4)	6 (0.1)	776	124	6
<b>Total</b>	9,783 (100.0)	9,488 (90.9)	801 (7.7)	146 (1.4)	6 (0.1)	807	139	6

## 2.4. Quality and accountability systems

A total of three operator specific applications regarding the national Sikava quality system for pork meat with the Quality Assurance label were approved (resulting in the total number of operators increasing to nine, with 12 Quality Assurance approved holdings).

## 2.5. Guides for good practices

In 2016, the updated guide for the own check control of food products in restaurants (Omavalvonta ravintoloissa - elintarvikkeet) for the members of the Finnish Hospitality Association MaRa were evaluated. The guide was updated as regards the changes to the legislation and specified for temperature control, product-specific risk management, personal hygiene, recalls, sampling, contact materials and allergen management.

The wild herb guide (Luonnonyrttiopas) drafted by the Arktiset Aromit association was evaluated in terms of the use of wild herbs as food. The wild herb guide is a comprehensive information package regarding the most common wild herbs collected and sold in Finland. Among other things, the guide covers the use, nutritional content, harmful substances, collection, productisation, marketing and sale of the herbs. The food legislation and its requirements have been considered on a broad basis in drafting the guide. The guide is informational and it can be used as a guide by wild herb companies and other operators in the sector, as well as wild herb enthusiasts. It can also be used as learning and teaching material.

Seven guides for good practices have been evaluated in the food and two in the feed sector (<https://www.evira.fi/yhteiset/omavalvonta/hyvan-kaytannon-ohjeet/eviran-arvioimat-hyvan-kaytannon-ohjeet/>).

## 2.6. RASFF

In 2016, Finland reported 57 (in 2015, 55) cases of non-compliance detected in Finland to the RASFF system of the Commission. 34 (60%) reports concerned food products, 17 (30%) feeds and 6 (10%) contact materials. The reports that Finland filed mostly concerned the poor microbiological quality of imported food products (10 reports), violations of regulations regarding plant protectants (10 reports) and toxins (7 reports). During the year under review, only one RASFF report was filed regarding food products, feed or contact materials produced in Finland; due to an equipment failure, plastic chips had ended up among sliced cheese.

Finland filed 57 reports, 32 (56%) of which were based on border controls or market surveillance by Customs. Out of the cases that caused the 32 RASFF reports that Customs filed, in 27 cases the non-compliance was caused by a food product or kitchen utensil imported from a non-EU country (such as a mug manufactured in China). Finland filed five RASFF reports due to non-compliances detected by food business operators in their own check controls.

Due to the special guarantees concerning salmonella applied in Finland, imported feed batches are tested for salmonella. These tests revealed that 17 batches contained salmonella. These findings were reported in the RASFF system.

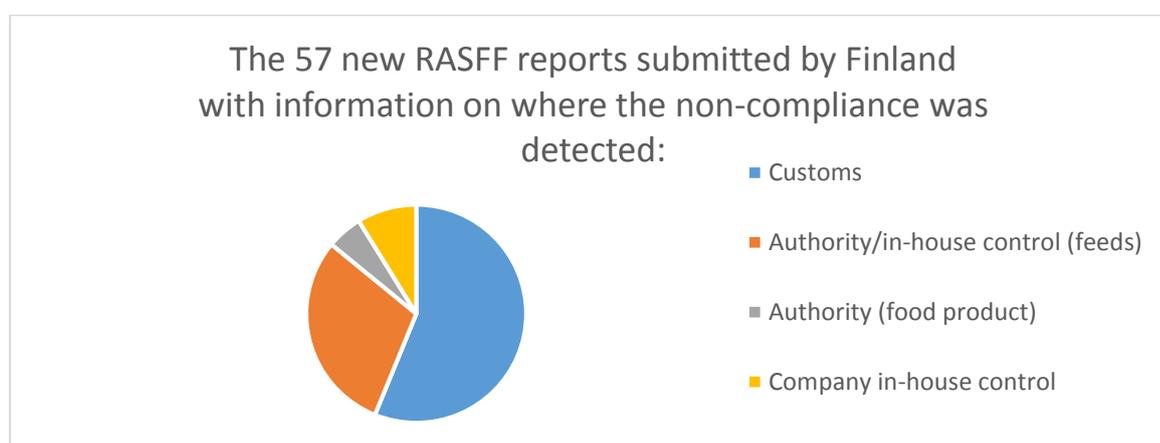


Figure 2. Reports filed by Finland to the RASFF system in 2016

In Finland, normal monitoring and, if necessary, recall measures are applied to the food products, feeds and contact materials reported by or to Finland using the RASFF system. Among other factors, the measures depend on whether the product has been made available to consumers and whether it is likely that households still have the product in their possession. In the cases where salmonella is found in feed, the feed is subjected to a chemical or heat treatment to rid it of salmonella before use.

The RASFF reports received by Finland most frequently concerned small batches of special products that had been sent to small operators. Some of the products, such as figs, raisins and chocolate, that the 83 received reports concerned, were also sold by large Finnish retail chains. In the case of the retail and restaurant chains, the operator had often been notified of the non-compliant batch before the Finnish authorities received a notification via the RASFF system.

## 2.7. Administrative Assistance and Cooperation System (AAC) between EU Member States

In 2016, Finland submitted three requests in the EU system for administrative assistance AAC-AA. They concerned errors in the labelling of fishing products, unlawful marketing of dietary supplements and inadequate labelling. Finland received information on two cases from other Member States via the AAC-AA system. One concerned the use of a prohibited substance in growing fruit and vegetables and the other, the

misleading and incorrect labelling of a dietary supplement. In the AAC-FF system for fighting food frauds, Finland filed one request for help to Sweden regarding the unlawful marketing of dietary supplements and weight loss products. Finland received information regarding four cases that concerned irregularities in connection with nuts, palm oil, tinned vegetables and tuna fish via the system. In the case of all requests for assistance that Finland submitted, the co-operation was smooth and answers were received within a reasonable time frame via the systems.

## 2.8. Recalls

The number of food product recalls was slightly higher than the year before. Cases that were considered recalls totalled 131, which is 18% more than the year before. The statistics may not be completely comparable due to slight differences in recording. However, the statistics give valuable insights into long-term trends (Figure 3).

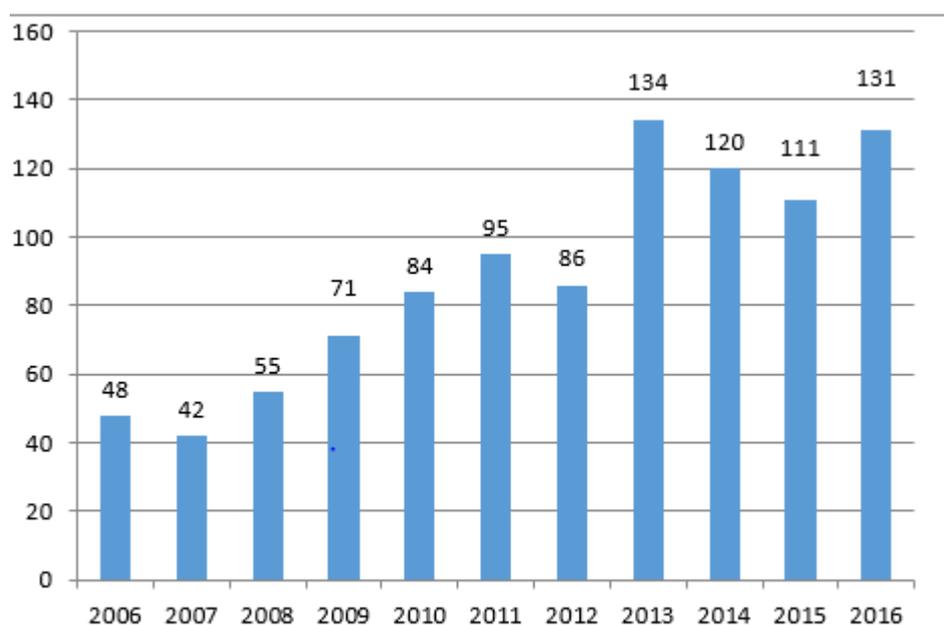


Figure 3. Food recalls in 2006–2016

The statistics for 2016 include all the cases reported in the international RASFF system that concern non-compliant products that were no longer available in the Finnish market when the information reached Finland. In most cases, the products were fresh fruit and vegetables. There were a total of 25 cases over the course of the year. A change in the manner in which the statistics are compiled caused a change in the otherwise decreasing trend. The change was necessary, however, since it helps demonstrate the frequency of product batches that require a recall reaching the market.

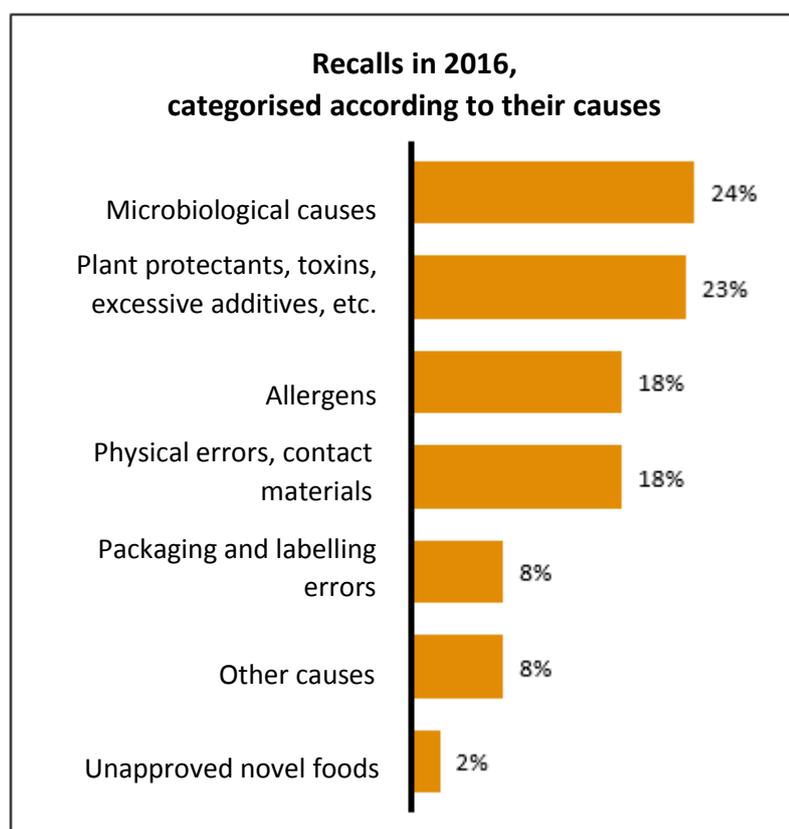


Figure 4. Causes of recalls

Recalls have been categorised according to the causes of recalls (Figure 4). In the four-year period under review, the most common causes have remained unchanged, however, the order of frequency among them has varied.

The most frequent cause for a recall was low microbiological quality (moulds, salmonella, listeria and other bacteria). In 2016, salmonella was detected in 12 food products; four of the cases concerned imported meat, four concerned herbs. The batches that contained salmonella were very small with a limited distribution. Microbiological defects were detected in Finland in the own check control conducted by operators (fast microbial growth in warm storage) and in shops and by consumers (inflated packages). In 50% of the cases, the information was received in Finland via the RASFF system. The backgrounds of these cases have not been inspected in Finland.

In 2016, the second most common cause for recalls was the category that includes errors in the use of plant protectants and growth boosters, the use of additives and mould toxins in food products. In some of the cases, the maximum allowed limits were exceeded, whereas others concerned prohibited substances. While the use of some plant protectants may be banned in the EU, maximum allowed levels may have been determined for them in imported products. The number of recalls that concern them has varied between 17 and 32 cases per year over the past four years. Last year, the number was 30. Excessive levels of aflatoxins and ochratoxins were detected in figs, raisins and pistachios. The 16 recalls that concern plant protectants and growth boosters are divided among several (12) products, mostly fruit and aromatic herbs.

The number of recalls caused by unlabelled allergens has varied between 10 and 30 since 2013. In 2016, the number was 23. They were discovered thanks to the RASFF system, as well as consumer reports and the own check control observations of the food business operators.

A special characteristic of recalls in 2016 was the presence of various kinds of foreign objects (often plastic or metal chips that had come off from the production or packaging equipment), defective food contact materials (materials from which foreign substances come off or dissolve into the food product) as well as larvae, beetles etc. These foreign particles or aromatic compounds were detected in 23 cases. This is more

than twice the number of cases in the previous year. It is very likely that one of the reasons of this trend is the targeting of inspections on kitchen supplies imported from China and Eastern Europe.

Last year, the most common source of information regarding food product non-compliance that required an intervention from authorities (53 out of 131) was the European alarm system RASFF. In 25 cases, most commonly fresh vegetables, fruit or herbs, had already been used up, meaning that there was no longer anything to recall.

A recall was initiated due to a finding by a consumer or an institutional catering 17 times and slightly more often due to findings by Customs. These figures have remained at the same level for a longer period of time (Figure 5).

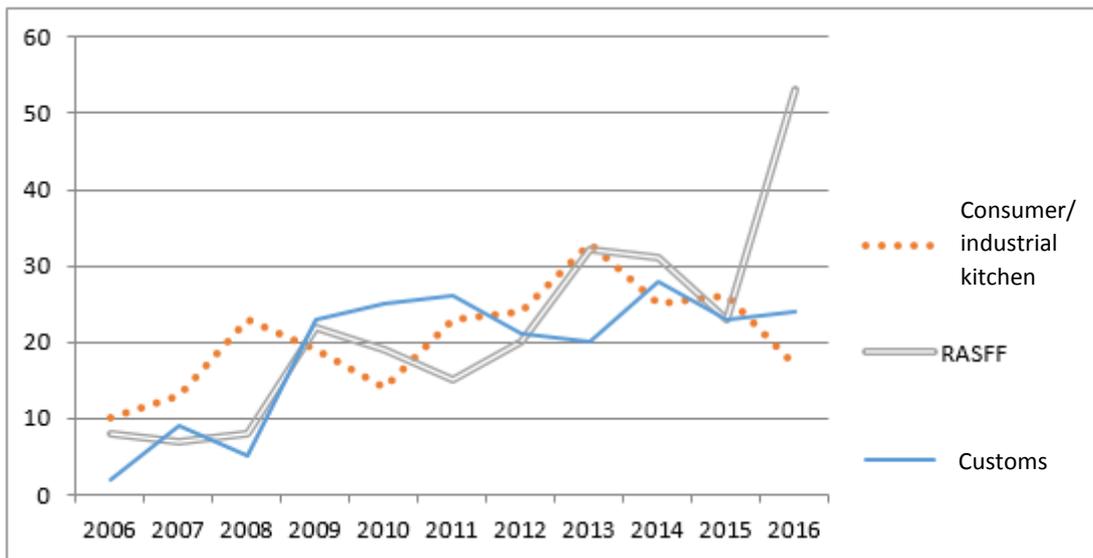


Figure 5. Detecting the need for a recall; the top-three most common sources

## 2.9. Food borne and household water borne outbreaks

In 2016, municipalities notified 89 suspected food borne or water borne outbreaks, which is slightly more than the year before, and five investigation reports without a previous notification of a suspicion. 59 outbreaks were classified as food borne or household water borne. While the rest were identified as other than food borne or household water borne outbreaks (such as transmitted from one person to another or from swimming water) or it only affected one person (Figure 6).

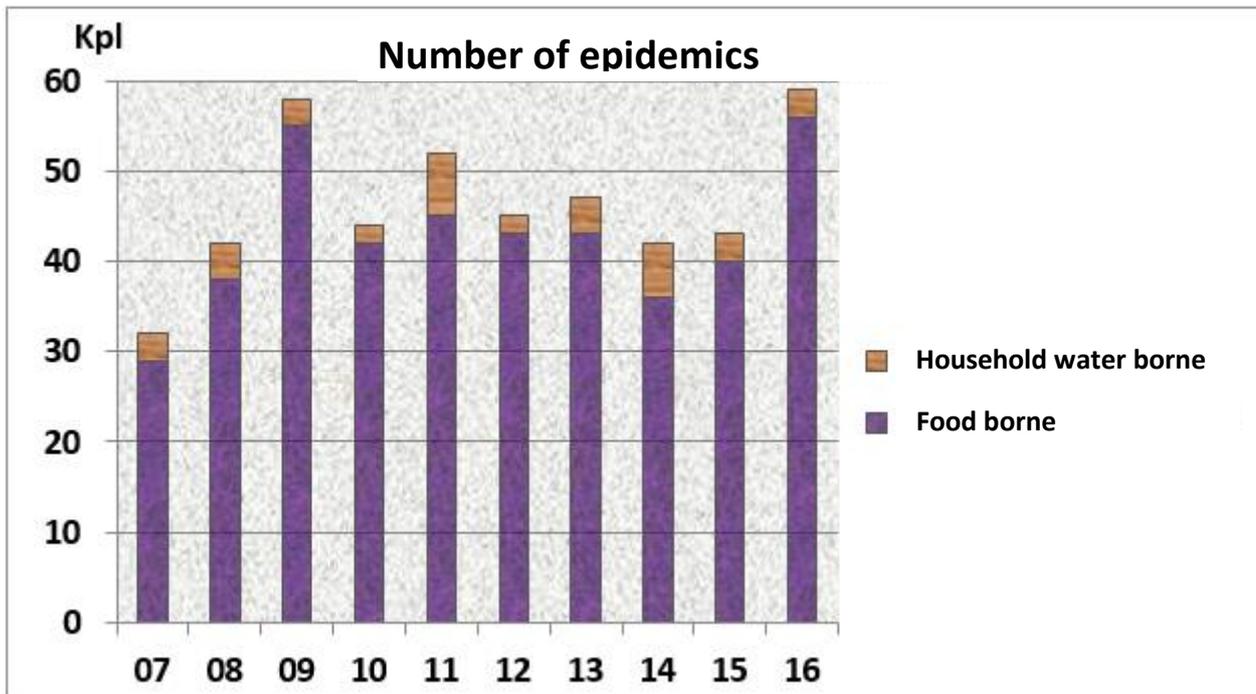


Figure 6. The number of food borne-and household water borne outbreaks in 2007–2016

The number of food borne and household water borne outbreaks (56 outbreaks with 1,392 people affected and 3 outbreaks with 150 people affected, respectively) was slightly higher than in the past few years, however, the number of people affected remained more or less at the same level. The most common pathogen identified in food borne outbreaks was norovirus (22 outbreaks), and often the factor that affected the outbreaks was an infected food handler (in at least 13 outbreaks). Of common causative agents of food poisonings that affected people, *Salmonella Enteritidis*, presumably from mung bean sprouts, caused outbreaks. Reportedly, about 20 people were affected. *Campylobacter* caused five food borne outbreaks, however, in only one case was the food stuff that was the carrier identified. In that case, raw milk was the carrier in the case of a small outbreak. *Yersinia enterocolitica*, spread in vegetables, caused a medium size outbreak in a staff canteen. Of the pathogens that cause more severe food poisonings, the largest epidemic of the year was caused in the capital region by the pathogens EHEC and EPEC. The arugula served by a catering service caused an epidemic that affected about 240 people (Figure 7).

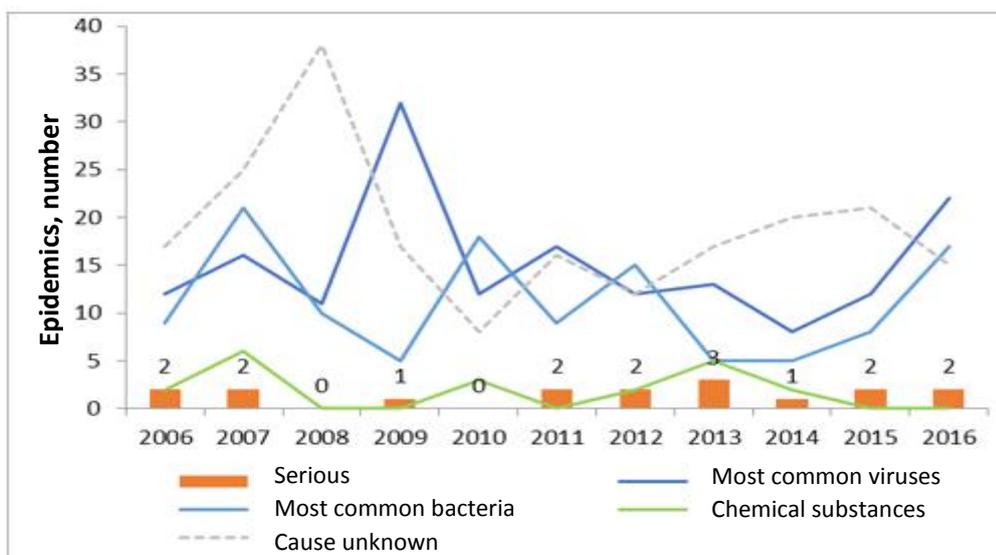


Figure 7. Food borne outbreaks categorised according to pathogens and severity. In a severe outbreak, listeria, EHEC or hepatitis was diagnosed in those affected.

### 3. Import of food and contact materials

#### 3.1. Veterinary border control

651 (in 2015, 652) batches of products of animal origin that were imported to Finland directly from a non-EU country were subjected to veterinary border control. Five batches (0.8%) (in 2015, 7 batches or 1.1%) received a written notice and five batches (in 2015, three batches) were rejected. Most commonly, shortcomings were found in the documentation (incorrect or incorrectly filled health certificate), food product hygiene and labelling.

#### 3.2. Import of products of animal origin from other EU Member States

In 2016, there were around 550 operators that imported products of animal origin from other EU Member States via places of first arrival. A total of 161 planned inspections and 17 follow-up inspections were conducted.

The inspections were targeted according to risks, taking imported food products, volumes, the effectiveness of own check control and history of official control into account. The majority of inspections applied to products subject to special guarantees concerning salmonella. Where possible, official samples to be examined for salmonella were always taken in connection with the inspections. A total of 27 official samples were taken in connection with the inspections; one of the samples (frozen broiler chicken) was positive for salmonella.

Control activities were also targeted to pork and wild boar meat and products derived from them imported from regions where African swine fever is found.

The most common irregularities at the places of first arrival concerned the updating of reports and own check control plans, as well as negligence in own check control sampling. The number of irregularities detected in the inspections was 672, which was more than the 601 irregularities detected in 2015. The irregularities detected at the places of first arrival and their frequency is specified in Table 5.

**Table 5.** The irregularities detected at the places of first arrivals and their frequency

<b>Irregularities detected and the number of inspections</b>	<b>2016 number</b>	<b>2015 number</b>
The notification regarding the operations of the places of first arrival does not correspond to current operations, update required	38	60
Inadequate own check control plans, update required	72	71
Own check control plans do not include descriptions of		
- filing monthly reports	54	34
- inspection of received parcels	44	35
- record keeping	44	31
- measures to handle detected failures	47	35
- sampling plan based on risk evaluation	51	10
Monthly reports missing, filing required	54	37
The information in the monthly report does not correspond to received batches	38	37
Sampling plan has not been followed/results have not been reported	47	52
Measures according to the results of planned sample analyses have not been taken and recorded	5	10
The operator does not know where to check information regarding approved establishments	19	24
The operator does not know where to check information regarding the Commission's safe-guard measures	21	33

The temperatures of cold storage goods have not been measured and recorded upon reception	49	34
The temperatures of cold storage goods do not comply with requirements	18	18
Products have not been packed and labelled according to requirements	13	6
Batches intended for heating have not been labelled properly	2	1
Trade documents related to batches are missing; must be submitted	11	17
A certification of salmonella status related to batches is missing; must be submitted	11	16
Samples for salmonella have not been taken and test results have not been recorded; recording required	21	18
Measures according to the results of planned salmonella sample analyses have not been carried out and recorded	5	5
The operator has not banned batches that have arrived without required documentation regarding special guarantees concerning salmonella	8	17
<b>Total</b>	<b>672</b>	<b>601</b>
Inspections	161	245
Unannounced inspections	65	
Samples taken for salmonella tests during the inspections	27	32
Salmonella findings in samples taken during inspections	1	1
Follow-up inspections required	17	14

### 3.3. Import of products of non-animal origin

Customs controls the import of products of non-animal origin to Finland. In 2016, Customs inspected a total of 3,254 batches of food products. About 30%, i.e. 961 of the batches were imported directly to Finland from non-EU countries. In about one in five (2,293) of the samples of intra-EU imports, the origin of the products was a non-EU country, however, the products had been imported into Finland via another EU Member State. In the case of a little over a hundred products, the country of origin could not be determined. Food products, mostly fresh vegetables and fruit, imported from Spain were most frequently inspected; a total of 309 batches. A total of 218 batches of food products, mostly ready-to-eat food and pastries, imported from Germany and 209 batches, mostly fresh vegetables and fruit but also rice and rice products, imported from Italy were controlled. Outside of the EU, the most common country for importing food products from was Thailand. 167 batches food products, mostly tinned food and fresh products, were controlled.

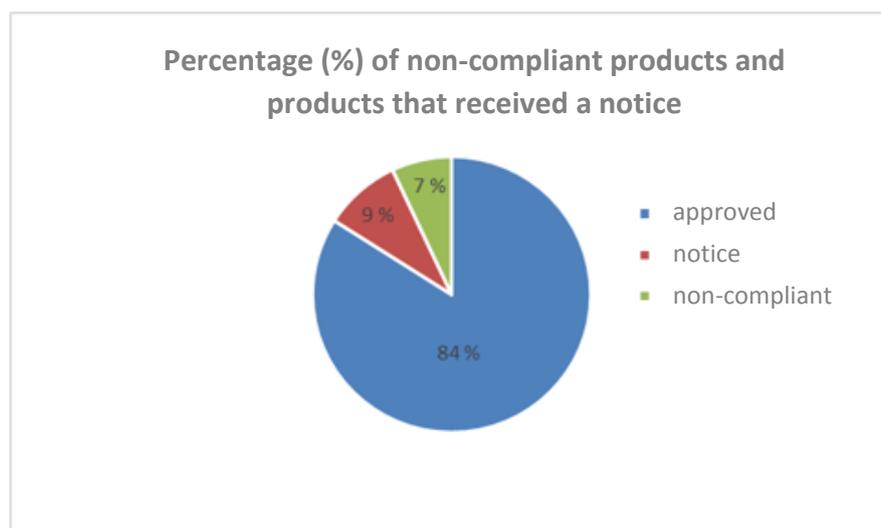
The most frequently inspected products were fresh fruit and fruit products (690 batches) and fresh vegetables and vegetable products (585 batches). The third most commonly inspected product group was special diet foods, including dietary supplements (224 batches).

**Table 6.** Food products inspected by Customs in 2016

PRODUCT GROUP	INSPECTED	NON-COMPLIANT		NOTICES	
	NUMBER	NUMBER	%	NUMBER	%
Grains and grain preparations	175	0	0 %	20	11 %
Vegetables and vegetable products	585	23	4 %	37	6 %
Starchy vegetables and tubers	19	1	5 %	1	5 %
Legume seeds and legume products	30	2	7 %	4	13 %
Fruit and fruit products	690	18	3 %	27	4 %
Fish and fish products	12	0	0 %	0	0 %
Sweets and chocolate	58	2	3 %	12	21 %
Fruit, vegetable and plant juices, beverages, spreads, etc.	143	8	6 %	13	9 %
Waters, water-based soft drinks, etc.	57	5	9 %	8	14 %
Raw materials for hot beverages and infusions	133	11	8 %	12	9 %

Alcoholic beverages	18	0	0 %	12	67 %
Food products for adolescents	65	7	11 %	2	3 %
Special diet foods (incl. dietary supplements)	224	78	35 %	46	21 %
Compound foods	172	5	3 %	9	5 %
Seasoning products and cooking sauces	181	12	7 %	15	8 %
Cleaned, isolated ingredients	35	6	17 %	2	6 %
Products with a grain dough	209	17	8 %	26	12 %
Nuts and nut products	112	5	4 %	8	7 %
Oleiferous seeds and fruit	105	1	1 %	8	8 %
Herbs, spices and the like	196	21	11 %	24	12 %
Hot beverages (coffee, cocoa, tea and herbal beverages)	16	0	0 %	2	13 %
Products imitating meat and dairy products	19	0	0 %	1	5 %

222, i.e. 7% of the inspected batches were found to be non-compliant. Slight negligence (cause for a notice) were detected in 289, i.e. 9% of the batches (Figure 8). The percentage of non-compliant batches was 15% in food products imported from non-EU countries and 3% in food products imported from EU Member States. Most commonly, non-compliant batches had been imported from the United States (61 rejections). The following most common countries of origin for non-compliant products were Thailand and China.



**Figure 8.** Percentage of non-compliant products and products that received a notice among inspected batches (%)

The percentage of non-compliant batches was slightly lower than in the previous years. In 2015, the number of non-compliant batches was 233 (8% of the inspected batches) and in 2014, 282 (8.5% of the inspected batches). The number of cases of slight negligence remained the same as notices were also given to nine per cent of inspected batches in 2015. The highest number of non-compliances were found in products for special diet (incl. dietary supplements) where about one in three products contained serious errors. A total of 224 samples were inspected. The most common errors concerned the composition of the product; 28 products included contained substances mentioned in the appendix of the pharmacopoeia or medicinal herbs, whereas in the case of 16 products, nutrient information was inaccurate or the nutrient was not approved. A high number of serious errors were detected in labelling as well.

The percentage of non-compliant products in the most frequently inspected product groups was small: 3% of inspected batches of fresh fruit and fruit products and 4% of fresh vegetables and vegetable products were rejected.

The two most common causes for non-compliance were the same as in the previous year: errors in labelling and plant protectant residues. The third most common cause for non-compliance was drug classification (Figure 9).

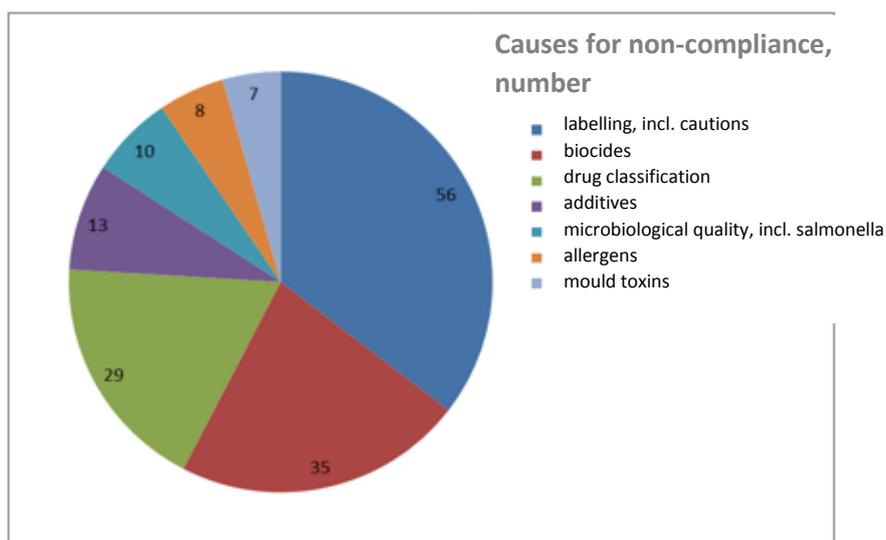


Figure 9. The distribution of errors detected in food products inspected in 2016

Serious errors that lead to rejection were detected in 56 products from almost all product categories in the inspection of labelling. Errors in labelling were most common in food products imported from non-EU countries. The second most common cause for rejecting a product were plant protectant residues. Residue levels exceeding permitted maximum values were detected more often in food products produced in non-EU countries. In addition, food products imported from non-EU countries often contained substances or plants listed in the appendix of the pharmacopoeia. The errors that concerned additives were related to prohibited use, excessive use or conflicts between the ingredient list and composition.

In the case of 10 batches, the microbiological quality was low. Salmonella was detected in six different products that were herbs, spices, flours and vegetables imported from non-EU countries. In the case of allergens, the number of non-compliant batches was slightly lower than the year before. Substances that cause hypersensitivity that were not listed in the labelling were most commonly found in products with a cereal dough.

### 3.4. Import of food contact materials

A total of 535 batches of food contact materials were controlled. 74% of the batches were imported directly to Finland from non-EU countries. About 50% of the intra-EU imports were manufactured in third countries, resulting in around 85% of controlled products being produced in non-EU countries. Food contact materials originating from China were controlled most frequently.

27 products, i.e. 5% of the inspected products were deemed non-compliant, and minor errors were detected in 81 products (Figure 10). The majority of the non-compliant products originated in non-EU countries (74% of the rejected products).

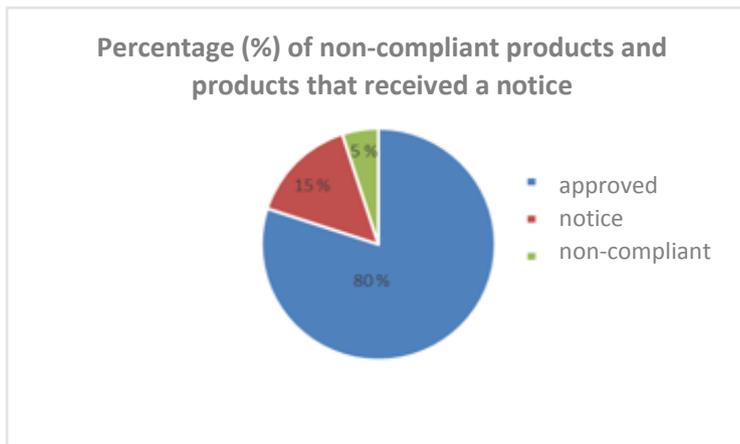


Figure 10. Percentage of non-compliant products and products that received a notice

Causes for rejection included harmful substances that come off of the materials (such as volatile compounds in silicone products) in 12 products, excessively high levels of heavy metals (8 products) and errors in labelling and documentation.

## 4. Export of food products and feed

Export control systems concerning China and the Eurasian Economic Union/Russia were further developed in collaboration with the food industry. In addition, preparations for an electronic veterinary certification system were carried out. Evira continued the certification process required by the USA in the export of pork meat and submitted control information to the South Korean authorities.

To enable the export of food products, several export questionnaires were answered in connection with market access initiatives to seven different target countries. The industry prioritised the projects according to sectors (meat, dairy, fish).

The following export questionnaires were completed in 2016:

- South Africa, dairy products
- South Korea, poultry meat
- Hong Kong, beef
- Indonesia, dairy products
- China, BSE study
- China, fishing products, a study of Finnish fish raw material and its traceability
- Singapore, poultry meat

In autumn 2016, a project targeted at food sector SMEs was launched to improve the export capacity and competitiveness of the companies. The project is implemented by offering guidance, training and practical coaching and by producing materials.

## 5. Food production in Finland

### 5.1. Meat inspection

The amount of meat approved in meat inspection has remained at the same level as in previous years in the case of red meat and poultry meat (271 million kg of red meat and 115 million kg of poultry meat). In

addition, 615 wild game animals, 431 farmed game animals and 62,465 reindeer were inspected. In reindeer slaughterhouses, 12 farmed game animals, 4 elks, 16 bears and 834 sheep or goats were inspected (Tables 7–10).

The numbers of partly or completely rejected carcasses and rejected live animals vary according to the species (Tables 7 and 8). There was also variation in the percentage of rejections between establishments. The variation in the percentage of rejections between establishments has been analysed as a part of the plan to standardise meat inspections. Different recording methods are among the reasons that explain the differences. There are no significant year-to-year changes in the numbers of carcasses rejected in meat inspections. In other words, the numbers of carcasses rejected in meat inspections (0.39% in the case of red meat and 2.8% in the case of poultry) remained at roughly the same level as in previous years (the percentage of rejections of whole carcasses of poultry has decreased by 0.7% in comparison to that in 2015).

The most common reasons for rejection for pigs were pleuropneumonia (in slaughter pigs, 18.3%) and damage caused by roundworm (in slaughter pigs, 6.8%). At 1 per cent, tail biting was a minor issue. The most common reasons for rejection in the case of bovines were contusions and bruises (2.6%) and pneumonia (2.3%). In the case of poultry, the most common causes for rejection include changes in body cavity or skin, emaciation and slaughter errors. The changes caused by parasites were the most common reason for rejection in the case of reindeer. There were no significant changes in the reasons for rejection in comparison to the previous year.

Finland has the capacity to conduct visual meat inspections as stipulated by the EU regulations, as well as reducing the number of testing for trichinae in pigs reared in recognised controlled housing conditions. However, these possibilities are rarely utilised since the countries to which products are exported require traditional meat inspections and comprehensive inspections for trichinae. There is currently only one pig holding in Finland that is recognised as having controlled housing conditions. Visual meat inspection in the case of pork meat has not been implemented in a significant scope.

**Table 7.** Meat inspection information concerning domestic animals and reindeer; slaughterhouses, small slaughterhouses and reindeer slaughterhouses

	Cattle	Slaughter pigs	Sows	Sheep	Goats	Horses	Reindeer	Total
Number of animals brought to slaughterhouse	279,800	2,008,209	43,266	57,711	248	1,284	62,465	2,452,983
Number of animals dead or put down before ante mortem inspection	367	874	143	15	0	0	10	1,409
Number of animals rejected alive	71	112	25	10	0	23	2	243
Number of partly rejected carcasses	24,407	136,741	5,657	162	1	0	9,190	176,158
Number of rejected whole carcasses	1,575	6,967	782	106	0	5	85	9,520
Number of approvals in meat inspections	277,787	2,000,256	42,316	57,580	248	1,256	62,368	2,441,811

**Table 8.** Meat inspection information concerning poultry; poultry slaughterhouses and small poultry slaughterhouses

	Broilers	Broiler breeders	Turkeys	Chicken	Ducks	Geese	Mallards	Total
Number of animals brought to slaughterhouse	69,443,416	545,532	879,763	40,972	3,020	3,659	7,778	70,924,140
% of animals that died spontaneously	0.128	0.070	0.088	0.471	0.033	0.055	0.077	0.127
% of animals rejected alive	0.079	0.000	0.050	0.000	0.000	0.000	0.000	0.078
% of partly rejected carcasses	3.868	3.437	6.441	0.000	0.000	0.000	0.000	3.89
% of rejected whole carcasses	2.634	20.521	3.231	9.307	10.368	0.355	0.026	2.78

**Table 9.** Meat inspection information concerning farmed game and lagomorphs (rabbits); slaughterhouses, small slaughterhouses and reindeer slaughterhouses

	Cervids	Ostriches and emus	Lagomorphs	Wild boar	Others
Inspected	72	20	0	324	15
Rejected completely	2	0	0	0	0
Rejected partly	1	2	0	1	0

**Table 10.** Meat inspections of wild game; game handling establishments and reindeer slaughterhouses

	Elk	Other cervids	Bear	Seal	Wild boar	Others
Inspected	211	333	31	0	0	40
Rejected completely	2	2	1	0	0	0
Rejected partly	2	13	5	0	0	0

Traditionally, reindeer are also slaughtered outside of slaughterhouses in the reindeer herding area. The meat obtained from these reindeer is used in the households of the producers and reindeer owners. Some of the meat is sold directly to consumers in the reindeer herding area without meat inspection, or it will be dried and sold directly to consumers in the reindeer herding area. There is no exact information available regarding the uninspected reindeer meat that is sold directly. Some of the reindeer meat used by the producers originates from the reindeer slaughtered in slaughterhouses and passed meat inspection. Similarly, a large proportion of the reindeer meat sold directly has been slaughtered in a slaughterhouse and introduced to meat inspection. Based on the information in reindeer records and statistics of slaughtered animals, Regional State Administrative Agency for Lapland and the Finnish Reindeer Herders' Association estimate that about 70% of the slaughtered reindeer were slaughtered in slaughterhouses and about 30% outside of slaughterhouses in 2016. It is estimated that nearly 50% of the uninspected reindeer meat was used by reindeer owners and over 50% of it was sold directly as either fresh or dried meat. Reindeer are also raised and slaughtered in a very small scale outside of the reindeer herding area. There the reindeer are slaughtered in slaughterhouses approved for farmed game, and they are classified as farmed game in meat inspection statistics.

Only a small amount of hunted wild game is taken to game handling establishments or slaughterhouses for meat inspection. The majority of the game meat is used uninspected at the hunters' households. A small proportion of wild game is sold directly to consumers or retailed uninspected. The amount of game and game meat that is sold uninspected is not known. According to the information available at the Finnish Wildlife Agency, about 50,000 elks and 179 bears were hunted in 2016. Meat inspection was conducted on 211 elks (0.4% of those killed) and 31 bears (17% of those killed), Table 10.

## 5.2. Control of slaughterhouses and establishments connected to them

At the end of 2016, Evira was responsible for controlling 15 slaughterhouses, 45 low-capacity slaughterhouses and six game handling establishments. Five of the slaughterhouses were poultry slaughterhouses. At the beginning of 2016, the number of slaughterhouses was 19, however, two were converted into a low-capacity slaughterhouse as the limit of the classification as a low-capacity slaughterhouse was changed from 1,000 animal units to 5,000 animal units. Two slaughterhouses ceased their operations.

Evira organised the control of 40 low-capacity slaughterhouses, whereas five low-capacity slaughterhouses were controlled by municipalities. Evira had signed contracts about the control of low-capacity slaughterhouses with six municipalities, however, five of these low-capacity slaughterhouses were in operation in 2016, and the meat inspections were conducted by a municipal veterinary officer.

At the end of 2016, there were 41 full-time official veterinarians employed by Evira working in the slaughterhouses and 50 official auxiliaries. Over the course of the year 2016, 82 part-time official veterinarians and two official auxiliaries worked in low-capacity slaughterhouses and game handling establishments.

A total of 56 inspection-specific notices were given in the slaughterhouse control to 18 slaughterhouses (in 2015, 93) and 29 notices to 29 low-capacity slaughterhouses (2015: 83, none to game handling establishments). In 2016, the number of notices was lower than the year before. This may be explained by the fact that the year 2015 was dedicated to the preparations for the launch of the control data publication system Oiva. In the case of slaughterhouses, the publishing of control data started at the beginning of 2016.

Administrative coercive measures were taken five times in slaughterhouses (in 2015, six times) and seven times in low-capacity slaughterhouses. The coercive measures within slaughterhouse control concerned the shortcomings detected in the general cleanliness and organisation of the spaces and structures, for instance. Evira imposed two conditional fines to back up its orders in 2016. In 2016, Evira evaluated the effectiveness of the official control in two slaughterhouses with regard to the control of animal welfare, control of by-products of animal origin, and the effectiveness of the official control in seven slaughterhouses and five low-capacity slaughterhouses in terms of the general monitoring of approved establishments.

81.6% of the slaughterhouses, low-capacity slaughterhouses and the approved establishments that are in connection with them were rated excellent or good (A or B, respectively), and 18.4% were rated as requiring improvement or poor (C or D, respectively) (Table 11).

In the slaughterhouses controlled by Evira and the approved establishments in connection with them, the inspections conducted in 2016 focused on the control of the facilities and production hygiene, as well as the manner of action and training of the personnel. In slaughterhouses and approved establishments connected to them, the highest number of inspections concerned the production hygiene of food products (165 inspections), the cleanliness of the facilities, surfaces and equipment (154 inspections), as well as the operations and training of the personnel (148 inspections).

In relative terms, the highest number of shortcomings (rated as requiring improvement or poor) were detected in the production hygiene of food products (C or D ratings in 5.3% of a total of 165 inspections), the operations and training of personnel (C in 5.4% of a total of 148 inspections) and in the special requirements of food production (C rating in 7.1% of a total of 70 inspections) (Figure 11).

The Regional State Administrative Agency for Lapland organised the control of 19 reindeer slaughterhouses and 7 approved establishments connected to them in 2016. The number of reindeer slaughterhouses has remained unchanged for several years. The Regional State Administrative Agency for Lapland employed 66 part-time official veterinarians in 2016. Some of them only carried out *ante mortem* inspections at reindeer roundup sites. An estimated 3.5 full-time equivalents (FTE's) of part-time official veterinarians' work was invested in reindeer meat inspections.

The publication of the control data regarding reindeer slaughterhouses and approved establishments connected to them in the Oiva system was started at the beginning of the year 2016. So far, the results of only a part of the control sites have been published (48%). 82.6% of them received an excellent or good (A

or B) inspection-specific result and 17.4% were rated as requiring improvement (C). None were rated poor (D) (Tables 11 and 12). In relative terms, the highest number of shortcomings (rated as requiring improvement) was detected in the maintenance of the facilities and equipment. The Regional State Administrative Agency for Lapland took coercive measures once in 2016 in the control of the reindeer slaughterhouses and approved establishments connected to them that it controls. The order limited the number of carcasses that are cooled at the same time.

**Table 11.** The number of controls in slaughterhouses, small slaughterhouses and game handling establishments as well as approved establishments connected to them under the control of Evira, and in reindeer slaughterhouses and approved establishments connected to them under the control of the Regional State Administrative Agency for Lapland

	Sites			Inspections	
	Total			Inspected sites	Other than planned
	number	number		%	Total
	96	50	52		
Slaughterhouses, low-capacity slaughterhouses and game handling establishments and the approved establishments connected to them	26 *	14	54	7	260
Reindeer slaughterhouses and the approved establishments connected to them					

\*) In the results of 2016, reindeer slaughterhouses and the establishments connected to them have been recorded as separate control sites, unlike in the case of the establishments connected to other slaughterhouses that are mainly recorded as one control unit with the slaughterhouse in question.

**Table 12.** The control results in slaughterhouses, low-capacity slaughterhouses and game handling establishments as well as approved establishments connected to them under the control of Evira, and in reindeer slaughterhouses and approved establishments connected to them under the control of the Regional State Administrative Agency for Lapland

	Inspections	Results				Sanctions
	Planned inspections, incl. follow-up inspections	Inspection-specific result, %				Inspections that led to a notice or use of coercive measures
	number	A	B	C	D	number
Slaughterhouses, low-capacity slaughterhouses and game handling establishments and the approved establishments connected to them	253	32.1	49.5	15.6	2.8	85
Reindeer slaughterhouses and the approved establishments connected to them	21	13.0	69.6	17.4	0	14

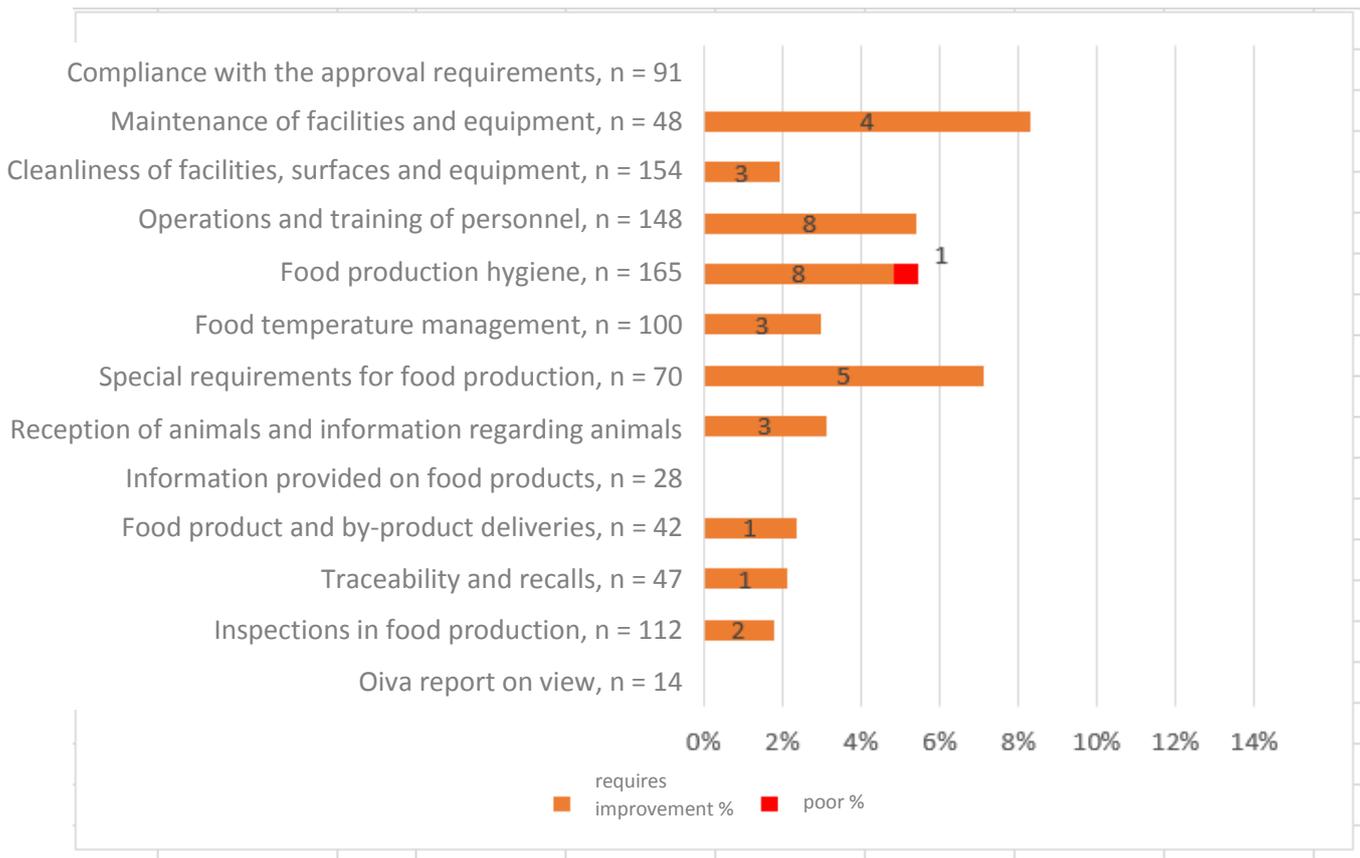


Figure 11. Requires improvement (C) and poor (D) ratings concerning the requirements imposed on slaughterhouses (number and %); n = the number of inspections regarding the requirement in question

### 5.3. Approved food establishments controlled by municipalities

Figure 12 presents the number of approved food establishments according to sectors in 2014–2016.

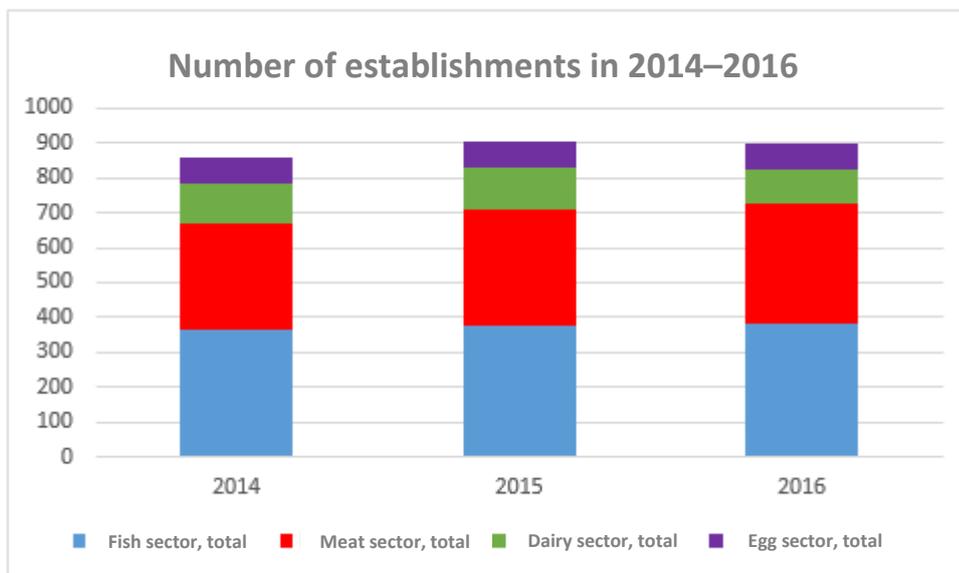


Figure 12. Number of approved food establishments in 2014–2016

There were no significant changes in the number of establishments that produce food products of animal origin (fish, meat, dairy and egg sector establishments) (Table 13).

**Table 13.** The number of establishments and the inspections

Establishment	Sites			Inspections		
	Primary sites			Approval inspections	Other than planned inspections	Total
	total	inspected sites				
	number	number	%			
Fish sector establishment	359	270	75	23	64	640
Meat sector establishment	339	251	74	13	30	1,008
Dairy sector establishment	123	110	89	11	8	281
Egg sector establishment	74	46	62	1	2	60

One in four fish sector establishments were not inspected in 2016, regardless of the recommended inspection frequency of at least once a year, depending on the size of the establishment. 10% of the inspections were other than planned inspections. In absolute terms, the highest number of approval inspections was carried out in fish sector establishments.

Only about three in four meat sector establishments were inspected. An average of four inspections were conducted in the inspected meat sector establishments in 2016. About three per cent of the inspections were other than planned inspections.

In addition to dairy sector establishments, the number of dairy sector establishments (123) includes 20 operators that are primary production in the dairy sector or food premises, not establishments. The number of dairy sector establishments that were not inspected in 2016, about one in ten, was slightly lower than in the previous years. Slightly under three per cent of the inspections were other than planned inspections.

One in three egg sector establishments were not inspected in 2016, regardless of the recommended inspection frequency of at least once a year, depending on the size of the establishment. Three per cent of the inspections were other than planned inspections.

**Table 14.** Inspection-specific assessments of establishments and sanctions

Establishment	Inspections	Results				Sanctions
	Planned inspections, incl. follow-up inspections	Inspection-specific result %				Inspections that led to a notice or use of coercive measures
	number	A	B	C	D	number
Fish sector establishment	576	38.8	43.8	16.2	1.1	96
Meat sector establishment	978	34.0	47.6	15.9	2.5	226
Dairy sector establishment	271	65.5	30.2	4.4		22
Egg sector establishment	58	50.9	43.9	5.3		5

A total of 1,883 planned inspections were conducted in fish, meat, dairy and egg sector establishments. In these inspections, an average of 89% of the cases were rated excellent or good, and 11% as requiring improvement or poor (C or D, respectively).

The inspection-specific rating of excellent or good (A or B) was awarded to 83% and the rating requiring improvement or poor (C or D) to 17% of the fish sector establishments (Table 14). About 17% of the inspections led to notices requiring improvement and 1% to the use of coercive measures.

About 82% of meat sector establishments achieved an excellent or good inspection-specific result and 18% were rated requiring improvement or poor. About 21% of the inspections led to notices requiring improvement and 3% to the use of coercive measures.

In the case of dairy sector establishments, an impressive 96% of the inspected sites achieved an excellent or good result (A or B) (Table 14). The rating of requires improvement (C) was only given to 4% of the dairy sector establishments. None of the inspected dairy sector establishments was rated poor (D). Notices were given to 8% of the inspected sites.

In the case of egg sector establishments, 95% of the inspected sites achieved an excellent or good inspection-specific result (A or B), whereas 5% were rated as requiring improvement (Table 14). None of the inspected egg sector establishments was rated poor (D). Seven per cent of the inspections lead to notices requiring improvement. Coercive measures were not taken.

**Table 15.** The distribution of the requirement-specific evaluations given in planned inspections and follow-up inspections

Establishment	Planned inspections					Follow-up inspections					
	Inspections	Distribution of evaluations concerning the requirements imposed on establishments %				Follow-up inspections required*	Follow-up inspections conducted	Distribution of evaluations concerning the requirements (items) imposed on establishments %			
		number	A	B	C			D	number	number	A
Fish sector establishment	576	81.8	14.4	3.5	0.3	101	60	57.2	33.6	9.0	0.2
Meat sector establishment	978	79.1	16.8	3.4	0.7	175	94	53.7	33.6	9.9	2.9
Dairy sector establishment	271	93.6	5.9	0.6	0	12	17	71.4	28.0	0.6	0
Egg sector establishment	58	90.2	9.2	0.6	0	3	1	75.0	25.0	0	0

\* One or more results of requires improvement (C) or poor (D) given in the inspection. The figures are shown according to sectors; thus, the number of follow-up inspections required may be lower as one establishment may have received several C or D ratings in various sectors.

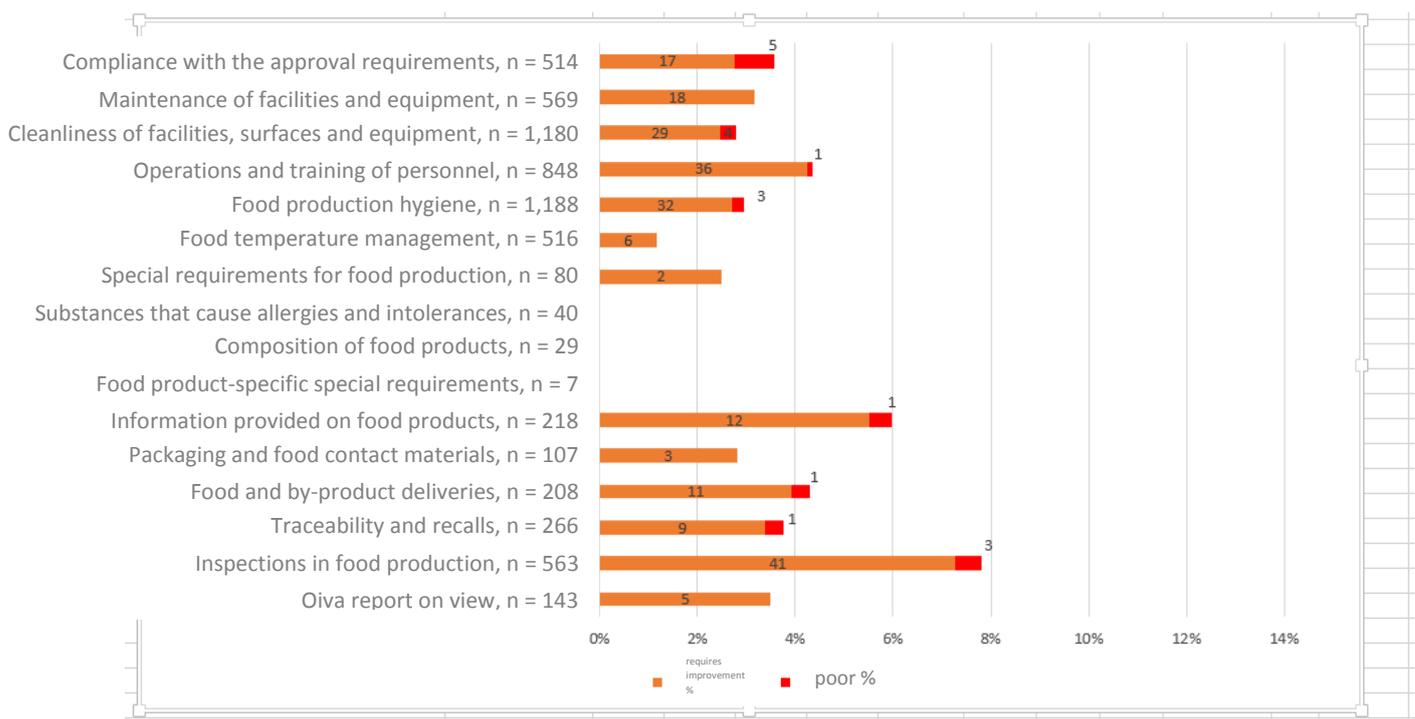
576 planned inspections were conducted in fish sector establishments. The number of follow-up inspections was 60. In the follow-up inspections, 91% of the inspections resulted in a rating of excellent (A) or good (B) according to items. The percentage of requires improvement (C) or poor (D) results was 9% (Table 15). It is

also possible that other shortcomings were detected during the follow-up inspections, which may have led to the results not improving.

978 planned inspections were conducted in meat sector establishments. The number of follow-up inspections was 94. In the follow-up inspections, 87% of the results were excellent or good. In about 13% of the cases, the result remained requires improvement or poor.

271 planned inspections were conducted in dairy sector establishments. The number of follow-up inspections was 17. Out of the inspected items, 94% were rated A and 6%, B; only 0.6% were rated C (Table 15).

58 planned inspections were conducted in egg sector establishments. Three follow-up inspections were required, however, only one of them was conducted. Out of the inspected items, 90% were rated A and 9%, B. Only 0.6% were rated C, and none were rated D (Table 15).



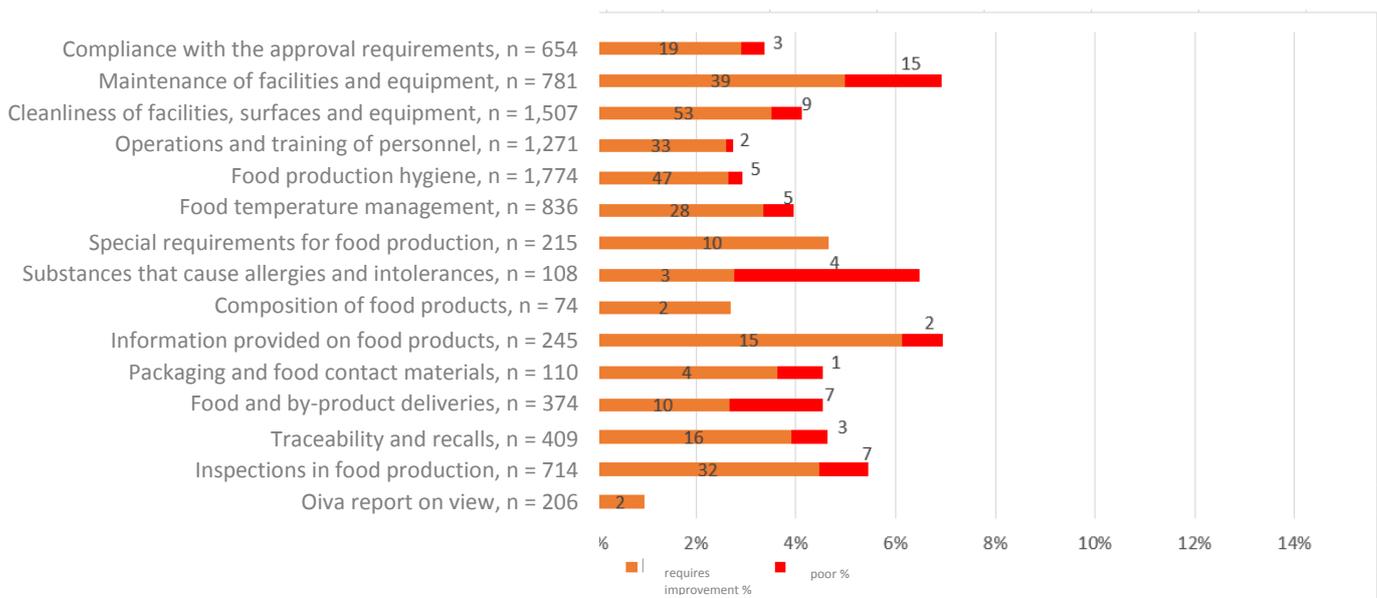
**Figure 13.** The requires improvement and poor ratings (number and %) concerning the requirements imposed on fish sector establishments; n = the number of inspections regarding the requirement in question

In 2016, the inspections in fish sector establishments focused on the production hygiene of food products (1,188 inspections), the cleanliness of the facilities, surfaces and equipment (1,180 inspections) and the operation and training of the personnel (848 inspections).

The requirements concerning substances causing allergies and intolerances, the composition of food products and food product-specific special requirements were the least inspected issues in absolute numbers (3 to 40 inspections). Therefore, they are not comparable with the other requirements.

In fish sector establishments, the highest number of shortcomings (requires improvement or poor, i.e. C or D, respectively) was detected in the information provided on food products (the percentage of C and D results was 6% of the 218 inspections conducted) and in the inspections in food production (the percentage of C and D results was 8% of the 563 inspections conducted) (Figure 13).

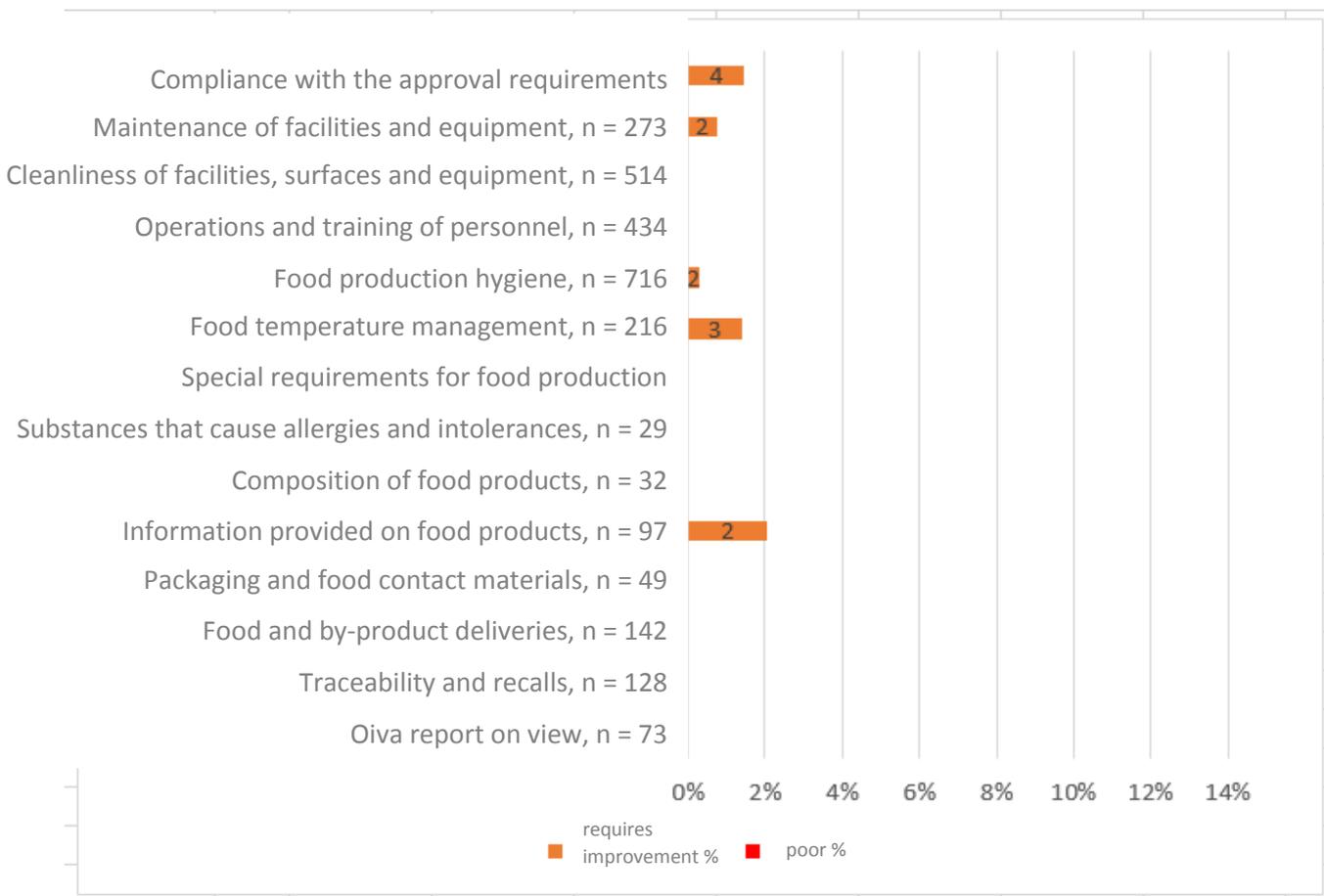
In the case of fish sector establishments, the majority of shortcomings in the information provided on food products was found in labelling. In the inspections in food production, the highest number of shortcomings was detected in sampling and own check control inspections, as well as the own check control for listeria.



**Figure 14.** The requires improvement and poor ratings (number and %) concerning the requirements imposed on meat sector establishments; n = the number of inspections regarding the requirement in question

In meat sector establishments, the highest number of inspections concerned the cleanliness of the facilities, surfaces and equipment (1,507 inspections), the personnel's manner of action and training (1,271 inspections) and the production hygiene of food products (1,774 inspections).

In meat sector establishments, the highest number of shortcomings (requires improvement or poor results), in relative terms, was detected in the maintenance of facilities and equipment (781 inspections), the information provided on food products (245 inspections) and the management of substances that cause allergies and intolerances (108 inspections). In these items, the percentage of C and D results was about 7% in each items (Figure 14).



**Figure 15.** The requires improvement and poor ratings (number and %) concerning the requirements (items) imposed on dairy sector establishments; n = the number of inspections regarding the requirement in question

The control in dairy sector establishments in 2016 focused on the production hygiene of food products (716 inspections). The cleanliness of the facilities, surfaces and equipment, as well as the operations and training of the personnel, were also controlled frequently in comparison to other issues (514 and 434 inspections, respectively).

As for the Oiva requirements, the number of controls regarding the special requirements for food production, substances that cause allergies and intolerances, the composition of food products, packaging and food contact materials, food product specific special requirements and the requirements for the sale was lowest in absolute numbers (1 to 49). Therefore, they are not comparable with the other requirements.

In dairy sector establishments, the three issues most frequently rated as requiring improvement (C) were information provided on food products (2.1% of 97 inspections), compliance with the approval requirements (1.5% of 272 inspections) and temperature management of food products (1.4% of 216 inspections). Poor (D) rating was not given (Figure 15).

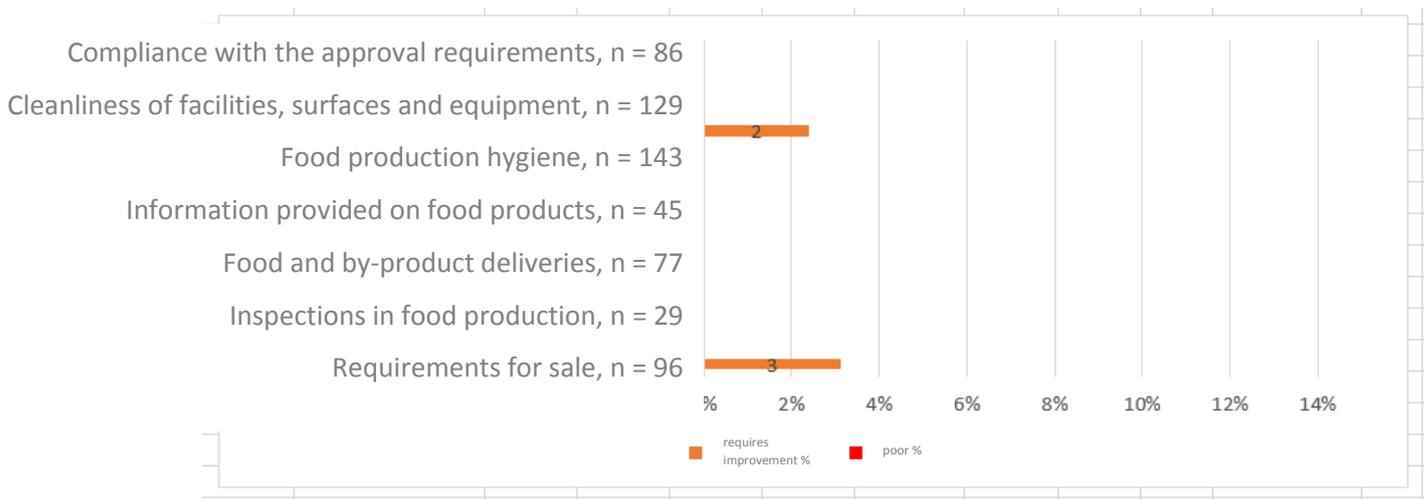


Figure 16. The requires improvement and poor ratings concerning the requirements imposed on egg sector (number and %); n = the number of inspections regarding the requirement in question

In egg sector establishments, the control was focused on the production hygiene of food products (143 inspections), the monitoring of the cleanliness of facilities, surfaces and equipment (129 inspections) and sales and marketing requirements (96 inspections).

In the egg sector establishments, shortcomings (requires improvement, i.e. C results) were detected in the operations and training of personnel (the percentage of C results was 2.4% of the 83 inspections) and sales and marketing requirements (the percentage of C results was 3.1% of the 96 inspections). The shortcomings detected in the monitoring of the health of the personnel in egg processing establishments concerned inspections for salmonella. In one egg processing establishment, the personnel did not have proficiency certificates.

### 5.4. Other food premises

The number of registered food premises subject to food control that produce or package food products are presented in Figure 17.

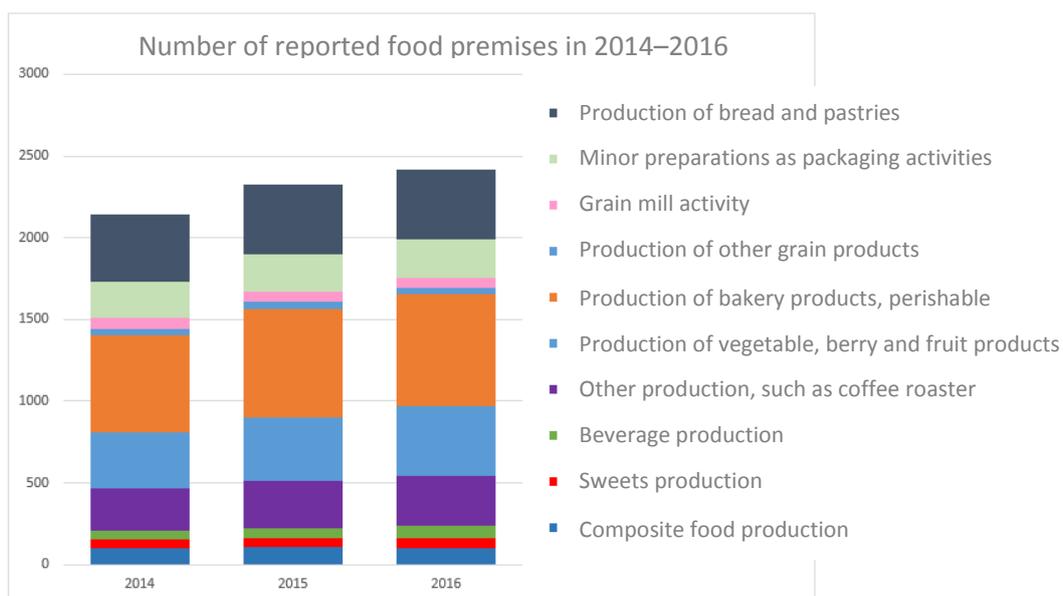


Figure 17. Number of registered food premises in 2014–2016

The number of food premises that are classified as other food premises has been increasing slightly since 2014.

**Table 16.** Food production sites, inspections and sanctions in 2016

Food premises	Sites		Inspections			Sanctions	
	Total (1st pos.)	Inspected sites	Planned inspections, incl. follow-up inspections		Other than planned inspections	Inspections that resulted in a notice	Inspections that resulted in taking coercive measures
	number	number	%	number	number	number	number
<b>Cereal and vegetable sector</b>	1,876	788	42	900	115	99	5
- Grain mill activity	63	19	30	20	2	1	
- Production of perishable bakery products	687	376	55	446	48	65	4
- Production of bread and pastries	433	172	40	199	26	16	1
- Production of other cereal products	40	19	30	18	0	2	
- Production of plant, berry and fruit products	422	152	36	169	36	11	
- Minor preparations as packaging activities	231	51	22	48	3	4	
<b>Composite product production</b>	103	49	48	65	3	5	
<b>Sweets production</b>	61	28	44	31	5		
<b>Beverage production</b>	73	16	22	17	3	2	
<b>Other production, such as dietary supplements, special diet products, coffee roastery</b>	456	103	34	116	18	14	

Less than a half (42%) of the food premises in the **cereal and vegetable sector** were inspected according to plan. In the case of premises that manufacture perishable bakery products, slightly over a half (55%) of the premises were inspected. The majority of the inspections were planned; only 115 inspections were other than planned. 99 inspections led to a notice and five to administrative coercive measures.

About a half (48%) of the sites that produce **composite products** were inspected. The majority of the inspections were planned, and five sites that produce composite products received a notice.

Slightly under a half (44%) of the food premises that produce **sweets** were inspected. Five of the inspections were other than planned inspections. There was no need for notices in any of the inspected sites.

About one in five (22%) of the sites that **produce beverages** were inspected, and most of the inspections were planned. Two inspections led to a notice.

One in three (34%) sites involved in **other production** were inspected; the majority of the inspections were planned, 18 other than planned. The category of other productions includes sites that produce dietary supplements and special diet products, for example. In relative terms, the highest number of notices was given in this category (Table 16).

Table 17. Evaluation of food production inspections in 2016

Food premises	Inspections		Results			
	Planned inspections, incl. follow-up inspections		Inspection-specific result			
	number		A, %	B, %	C, %	D, %
<b>Cereal and vegetable sector</b>	901		43.1	45.5	10.7	0.7
Grain mill activity	20		50.0	50.0		
Production of perishable bakery products	447		33.7	50.6	14.4	1.2
Production of bread and pastries	199		45.9	45.9	8.1	
Production of other cereal products	18		64.3	28.6	7.1	
Production of vegetable, berry and fruit products	169		52.3	40.4	6.6	0.7
Minor preparations as packaging activities	48		75.6	17.8	6.7	
<b>Composite product production</b>	65		49.2	44.4	6.3	
<b>Sweets production</b>	31		57.1	42.9		
<b>Beverage production</b>	17		76.5	11.8	11.8	
<b>Other production*</b>	116		56.4	32.7	10.9	

\* Dietary supplements, special diet products, coffee roastery, for instance

In the Oiva evaluations of the operators in the **cereal and vegetable sector**, almost 89% of sites received an excellent or good (A or B) result, and 11% were rated as requiring improvement or poor (C or D).

94% of the sites that produce **composite products** received an excellent or good result, and 6% of the sites were rated as requiring improvement or poor.

In **sweets production**, all the sites were rated excellent or good.

Nearly 90% of the inspected companies that produce **beverages** achieved an excellent or good result. 10% of the sites were rated as requiring improvement.

In **other production**, nearly 90% of the sites achieved an excellent or good result and in 11%, improvement was required.

Table 18. The distribution of the requirement-specific evaluations (items) given in planned inspections and follow-up inspections in 2016

Food premises	Planned inspections						Follow-up inspections					
	Inspections	Distribution of evaluations concerning the requirements imposed on food premises %				Need for follow-up inspections	Follow-up inspections conducted	Distribution of evaluations concerning the requirements imposed on food premises %				
		number	A	B	C			D	number	number	A	B
<b>Cereal and vegetable sector</b>	1,013	86.4	11.7	1.9	0.1	103	97	61.1	27.5	10.2	1.2	
<b>Composite product production</b>	67	90.7	8.5	0.8		4	2	90.0	10.0			
<b>Sweets production</b>	36	92.9	7.1				1	100				
<b>Beverage production</b>	20	87.5	9.8	2.6		2	1	54.5	6.4	9.1		
<b>Other production*</b>	133	91.4	7.6	1.0		12	10	67.0	29.0	4.0		

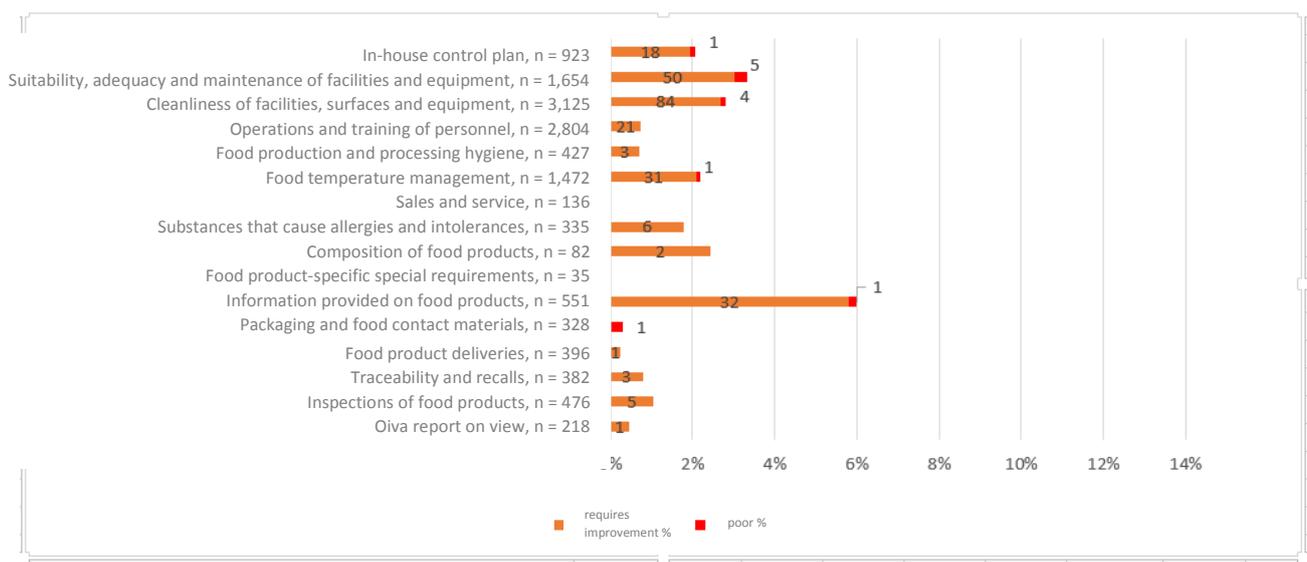
\* Dietary supplements, special diet products, coffee roastery, for instance

In the **cereal and vegetable sector**, 103 follow-up inspections were required, nearly all of which were conducted. Some of the follow-up inspections for inspections carried out towards the end of the year were not conducted until in the following year. After these follow-up inspections, the 87% of the inspected items received an Oiva issue-specific rating of excellent or good, whereas 11% were still rated as requiring improvement or poor.

In the case of **composite products**, four follow-up inspections were needed, two of which were conducted. The item-specific results in these sites were excellent or good.

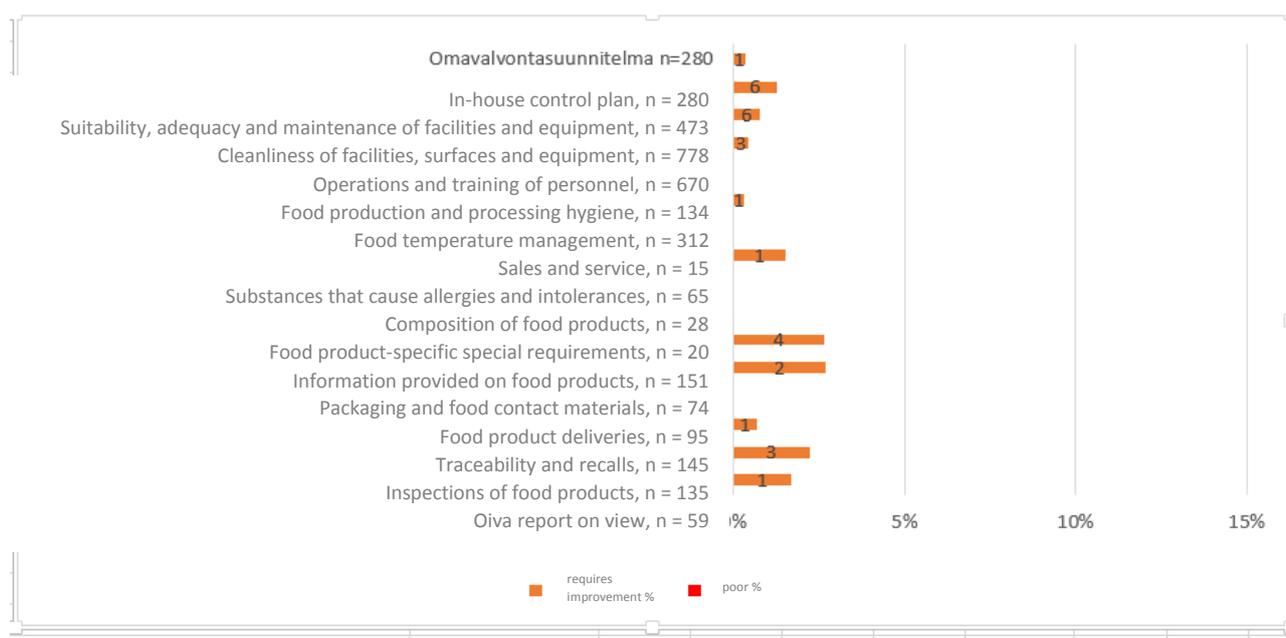
In the sites that produce sweets and beverages, one follow-up inspection in each was conducted. The follow-up inspection of the company that produces **sweets** resulted in A-ratings in the inspected items, whereas in the company that produces **beverages**, improvement was still required.

Twelve follow-up inspections were required in the sites involved in **other production**, ten of which were conducted. After the follow-up inspections in these sites, 96% of the inspected items were rated excellent or good, and four per cent required improvement (Table 18).



**Figure 18.** The requires improvement (C) and poor (D) ratings (number and %) concerning the requirements imposed on cereal and vegetable sector operations; n = the number of inspections regarding the requirement in question

The inspections carried out show that legislation is well complied with in the cereal and vegetable sector. Shortcomings were mainly only detected in the information provided on food products (item 13), however, even in the case of this item, 94% of the ratings were excellent or good.



**Figure 19.** The requires improvement and poor ratings (number and %) in combination product, sweets and beverage production and other production, such as dietary supplements, special diet products and coffee roasting; n = the number of inspections regarding the requirement in question

The inspections carried out indicate that the production of composite products, sweets and beverages, as well as other production, are at a good level of compliance. The shortcomings detected in the inspections were occasional (Figure 19). In relative terms, the highest number of issues was detected mainly in the information provided on food products and packaging and food contact materials. In individual cases, shortcomings were detected in the inspections of food products.

### 5.5. Organic production and organic food products

The control of organic production was implemented according to plan, and the targeted efficacy – the authenticity of the labelling as organic – was achieved. Over 98% of the operators that had signed up in the control system complied with the requirements imposed on the production.

**Table 19.** The number of inspected operators in 2016

	2016
<b>Organic operators, total</b>	<b>5,241</b>
<b>Organic primary production</b>	4,356*
- controlled organic animal holdings	959
- new operators	251
<b>Organic food product operators/inspected sites</b>	697**
- new operators	67
<b>Organic feed operators</b>	47
- new operators	2
<b>Organic seed packing centres</b>	25
- new operators	1
<b>Organic alcohol sector operators</b>	
Retail sites	116

In addition to farms, the figure includes pure greenhouse, mushroom-growing establishment and beekeeping sector operators.

\*\* The figure includes subcontractors

5% of the organic farm products and organic food products were sampled for plant protectant residues. Residues of plant protectants prohibited in organic production were not detected in the samples taken in primary production. Plant protectants were detected in three food product companies, all of which were small bakeries. Regardless of the inspection, the origin of the residues remained unclear, and the control procedures will be continued in 2017.

Some cases of non-compliance were detected in the production. However, their occurrence in primary production has decreased when compared to previous years, which also decreases the average number. A prohibition on marketing was imposed on about 2% of all operators.

### Control of organic food products in retail sales

Municipal food inspectors conducted a total of 167 inspections to monitor the sale of organic products. The results of the market surveillance in retail sales indicate that consumers can rely on the authenticity of the labelling of organic products.

The organic labelling on products and, in the case of loose sales of products, in the documentation that accompanies the products as well as the integrity of the monitoring chain are inspected as a part of market surveillance. Municipal food inspectors conducted a total of 167 inspections to monitor the sale of organic products according to the Oiva instructions (Table 20).

**Table 20.** The number of market surveillance measures in 2014–2016

	Inspections	2014	2015	2016
Inspected sites		not available	43	165
Inspected sites Where inspections were conducted	total		43	167
	retail shops		26	146
	serving establishments		12	14
	producers		5	7

95% of the operators complied with the regulations on organic production in their operation. Eight operators (5%) received guidance and instruction due to a minor shortcoming (Table 21).

**Table 21.** The results of market surveillance inspections in 2015–2016

The Oiva result	Corrective measure	Percentage of inspected	
		2015	2016
A, i.e. all requirements complied with	No measures	95%	95%
B, i.e. a minor shortcoming	Guidance and instruction	5%	5%
C, i.e. misleading operation	A notice requiring correction within a set time limit	0%	0%
D, i.e. seriously misleading operation	Coercive measure or prohibition, issue must be rectified immediately	0%	0%

## 5.6. Alcoholic beverages

Figure 20 presents the number of production and wholesale sites of alcoholic beverages in 2012–2016.

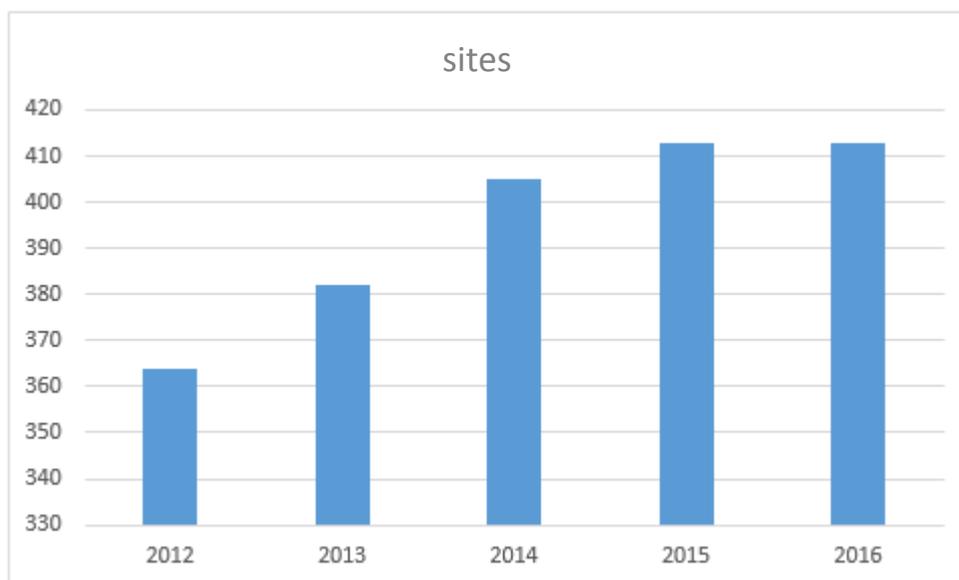


Figure 20. Number of production and wholesale sites of alcoholic beverages in 2012–2016

The number of controlled production and wholesale sites of alcoholic beverages, the inspections conducted and sanctions imposed are presented in Table 22.

Table 22. Alcoholic beverage production and wholesale sites, inspections and sanctions in 2016

	Sites			Inspections		Sanctions	
	Total	Inspected sites		Planned inspections, incl. follow-up inspections	Other than planned inspections	Sites were inspections resulted in a notice	Inspections that resulted in taking coercive measures
	number	number	%	number	number	number	number
Production and wholesale of alcoholic beverages	116	63	62	83	49	31	14

The shortcomings detected in the inspections of the producers of alcoholic beverages mostly concerned the own check control plan and in the case of products, errors in labelling, discrepancies in the alcoholic content and inadequate bookkeeping. Irregularities were also detected in the composition of the products. The most common shortcomings in the case of wholesale dealers were detected in the obligatory information on the labelling required in the legislation and composition of the products. The majority of shortcomings detected in the inspections concerned the reporting requirements to authorities according to the Finnish Alcohol Act.

In addition to the labelling, shortcomings were detected in the indication of the alcoholic content. In some products, the alcoholic content determined in an analysis was outside of the tolerance defined in the legislation for the alcoholic content indicated in the labelling.

## 5.7. Contact materials

As of the end of 2016, the number of control sites registered primarily as operators in the contact material sector was 363. The total number of control sites within the contact material sector was 455. This figure also includes the operators that primarily operate in the food premises sector, but additionally import contact material, for instance. These types of control sites include several wholesale dealers, for example. In six control units, there were no contact material sector operators subject to control recorded in the system. The majority of the registered control sites in the contact material sector are located in the Southern, Western and Inner Finland.

The food control inspections focused on the contact material sector in 2016 are summarised in Table 23.

**Table 23.** Inspections of sites within the food product contact material sector in 2016

Control sites	Sectors	Inspected sites		Inspections	Inspection-specific results				Inspections that led to a notice	Sites in which coercive measures were taken
		number	%		A %	B %	C %	D %		
number	number	number	%	number	A %	B %	C %	D %	number	number
363	770*	53	14.6	56	44.9	41.9	12.6	0.8	9	0

Out of the contact material control sites, 53 were inspected, which is only 14.6% of the control sites. The number of inspections was 56. The inspections were distributed highly unevenly between different control units. In Southern Finland, where the number of control sites in the contact material sector is the highest (179 primary controls sites), 30 inspections (16.8% of the sites) were conducted. The number of inspections in Western and Inner Finland was 17 (19.3% of the sites), 8 (17.4% of the sites) in South-Western Finland, one (3.4% of the sites) in Eastern Finland and two (16.7% of the sites) in Northern Finland. In Lapland, inspections were not carried out in the contact material sector. A total of 33 control units did not conduct any inspections in the contact material sector. There are a total of 196 operators in the contact material sector in these control units, which is 54% of all the control sites that are primarily registered as operators in the contact material sector (362).

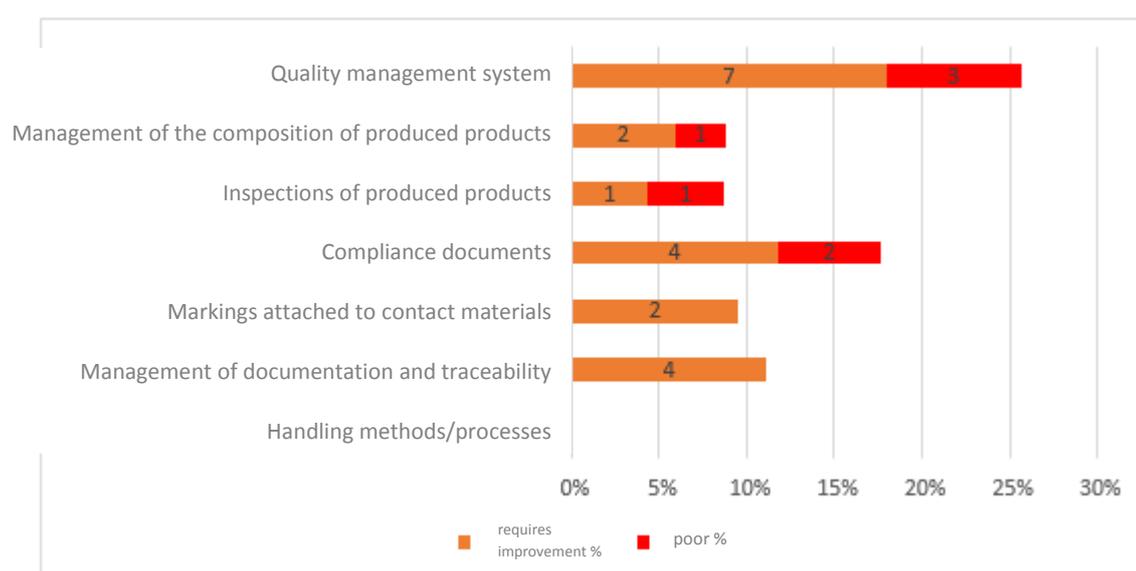
In addition to individual requirements, the inspected entity is evaluated by using a rating scale from A to D. A rating of A was awarded to 44.9% of the inspected sites, 41.9% were rated B, 12.6% C and 0.8% of the inspected sites were rated D. Nine notices were given. Only three follow-up inspections were carried out, however, it is possible that some of the follow-up inspections were only conducted in the following year.

**Table 24.** Inspections of operations within the food product contact material sector in 2016

Food product contact material operations	Sector-specific operations	Inspections /inspected operations	Evaluations of individual items				Inspections that led to a notice	Sites in which coercive measures were taken
			A, %	B, %	C, %	D, %		
	number	number	A, %	B, %	C, %	D, %	number	number
Active and intelligent materials and packages	6							
Glue	11							
Ceramics	92	6/5	50.0	27.8	22.2	0	1	0
Cork	6							
Rubber	25							
Glass	36	1/1	71.4	28.6	0	0	0	0
Ion-exchange resins	2							
Metals and alloys	84	3/3	42.9	57.1	0	0	0	0

Paper and cardboard	164	23/22	70.5	17.9	7.7	3.8	2	0
Plastics	186	21/20	60.0	30.7	8.0	1.3	6	0
Ink	16							
Regenerated cellulose	10							
Silicones	26							
Textiles	24							
Varnish and coating	11							
Wax	4							
Wood	29	1/1	0	0	0	100	0	0
Other	38	1/1	0	100	0	0	0	0
Total	770	56/53	60.6	26.4	9.6	3.4	9	0

Inspected operations included ceramics (5/92), glass (1/36), metals and alloys (3/84), paper and cardboard (22/164), plastic (20/186), wood (1/29) and other (1/38). Only 6.9% of the inspected sectors were inspected. A total of 11 material types out of the legally required 17 material types were not inspected at all. Thus, the total number of uninspected sectors was 141 (18.3%).



**Figure 21.** The requires improvement (C) and poor (D) ratings (number and %) concerning the requirements imposed on contact material sector operators; n = the number of inspections regarding the requirement in question

Figure 21 implies that the highest number of causes for notice were found in the shortcomings in the quality assurance system according to the GMP regulations. While the operators in the contact material sector often follow other quality systems (such as ISO 9001 or ISO 14000), they often do not address the functions that focus on food safety, save for traceability. Many small and medium-sized operators in the contact material sector are still unaware of the legislation that applies to contact materials and the requirements it imposes on contact materials.

A high number of shortcomings was also detected in the compliance documents. The same issue is observed in food premises where these documents are also inspected. Therefore, the most effective manner of influencing the issue is to control the compliance documents and their content at the operator's premises, which also directly influences the Oiva results for contact materials in food premises.

## 5.8. Transport of food

Table 25. Controlled sites, inspections and sanctions within food product transportation

Transportation	Sites			Inspections		Sanctions	
	Total	Inspected sites		Planned inspections, incl. follow-up inspections	Other than planned inspections	Inspections that resulted in a notice	Inspections that resulted in taking coercive measures
	number	number	%	number	number	number	number
<b>Transport of food, total*</b>	1,410	92	13	95	6	5	
- Transportation	734	80	18	85	4	3	
- Cool transportation	438	5	4	5	1		
- Hot transportation	118	13	11	13			
- Frozen goods transport	120						
Distribution and transportation of alcoholic beverages	297	11		11	0	6**	

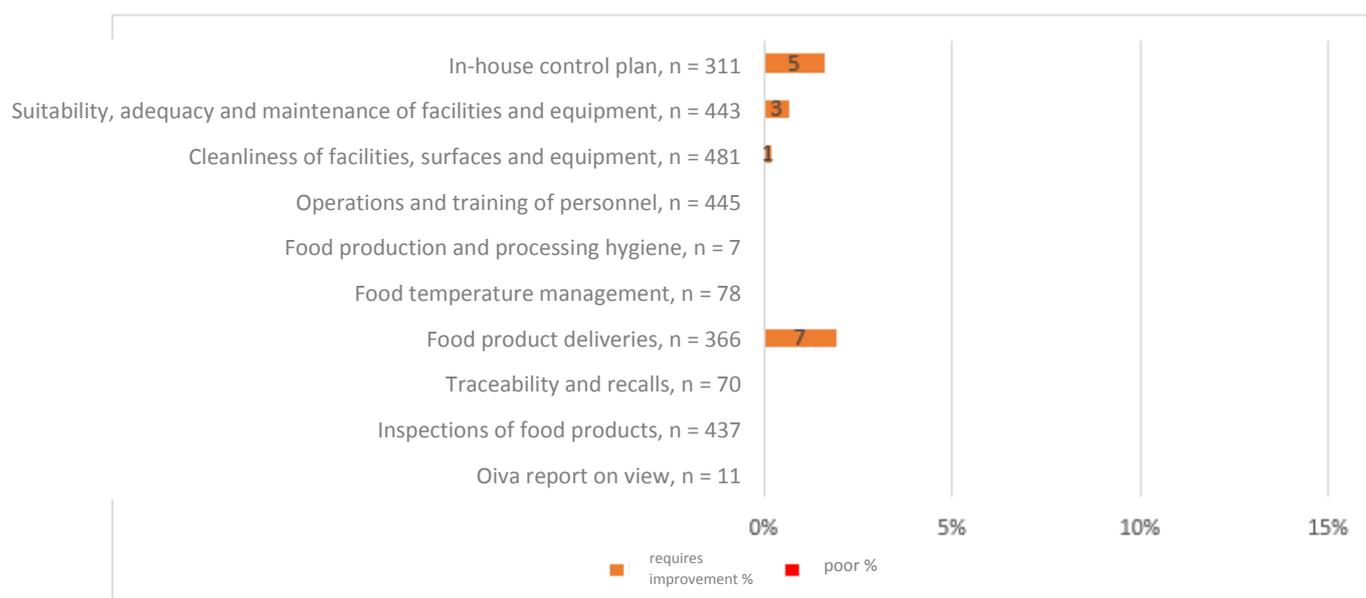
\* Excl. sites that distribute or transport \*\* alcoholic beverages

\*\* Sites where shortcomings were detected

As indicated in Table 26, the control still only covers a low percentage of transport of food. The low number of inspections is partly due to the difficulties in reaching the transport equipment. However, in the case of transports the own check control tends to function well, and the receiving parties place high demands on the transportation temperatures.

Table 26. Inspection-specific evaluations of food product transports

Transportation	Inspections	Results			
	Planned inspections, incl. follow-up inspections	Inspection-specific result			
	number	A, %	B, %	C, %	D, %
<b>Food product transportation</b>					
transportation	101	77.9	16.3	5.8	
cool transportation	89	77.2	19.0	3.8	
hot transportation	6	100			
frozen goods transport	13	100			



**Figure 22.** The requires improvement (C) and poor (D) ratings (number and %) concerning the requirements imposed on food product transportation; n = the number of inspections regarding the requirement in question

### The inspections of international transportations of perishable food products and the necessary special equipment

The number of ATP inspections was 69. The number of inspected control sites was 43. 10 notices were given in connection with the inspections. The causes for the notices were: missing ATP certificate, faults in ATP plates of the vehicle, discrepancies between the ATP certificate and plates and/or faults in the condition of the seals.

## 5.9. Food product wholesale selling and storage

**Table 27.** Controlled sites, inspections and sanctions within wholesale and storage in 2016

Food premises	Sites			Inspections		Sanctions	
	Total	Inspected sites		Planned inspections, incl. follow-up inspections	Other than planned inspections	Inspections that resulted in a notice	Inspections that resulted in taking coercive measures
	number	number	%	number	number	number	number
<b>Food product wholesale selling</b>	533	120	23	136	16	27	2
<b>Food product storage and freezing</b>	671	218	32	253	54	16	3
- storage of animal derived food products	178	159	19	128	31	10	2
- storage of other food products	456	134	15	114	20	5	1
- food product freezing	20	7	29	5	2		
- food product packaging	17	7	14	6	1		

There are a total of 533 **wholesale** sites, 120 (23%) of which were inspected. One in ten inspections were other than planned inspections. The inspections resulted in 27 notices, and two of the inspections led to administrative coercive measures.

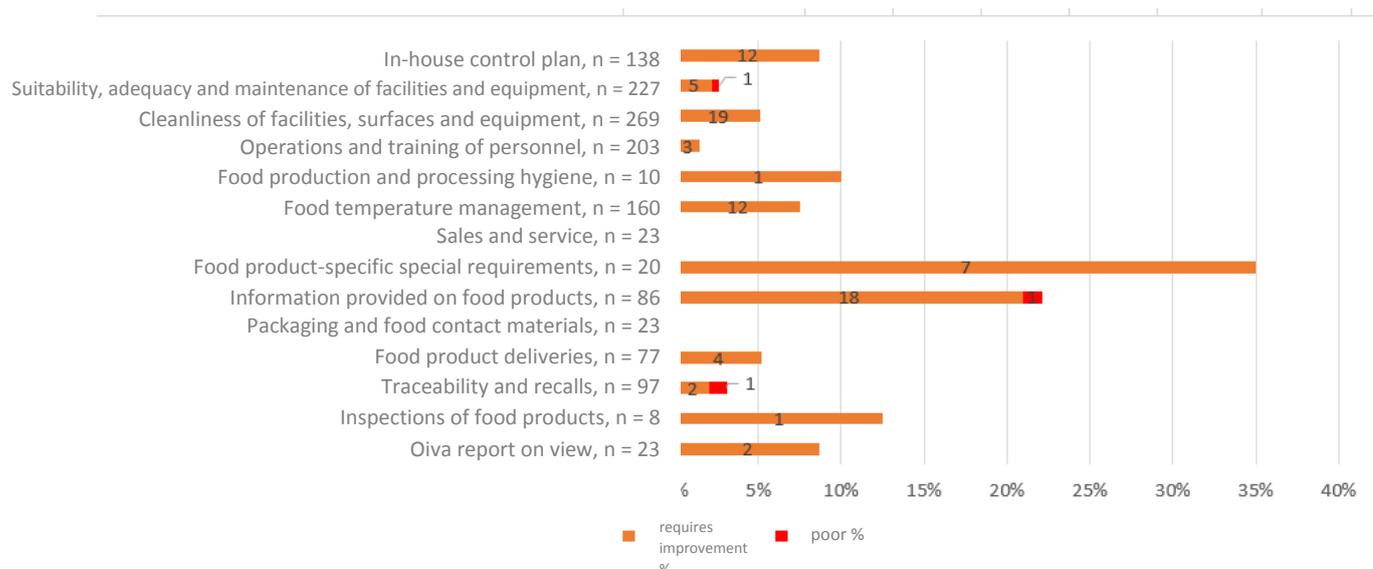
A total of 218 (32%) of the 671 controlled sites involved in **storage and freezing** were inspected. About one in five inspections were other than planned inspections. A qualified majority, 456, of the sites involved in the storage and freezing of food products stored and froze other than products of animal origin. 134 (15%) of these sites were inspected. The inspections resulted in 5 notices, and one of the inspections led to administrative coercive measures. A total of 178 sites were involved in the storage of products of animal origin, 159 (19%) of which were inspected. 10 notices were given and administrative coercive measures were taken twice.

**Table 28.** Inspection-specific evaluations of food product wholesale and storage

Food premises	Inspections	Results			
	Planned inspections, incl. follow-up inspections	Inspection-specific result			
	number	A, %	B, %	C, %	D, %
<b>Food product wholesale selling</b>	136	45.8	27.1	24.6	2.5
<b>Food product storage and freezing, totals</b>	253	59.3	34.5	4.9	1.3
- storage of products of animal origin	128	53.0	38.5	6.8	1.7
- storage of other food products	114	64.0	32.0	3.0	1.0
- food product freezing	5	100			
- food product packaging	6	80.0	20.0		

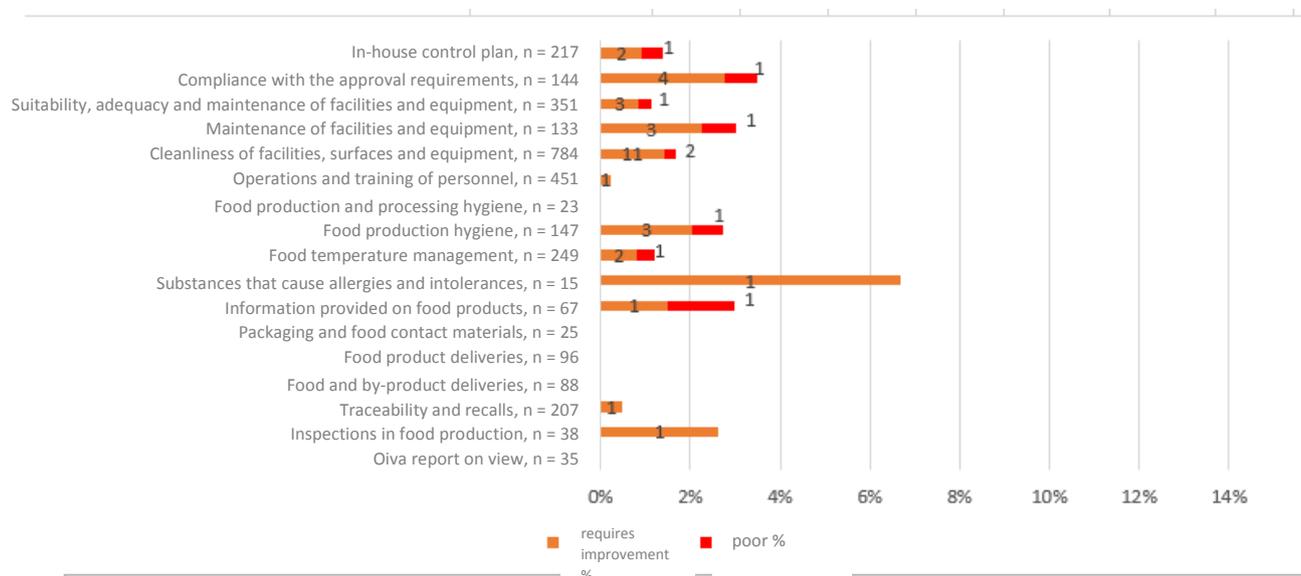
The inspection-specific rating of excellent or good (A or B) was awarded to 73% and the rating of requires improvement or poor (C or D) to 27% of the wholesale sites (Table 28).

The inspection-specific Oiva result of excellent or good (A or B) was awarded to 94% and the result of requires improvement or poor (C or D) to 6% of sites involved in the storage and freezing of food products.



**Figure 23.** The requires improvement (C) and poor (D) ratings (number and %) concerning the requirements imposed on the wholesale selling of food products; n = the number of inspections regarding the requirement in question

In the wholesale selling of food products, the requirements were mostly complied with or the shortcomings detected were minor. In relative terms, the highest number of shortcomings (requires improvement or poor rating, i.e. C or D) within the wholesale selling (Figure 23) of food products was detected in the composition of food products (seven, with the percentage being 88%), food-specific special requirements (seven, with the percentage of C and D results being 35%) and the information provided on food products (19, or 22%). In the cleanliness of facilities, surfaces and equipment, the percentage of C results was 5% (19 cases) and in the item concerning the own check control plan, the percentage of C results was 9% (15 cases).



**Figure 24.** The requires improvement and poor ratings (number and %) concerning the requirements imposed on the storage and freezing of food products; n = the number of inspections regarding the requirement in question

In the storage and freezing of food products, the requirements were mostly complied with or the shortcomings detected were minor. With one exception, 97% of the results obtained in the items were excellent or good. In relative terms, the highest number of shortcomings (requires improvement or poor) were detected in substances that cause allergies and intolerances (item 10, the percentage of the requires improvement ratings were slightly under 7%), however, a C result was only given in one inspection. In absolute numbers, the highest number of shortcomings (requires improvement or poor) were detected in the cleanliness of facilities, surfaces and equipment (item 3, the percentage of requires improvement and poor ratings being 1.7% with 13 cases, Figure 24).

## 5.10. Food product retail sale

**Table 29.** Controlled sites, inspections and sanctions within retail sales of food products, all inspections in 2016 (annual report)

Food premises	Sites			Inspections		Sanctions	
	Total	Inspected sites		Planned inspections, incl. follow-up inspections	Other than planned inspections	Inspections that resulted in a notice	Inspections that resulted in taking coercive measures
	number	number	%	number	number	number	number
<b>Food product retail sales</b>	11,322	4,101	36	4,588	594	602	27

There is a total number of 11,322 retail sites, 36% of which were inspected. A total of 602 inspections resulted in notices, and in 27 of them coercive measures were taken (Table 29).

**Table 30.** The inspection-specific Oiva evaluations of food product retail sales in 2016

Food premises	Inspections		Results			
	Planned inspections, incl. follow-up inspections		Inspection-specific result			
	number		A, %	B, %	C, %	D, %
<b>Food product retail sales</b>	4,388		48	38	13	1

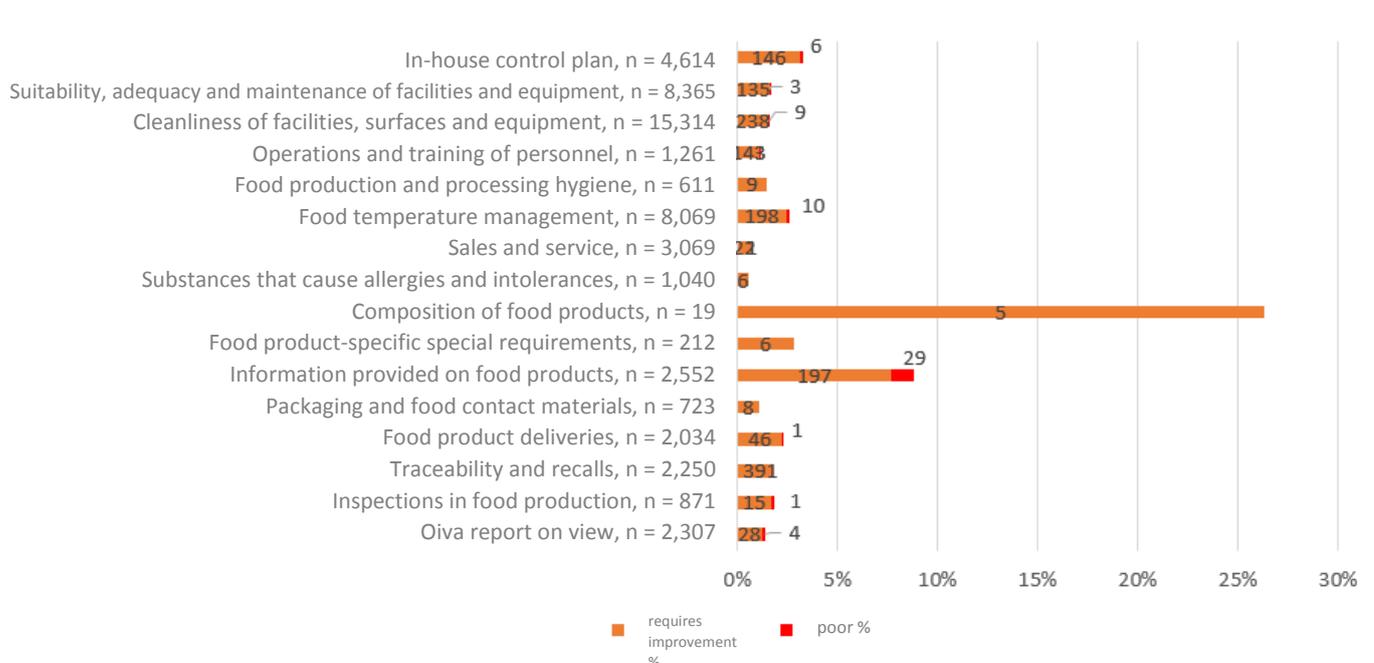
The rating of excellent or good (A or B) was awarded to 86% and the rating of requires improvement or poor (C or D) to 14% of the retail shops (Table 30).

**Table 31.** The distribution of the requirement-specific evaluations given in planned inspections and their follow-up inspections of retail sales of food products and food service in 2016

Food premises	Planned inspections					Follow-up inspections					
	Inspections	Distribution of evaluations concerning the requirements (items) imposed on food premises				Follow-up inspections required	Follow-up inspections conducted	Distribution of evaluations concerning the requirements (items) imposed on food premises			
	number	A, %	B, %	C, %	D, %	number	number	A, %	B, %	C, %	D, %
<b>Retail sales</b>	4,922	88.8	9.0	2.1	0.1	623	467	76.5	17.0	5.4	1.1
<b>Serving</b>	18,197	87.2	10.4	2.3	0.1	2,275	1,847	75.0	19.3	5.0	0.7

Out of the planned inspections of retail shops, 98% of the ratings were excellent (A) or good (B), and 2% required improvement (C) or were poor (D).

The required number of follow-up inspections of retail shops was 623, however, 467 (75%) of them were conducted. It is possible that some of the follow-up inspections were combined with the subsequent planned inspections and some were postponed until the following year. After follow-up inspections, 94% of the ratings of the different items were excellent or good. The percentage of requires improvement or poor ratings in the follow-up inspections was 6.5% (Table 31). It is possible that other shortcomings were detected during the follow-up inspections, which may have led to the results not improving (Table 31).



**Figure 25.** The requires improvement (C) and poor (D) ratings (number and %) concerning the requirements imposed on retail sector establishments; n = the number of inspections regarding the requirement in question

In the retail sales of food products, the requirements are mostly complied with or the shortcomings detected were minor. Over 97% of the item-specific results were excellent or good. The only exceptions to this were the composition of food products with only 74% of excellent and good results, however this item was only inspected 19 times, and the information provided on food products, with a percentage of 91% of the aforementioned results. Shortcomings (requires improvement or poor results) concerned the own check control plans or records related to it (3% or 152 cases), the suitability and condition of facilities and equipment (1.6% or 138 cases), cleanliness (1.7% or 247 cases) and the item regarding the temperature management of food products (2.6% or 208 cases) (storage conditions and temperatures of food products, records regarding them and the management of the times of usage).

In retail sales of food products, inspections that concern the composition of food products were conducted less frequently, which is understandable as retail sales is rarely involved in this kind of operation. However, when inspections were conducted, the following shortcomings (rating as requiring improvement or poor) were detected: enrichment of food products (100% or one case), novel foods and new processes (66.7% or two cases) and additives, flavourings and enzymes (14.3% or two cases). The highest number of shortcomings in the information provided on food products was in the labelling required in the special legislation (8.6% or 16 cases) and marketing (13% or 9 cases). A poor rating was most frequently given to general labelling (2% or 28 cases).

The controlled sites, inspections and sanctions within low-risk activity involving food products in 2016 are presented in Tables 32 and 33.

**Table 32.** Controlled sites, inspections and sanctions within low-risk activities involving food products in 2016

Low-risk activity	Sites			Inspections		Sanctions	
	Total	Inspected sites		Planned inspections, incl. follow-up inspections	Other than planned inspections	Inspections that resulted in a notice	Inspections in which coercive measures were taken
	number	number	%	number	number	number	number
Meat handling	100	23	23	21	3	4	0

**Table 33.** Inspection-specific evaluations of low-risk activities involving food products

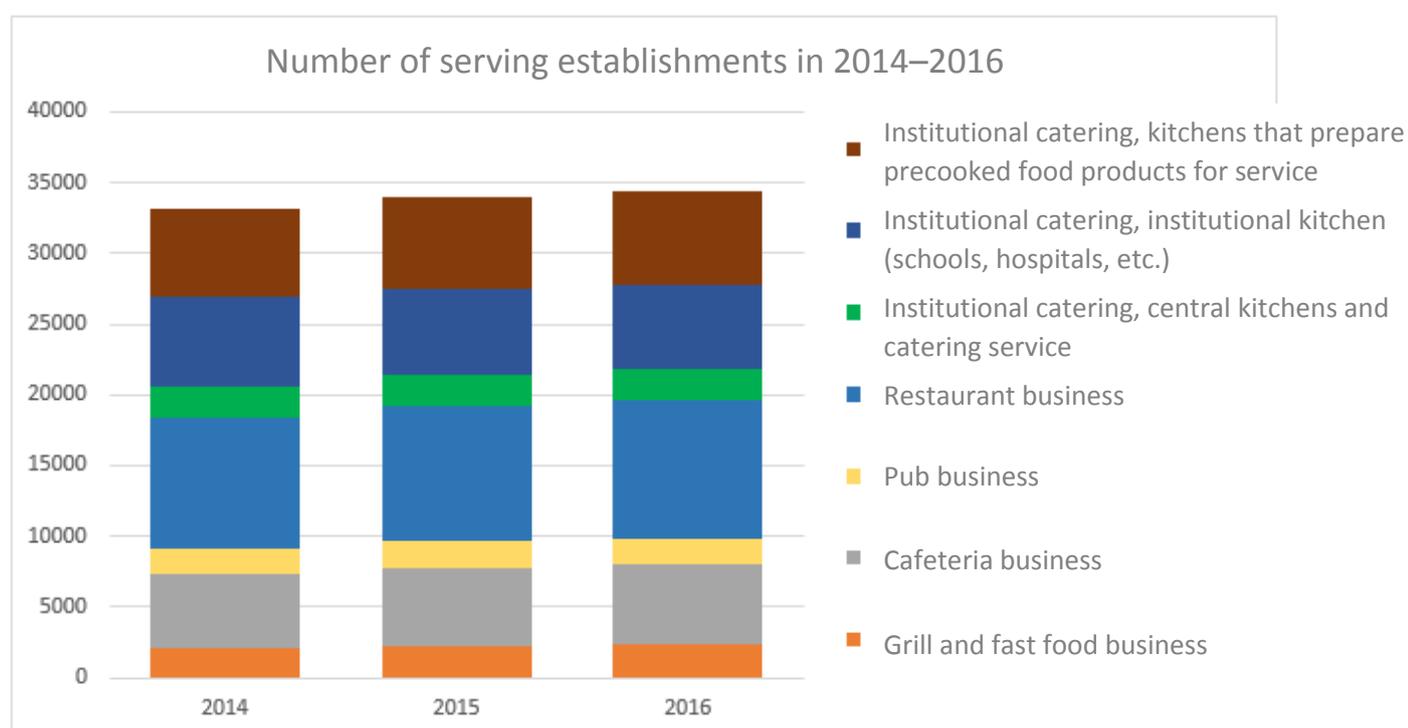
Low-risk activity	Inspections	Results			
	Planned inspections, incl. follow-up inspections	Inspection-specific result			
	number	A, %	B, %	C, %	D, %
Meat handling	24	36.8	47.4	8.1	0

Low-risk activity means the handling of products of animal origin according to the national decree 1258/2011. In 2016, 23% of these operators that handle meat were inspected. The inspections were mainly planned. Four inspections resulted in a notice (Table 33).

Low-risk activity has complied with requirements or the shortcomings detected have been minor. The result of requires improvement was given in three inspections in the item that concerns own check controls.

### 5.11. Food service

Figure 26 presents the number of serving establishments according to sectors in 2014–2016.

**Figure 26.** The numbers of municipally controlled serving establishments in 2014–2016

In 2016, the total number of serving establishments was 34,384 (Table 34). The number of serving establishments has increased from the year 2014 to 2016, however, this is due in part to the fact that registering the establishments in the centralised system still continues.

Table 34. Controlled sites, inspections and sanctions within food service in 2016

	Sites			Inspections		Sanctions	
	Total	Inspected sites		Planned inspections, incl. follow-up inspections	Other than planned inspections	Inspections that resulted in a notice	Inspections in which coercive measures were taken
	number	number	%	number	number	number	number
<b>Food service, totals</b>	<b>34,384</b>	<b>14,849</b>	<b>43</b>	<b>17,091</b>	<b>1,113</b>	<b>2,144</b>	<b>63</b>
- Grill and fast food business	2,390	1,123	47	1,282	130	192	4
- Cafeteria business	5,564	2,098	38	2,208	166	240	8
- Pub business	1,886	349	19	342	32	30	1
- Restaurant business	9,768	5,366	55	6,666	515	1,273	48
- Institutional catering, central kitchen	2,232	1,326	59	1,752	58	117	1
- Institutional catering, institutional kitchen	5,883	2,564	44	2,751	117	129	4
- Institutional catering, kitchens that prepare precooked food products for service	6,661	2,023	30	2,090	95	129	1
<b>Control by the Finnish Defence Forces</b>							
- Institutional catering and field kitchen services	186	78	42	95	30	26	

Serving establishments are classified in five categories, according to their activities. The percentage of institutional kitchens is the highest (43%), followed by restaurants (28%). The percentage of pubs is the lowest (5%) (Figure 26 and Table 34).

In 2016, municipal food control authorities inspected 43% (14,849) of all serving establishments (34,384). The majority (94%) of the inspections were planned inspections (incl. follow-up inspections). 2,144 inspections resulted in a notice and 63 inspections lead to coercive measures.

2,275 follow-up inspections were required, however, 1,847 were conducted. It is possible that some of the follow-up inspections were combined with the subsequent planned inspections and some were postponed until the following year. In the item-specific inspections, 98% of the ratings were excellent (A) or good (B). In the follow-up inspections, 94% of the ratings were excellent or good. The percentage of requires improvement or poor ratings was 5.7% (Table 32). In addition, other factors may have been inspected in connection with the follow-up inspections, which may have revealed additional shortcomings (Table 34).

In relative terms, the most frequently inspected serving establishments were institutional kitchens (central kitchen operations), restaurants as well as grills and fast food restaurants; the least frequently inspected serving establishments were pubs. Other than planned inspections (3%) usually concerned issues such as consumer reclamations, suspected food poisonings and other suspicions. Joint inspections carried out by two inspectors are also recorded in the other inspections by the second inspector. The results indicate that in general, serving establishments, institutional kitchens in particular, are well maintained: the number of

notices and coercive measures was low. The majority of notices and coercive measures concerned restaurant business (59%) (Table 34).

### Food control by the Finnish Defence Forces

Based on the risks, control has been increasingly focused on field kitchen services in connection with field practices and vessel kitchen services where shortcomings have been detected and where enhanced control and the instruction of the operators in the skills of the operators (i.e. trainers), implementation of own check control and general sanitation are clearly required.

Targeting control operations has worked well, and it should be further prioritised in the future. Both the flexible and situational assignment of the control resources and the effectiveness of the control must be further developed.

The food control carried out by the Finnish Defence Forces generally followed the control plan for environmental health fairly well (plan implemented to 57%, coverage of inspections 42%), however, regional differences in the implementation of the control plan in Finland are still great (the percentage of implementation of the plan 37–95%, coverage of inspections 28–60%).

In 2016, 78 or 67% of the control sites fulfilled the requirements for the highest two ratings of excellent (A) or good (B).

The majority of the shortcomings detected or notices requiring improvement given in the inspections concerned the need for repair of the structures or shortcomings in the sanitation of facilities and equipment or in the own check controls and records concerning them.

Many of the cases concerned issues that had already been scheduled for major renovations.

In the case of field and vessel kitchen services, shortcomings were most commonly detected in own check control records, storage temperature management and general hygiene.

In nearly all sites, minor shortcomings were detected in the own check control procedures, such as missing temperature recordings and inadequate number samples for monitoring cleanliness according to the own check control plans. Shortcomings were also detected in the regular updating and recording of the personnel's knowledge of food product hygiene.

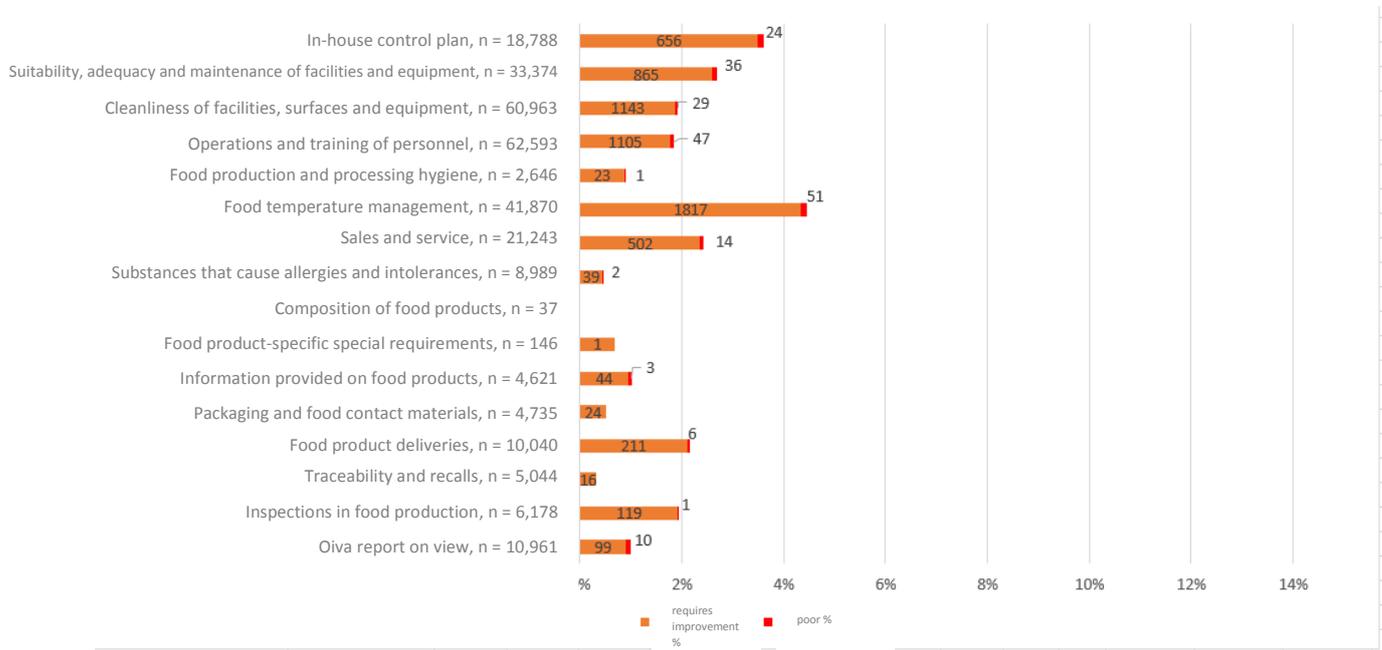
In military restaurants due to be renovated, the lack of space and impracticality of the facilities, worn-out surfaces and equipment hinder hygienic work procedures.

In field kitchen services, the skills and attitude of instructors directly affected the motivation and work hygiene of catering teams.

**Table 35.** The inspection-specific Oiva results of food product serving operations in 2016

Food service, totals	Inspections	Results			
	Planned inspections, incl. follow-up inspections	Inspection-specific result			
	number	A, %	B, %	C, %	D, %
	18,198	44.1	42.8	12.6	0.6
- grill and fast food business	1,282	38.6	44.7	15.7	1.0
- cafeteria business	2,210	44.2	43.8	11.2	0.9
- pub business	342	45.5	46.1	8.0	0.3
- restaurant business	6,670	30.5	49.6	19.1	0.8
- institutional catering					
- central kitchen	1,756	56.7	35.8	7.3	0.2
- institutional kitchen	2,754	59.3	35.3	5.3	0.2
- kitchens that prepare precooked food products for service	2,092	59.5	34.2	6.4	0

The inspection-specific rating of excellent or good (A or B) was awarded to 87% and the rating of requires improvement or poor (C or D) to 13% of the serving establishments (Table 35). The results were similar to those obtained in retail shops. In institutional catering services, the results are at the same level in all sectors. About 94% of the Oiva results were excellent or good, and about 6% were requires improvement or poor. In the case of serving establishments, hardly any poor ratings were given (0.6%).



**Figure 27.** The requires improvement (C) and poor (D) ratings (number and %) concerning the requirements imposed on serving establishments; n = the number of inspections regarding the requirement in question

In serving establishments, the requirements are mostly complied with or the shortcomings detected were minor; over 96% of the item-specific results were excellent or good.

In relative terms, the majority of shortcomings (requires improvement or poor results) were detected in the item related to the temperature management of food products (1,868 cases, over 4%) and the maintenance of the own check control plan (680 ratings requiring improvement or poor, just under 4%) (Figure 27). Shortcomings were also detected in the suitability, adequacy and maintenance of the facilities and equipment in 889 cases (just under 4%).

At closer inspection, the shortcomings that concern temperature management related to the storage temperatures of food products, storage conditions, inadequate protection of food products during storage, times of usage, temperature monitoring and records as well as inadequate cooling. Shortcomings were also detected in the durability and temperatures of food products when served, evaluated under the food product sales and service item.

## 6. Sales and marketing of food products

### 6.1. Products with registered names

A total of 107 inspections of products with registered names were conducted in 2016. 43 of these inspections were related to sales, 48 to production and 13 to serving. In the case of production, the highest number of inspections, 23, was carried out in the category of bakery products/bread and pastries. This category includes pastries like “karjalanpiirakka” and “Kainuun rönttönen”.

78% of the controlled sites were rated excellent (A), 20% good (B), and 2% required improvement (C). In the majority of cases, the shortcomings concerned errors in the labelling in loose sales, which means the

corrective measures were taken directly in connection with the inspection (i.e. feta salad → salad cheese and karjalanpiirakka → rye and rice pastry). Out of the 24 B or C results, one concerned the “Puruveden muikku” vendace, the other 23 either the “karjalanpiirakka” pastry or feta cheese. It was particularly common for serving establishments to use other than the feta cheese with the registered name in the product they called feta salad. In two control sites, naming a product packaged in the site “feta” and several notices requiring improvement led to a rating of C in two sites. In the food serving sector, the misconception that any dice-shaped, unripened cheese can be called “feta” still seems to prevail.

One control request concerning registered names was received from another Member State. Italy submitted a request to the Finnish control authorities to intervene in a case of misleading use of the name “Parmesan” in the marketing of a cheese-like vegetable fat product. The marketer of the products was instructed not to launch any further batches of the product to the market using the above mentioned labelling.

## 6.2. Marketing standards for fresh fruit and vegetables

Conformity to marketing standards for fresh fruit and vegetables were inspected in five packaging station inspections that targeted a total of 30 product lots. A total of 21 inspections were carried out at wholesale operators, with a total of 168 fruit and vegetable lot inspections. 41 inspections were conducted in retail shops to check a total of 2,115 fruit and vegetable lots.

The highest number of inspections concerned tomatoes, apples, sweet peppers, lettuces, pears and kiwi fruits. In relative terms, the highest proportion of defects leading to non-conformity were found in peaches (33%), nectarines (24%), oranges (24%) and strawberries (21%). Most frequently inspected lots originated from Spain, Finland, Italy and the Netherlands. In relative terms, the highest percentage of lots not in conformity with the standards originated from Hungary (50%), Morocco (22%), Argentina (18%), South Africa (16%) and Egypt (12%). By far the most common defect leading to non-conformity was a labelling error (95 lots). Other common defects leading to non-conformity were deterioration (57 lots) and bruising (21 lots).

The number of inspections and inspected lots remained at the same level as in the previous year. Similarly, the most frequently inspected products and the main errors that caused non-compliance remained unchanged. In 2015, most frequently inspected products originated from Finland, whereas in 2016 most frequently inspected products originated from Spain. Finnish products were the second most frequently inspected ones. This seems to be partly due to the fact that a large proportion of the inspections were conducted towards the end of the year when the amount of Finnish produce on sale is already lower and a large proportion of fresh produce is imported from Spain.

## 6.3. Requirements for the sales and marketing of eggs

### Production sites

The inspections of production sites will be focused to all new poultry farms producing free-range and barn eggs, as well as poultry farms in which changes had been made after the latest inspection. In 2016, 16 inspections were conducted (Table 36). Ten of the inspections were conducted to measure new barns for the approval of the poultry farms for the production of barn eggs before their commissioning. Other inspections conducted in 2016 were inspections of new free-range poultry farms for the production of free-range eggs. Five new free-range poultry farms were commissioned during the year. One of the new free-range poultry farms was inspected twice. Two of the new free-range poultry farms are organic poultry farms. The three other new free-range poultry farms have previously produced barn eggs.

Table 36. Inspections conducted in egg production farms

Inspected sites	Inspections number			Evira registered poultry farms that produce barn eggs, total		
	2014	2015	2016	2014	2015	2016
Poultry farms that produce barn eggs	4	4	10	181	183	186
Free-range poultry farms	3	0	6	3	3	10

**Table 37.** Inspections conducted in egg production farms

Reason for inspection	Inspections number		
	2014	2015	2016
New poultry farms that produce barn eggs	4	3	10
New free-range poultry farms	0	2	6
Inspections of requirements in existing free-range/barn poultry farms	0	1	0

Shortcomings were not detected in the inspected poultry farms. The inspections are acceptance inspections for the barn or free-range egg production systems required for the sale of eggs according to the legislation. There is no advance information regarding new poultry farms or changes in the type of production in existing poultry farms, thus, the number of inspections cannot be influenced in advance.

### Egg packing centres

In 2016, there were 68 egg packing centres in Finland. A total of 96 inspections were conducted in egg packing centres to evaluate compliance with the requirements for sale. 36 of the inspections targeted the stamping and labelling of eggs. The quality and weight grading, as well as the records the egg packing centres keep regarding the eggs, were both inspected 30 times.

83.3% (80) of the inspections of the compliance with the requirements for sale resulted in an A rating (excellent) in egg packing centres. A good, i.e. B rating was awarded in 13.5% (13) inspections and 3.1% (3) inspections led to a rating of requires improvement, i.e. C. A poor rating (D) was not given in any of the inspections.

The distribution of the ratings of the requirements in the inspections of the compliance with the requirements for sale in an egg packing centre was as follows: In the case of the quality and weight grading of eggs, 93.3% of the inspections resulted in an excellent or good (A or B, respectively) rating. In the case of the stamping and labelling of eggs, 97.2% of the inspections resulted in an excellent or good (A or B, respectively) rating. Each of the inspections, i.e. 100%, concerning the records that the egg packing centres keep regarding the eggs. None of the inspections of the compliance with the requirements for sale in egg packing centres resulted in a poor (D) rating. The highest number of shortcomings in the inspections of the compliance with the requirements for sale in egg packing centres in 2016 was detected in the quality and weight grading of eggs. A rating of C requiring improvement was given in 6.7% of the inspections of the quality and weight grading. The second highest number of shortcomings were detected in the stamping and labelling of eggs. A rating of C requiring improvement was given in 2.8% of the inspections of stamping and labelling.

In the quality and weight grading the monitoring results of a packing centre exceeded the tolerances allowed in the legislation. An inspected batch may contain a maximum of 5% of eggs with quality issues.

Significant errors were detected in stamping and labelling. Shortcomings were detected in the monitoring of the correctness of stamping and the best-before date was incorrectly marked. The best before dates were marked too long. The best-before date for eggs is calculated 28 days from the date laid or the first day of the laying period.

The shortcomings and errors in labelling and stamps on eggs may mislead consumers in their purchasing decisions.

**Table 38.** Inspection-specific evaluations of the compliance of the requirements for sale in egg packing centres

Control of the compliance of the requirements for sale in egg packing centres	Inspections	Assessment			
	Planned inspections, incl. follow-up inspections	Inspection-specific assessment			
	number	A, %	B, %	C, %	D, %
Quality and weight grading of eggs	30	80.0	13.3	6.7	0
Stamping and labelling of eggs	36	86.1	11.1	2.8	0
Records that the egg packing centres keep regarding eggs	30	83.3	16.7	0	0

#### 6.4. Marketing of food products

The municipal food control authorities received 32 control requests due to the use of non-compliant claims reported to or detected by Evira. In the control requests, Evira requested that the municipal food control authority to contact the operator, offer instruction in the correct use of claims and advise the operator to follow the requirements set out in the legislation and to remove any non-compliant claims.

Evira also submitted a notice to nine operators requesting them to modify their marketing by removing any non-compliant claims, and heard them regarding the prohibition of marketing and imposing a conditional fine. Three operators were prohibited from renewing their non-compliant marketing with a conditional fine that was imposed to back up the prohibition. Two operators were requested to clarify the basis for the use of a claim in marketing and the veracity of the claim.

## 7. Microbiological monitoring programmes

### 7.1. Salmonella in food products

The national salmonella control programme is included in the own check control programmes of slaughterhouses, small slaughterhouses and cutting plants. The own check salmonella control was inspected in a total of 52 sites; shortcomings were detected in the own check control of two of the sites. In both sites, the sampling plan and therefore sampling did not fulfil the requirements of the legislation. Requests were given that required the issues to be corrected. The follow-up inspections showed that the own check control plan had been updated and sampling according to the plan had been started. The follow-up inspection of the second establishment was not conducted in 2016.

In 2016, samples for the national salmonella control programme were taken in pig and cattle slaughterhouses according to the number of samples required in the sampling plan drafted by Evira (Table 39). For broiler, turkey and chicken slaughterhouses, cutting plants, establishments that produce minced meat and establishments that produce meat preparations (Tables 39–41), the exact annual numbers of samples have not been defined. The slaughterhouse-specific information regarding the number of samples within the salmonella monitoring control was not available for small slaughterhouses.

The national salmonella control programme has been effective and the salmonella status of Finnish meat and eggs has remained good. The number of samples from slaughterhouses and meat sector establishments that contained salmonella remained clearly under the national goal of 1%.

The results of the national salmonella control programme were reported to the EU in the annual report on zoonoses.

**Table 39.** Samples taken in red meat slaughterhouses and small slaughterhouses according to the salmonella control programme in 2016

Sample type	Required in the Decree	Actual number of samples number	Positive samples number	Positive samples %
<b>Lymph node samples</b>				
Slaughter pig	3,000	3,210	0	0
Sow <sup>1</sup>	3,000	3,180	2	0.06
Cattle	3,000	3,149	4	0.03
<b>Surface smear samples from carcasses</b>				
Slaughter pig	3,000	3,225	0	0
Sow <sup>1</sup>	3,000	3,172	0	0
Cattle	3,000	3,141	0	0

<sup>1</sup> Decree of the Ministry of Agriculture and Forestry 134/2012, the sample type also includes boars

**Table 40.** Neck skin samples taken from carcasses in broiler, turkey and chicken slaughterhouses in 2016

Animal species	Samples number	Positive samples number	Positive samples %
Broiler	1,055	0	0
Turkey	345	0	0
Chicken	0	0	0

**Table 41.** Meat samples taken in cutting plants in 2016

Animal species	Samples number	Positive samples number	Positive samples %
<b>Finnish meat</b>			
Slaughter pig	1,228	0	0
Sow	171	0	0
Cattle	1,717	1	0.06
Broiler	42	0	0
Turkey	76	0	0
Chicken	0	0	0
Duck	0	0	0
Goose	0	0	0
Guinea fowl	0	0	0
<b>Imported meat</b>			
Slaughter pig	33	0	0
Sow	0	0	0
Cattle	42	0	0
Broiler	6	0	0
Turkey	3	0	0
Chicken	1	0	0
Duck	0	0	0
Goose	0	0	0
Guinea fowl	0	0	0

**Table 42.** Sampling in establishments that produce minced poultry and raw poultry meat and poultry meat preparations in 2016

<b>Finnish meat</b>	<b>Samples number</b>	<b>Positive samples number</b>	<b>Positive samples %</b>
Broiler	623	0	0
Turkey	182	0	0
Chicken	0	0	0

The compliance with the sampling requirements of the control programme regarding samples from live animals is reported in the Control of animal health (Eläinten terveyden valvonta) report.

## 7.2. Salmonella in feed

National legislation requires that there are no salmonella bacteria in feed. The presence of salmonella in feed is controlled in both official and own check control of the operators in the sector. In executing official control, Evira takes sample of feed produced in Finland and imported high-risk feed, and controls the implementation of the own check control of the operators. In addition, animal-by-product feed for pets are sampled in connection with market control inspections. If necessary, feed samples will also be taken to identify the source of salmonella infections in animal holdings. Feed sector operators have a statutory duty to carry out own check control for salmonella that concerns the production and import, as well as production facilities, storage and transportation.

The total number of salmonella analyses conducted within official control in 2016 was 3,450; out of the analyses, 3,191 concerned feed materials and 259 mixed feed. The percentage of salmonella analyses in all official analyses was 31.5%. Salmonella analyses were mostly conducted in connection with the import of feed materials. Out of all of the salmonella analyses, the percentage of salmonella analyses on feed materials was 92.5% (91.5% in 2015, 90.9% in 2014, 87.2% in 2013).

In connection with the import of feed, 18 batches positive for salmonella were detected either in official control or as a result of own check controls (5 in 2015, 15 in 2014). The number of contaminated batches was higher than usual. Salmonella was detected in mixed feed for piglets imported from intra-EU market and in one batch fish meal imported from intra EU market area. The operators applied for permission for the treatment of the imported batches found to be positive for salmonella at Evira. After the treatment, official samples were taken of the batches; they were found to be clean and approved for use. The batches that were positive for salmonella accounted for 35.6 million kilograms of feed materials (10.3 million kg in 2015, 34.5 million kg in 2014).

In the official controls, salmonella was not found in feed produced in Finland for food-producing animal species or feed samples taken to identify the source of salmonella infections in animal holdings. Salmonella was detected in samples taken from one batch of feed produced from Finnish animal-derived by-products intended for fur animals. In market surveillance, salmonella was found in tallow balls intended for birds.

In connection with their own check control, feed sector operators reported 48 salmonella findings to Evira, 19 of which concerned the environmental samples of a feed factory. Salmonella was not found in mixed feed produced in Finland for food-producing animal species in the own check control of the operators, either.

## 7.3. Campylobacter control programme in broiler chicken

During the period from the beginning of June to the end of October, all slaughter batches of broiler chicken are tested for Campylobacter. In other months, the target is based on a calculation that accounts for the rate of incidence of Campylobacter in the country. Whether the targets set out in the programme are met is evaluated based on the numbers of tests carried out, submitted by laboratories.

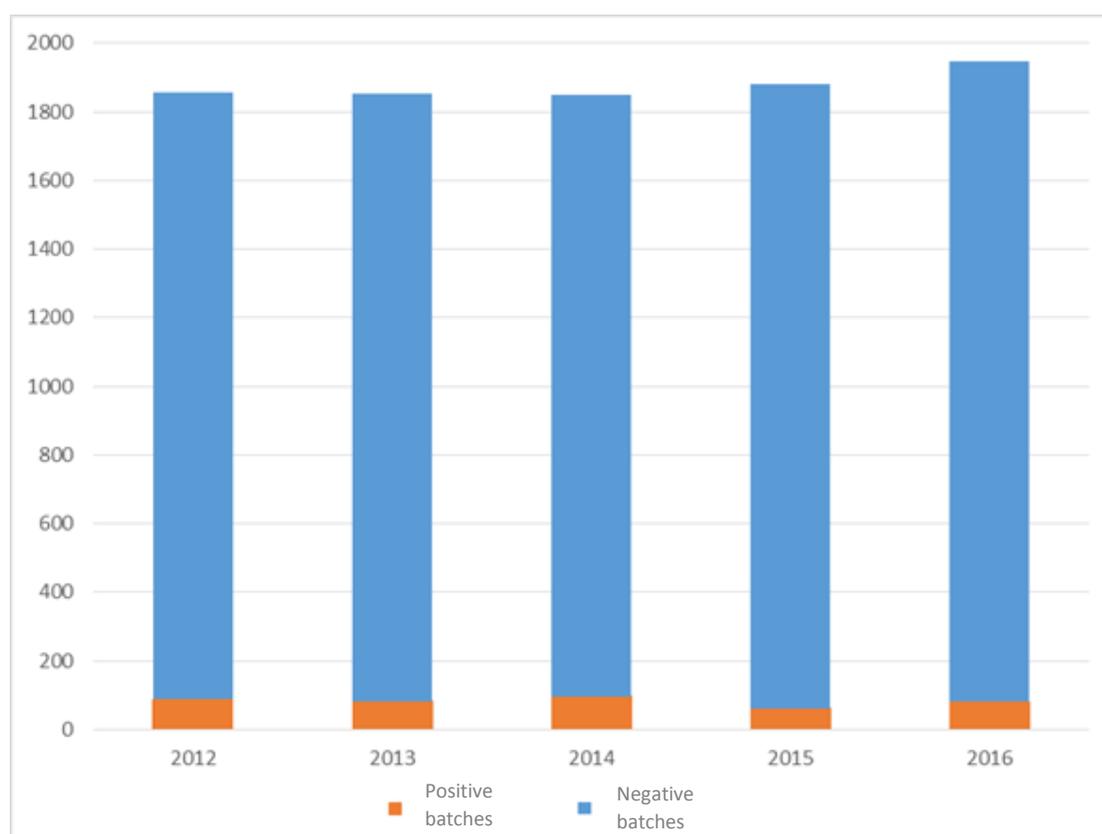
Campylobacter control programme is included in the own check control programmes of broiler slaughterhouses. The sampling conducted in each broiler slaughterhouse is inspected by official

veterinarians. In 2016, the own check control for *Campylobacter* was inspected in three poultry slaughterhouses, 100% of which were rated excellent (A) according to the Oiva system.

Table 43 shows the number of *Campylobacter* samples taken as a part of the own check control and positive results in broiler slaughterhouses in 2016. The test results obtained in 2016 indicate that the incidence of *Campylobacter* in broilers has remained low as in previous years. Figure 28 indicates the percentage of slaughter batches that were positive for *Campylobacter* in the total number of tested slaughter batches during the year in 2012–2016. The results were reported to the EU in the annual report on zoonoses.

**Table 43.** The number of *Campylobacter* samples taken in own check controls and positive results in broiler slaughterhouses in 2016

Year	Period	Tested slaughter batches, target number	Tested slaughter batches, actual number	Positive slaughter batches number	Percentage of positive slaughter batches %
2016	1.1.–31.5. and 1.11.–31.12.	325	330	5	1.5
	1.6.–30.10.	All	1,618	75	4.6
	Entire year	-	1,948	80	4.1



**Figure 28.** Test results of slaughter batches of broiler (number of batches) in 2012–2016

#### 7.4. EHEC control in cattle

EHEC tests are included in the own check control programmes of cattle slaughterhouses. The slaughterhouse-specific number of samples is determined in the sampling plan drafted by Evira. The own check control for EHEC in cattle slaughterhouses and small slaughterhouses was inspected in 11 sites in 2016. All the inspected sites were rated excellent (A) or good (B) according to the Oiva system. Non-compliance with official requirements was not detected. On the Oiva evaluation item for the own check control for EHEC, EHEC

sampling in other meat sector establishments had also been erroneously reported, including samples taken from minced meat.

Table 44 shows the number of tested EHEC own check control samples from cattle slaughterhouses and positive results in 2013–2016. In addition, the table indicates the number and results of cattle holdings tested in connection with the investigation of EHEC infections in humans in 2013–2016. Both faecal samples and environmental samples were tested in the holdings. In 2016, both the faecal and environmental samples of one of the cattle holdings inspected due to infections in humans were positive.

In cattle slaughterhouses, the EHEC control programme was implemented well, and the percentage of faeces samples positive for EHEC was 2.07% of the actual number of samples taken. The estimate of the implementation is based on the comparison of the target defined in the programme and the number of samples taken submitted by the official veterinarians of cattle slaughterhouses. In the small slaughterhouses, the EHEC sampling targets were not completely met according to the requirements of the control programme.

**Table 44.** Own check control samples for EHEC tested in cattle slaughterhouses and cattle holdings inspected as a result of infections in humans in 2013–2016

Year	Sample type	Target number of samples number	Actual number of samples number	Positive samples number	Percentage of positive samples %
2016	Slaughterhouse, faecal sample	618	627	13	2.07
	Cattle holdings inspected as a result of infections in humans		5 holdings	1 holding	
2015	Slaughterhouse, faecal sample	616	625	17	2.72
	Holdings inspected as a result of infections in humans		4 holdings	1 holding	
2014	Slaughterhouse, faecal sample	1,522	1,545	40	2.59
	Holdings inspected as a result of infections in humans		6 holdings	2 holdings	
2013	Slaughterhouse, faecal sample	1,522	1,560	32	2.05
	Holdings inspected as a result of infections in humans		8 holdings	4 holdings	

In the amendment of the regulation in January 2015, the required number of faecal samples taken in from slaughter cattle was reduced to an annual minimum of 600 samples for EHEC tests in the whole country. The target for tests in small slaughterhouses did not change.

The results of the control programme were reported to the EU in the annual report on zoonoses.

## 7.5. Recognition as and examinations for *Trichinella* in controlled housing conditions for pigs

The official recognition of the controlled housing conditions for pigs allows the reduction of the number of examinations for *Trichinella* in connection with the meat inspections for pigs. In the officially recognised controlled housing conditions, pigs are protected from *Trichinella* infections during their whole life; thus they do not need to be examined after slaughtering. The pigs bred in establishments officially recognised as applying controlled housing conditions are exempt of the examination for *Trichinella* following an order from Evira. Evira recognises controlled housing conditions for pigs according to applications. The recognition can apply to a single holding or a group of holdings, i.e. compartments. In 2016, there was one pig holding in Finland that Evira had recognised as having controlled housing conditions. In practice this means that slightly over 700 slaughtered pigs were exempt of the examination for *Trichinella* in 2016. All the other pigs slaughtered in Finland were tested for *Trichinella* in connection with meat inspection. The number of these tests was over 2 million, all of which were negative.

## 7.6. Raw milk inspections

Since 2014, Evira has assembled test results of examination for pathogens (STEC, campylobacter and *Listeria monocytogenes* in raw cow's milk; *Listeria monocytogenes* and salmonella in raw goat's milk) in raw milk sold at food premises and establishments. The number of results from 2016 is small, which is why it is not yet possible to form an overall picture of the incidence of pathogens in farms that sell raw milk.

## 7.7. Antimicrobial resistance

Antimicrobial resistance is monitored annually within the framework of the FINRES-Vet monitoring programme, which is based on the Implementing Decision 2013/652/EU and monitoring subjects selected on a national level.

The zoonotic bacteria included in the programme are salmonella and campylobacters. In 2016, the antimicrobial resistance of the salmonella bacteria isolated from cattle, pigs and poultry was monitored within the framework of the salmonella monitoring programme. In addition, the *C. jejuni* strains isolated from broiler chicken and cattle were included in the programme. Very small amounts of resistance are found in salmonella strains annually, and in 2016, resistance was found in only a few strains. In the campylobacters isolated from broiler chicken, small amounts of resistance to antimicrobials that belong to the class of quinolones (nearly 10%) and to tetracycline (less than 10%). In 2016, resistance in the campylobacters isolated from broiler chicken was found more frequently than the year before, however, less frequently than in 2014.

In 2016, the incidence of *E. coli* bacteria that produce ESBL, AmpC and carbapenemases in broiler chicken, Finnish broiler meat and cattle. In broiler chicken, the incidence of ESBL/AmpC bacteria was 14% (n=306). ESBL was found in 4% of the samples and AmpC-*E. coli* in 11%. In fresh broiler chicken, these bacteria were found in 22% of the inspected samples (n=309; ESBL in 5%, AmpC in 17%). ESBL bacteria were not found in Finnish cattle, and AmpC-*E. coli* was only found in three samples of 236 (1%).

## 7.8. Other microbiological monitoring

In 2015–2016, the incidence of salmonella bacteria and *Listeria monocytogenes* in sliced cheeses was surveyed. For the survey, 403 samples were tested; 110 of them were from products produced in Finland and 293 products from other countries (in the case of one sample, the country of origin was not reported.) *L. monocytogenes* bacteria or salmonella were not found in any of the samples.

## 8. Chemical monitoring programmes

### 8.1. Prohibited substances, medicine residues and contaminants in food of animal origin

The annual national residue control programme that concerns live animals and food of animal origin is required in both national and EU legislation (Council Directive 96/23/EC). The goal is to make sure that prohibited substances are not used in breeding animals for farming purposes and that food products do not contain residues of approved veterinary drugs in levels that exceed maximum residue limits determined in the applicable legislation. The rate of incidence and levels of contaminants from the environment in food products are also monitored in the programme.

In 2016, the residue control programme was carried out almost as planned. Only samples from wild game (elk) were not tested. Nearly 45,000 tests were run on a total of 4,234 samples. The implementation of the so-called multi-residue method led to a more detail method of calculating the results in comparison to the results obtained in 2015. Table 45 indicates the numbers of samples based on production numbers categorised according to animal species or food products, the distribution of tests between substance categories and the number of non-compliant samples in 2016. Samples that contain residues of approved drugs or other substances in levels that exceed the limits or reference points for action, as well as cases in which it can be demonstrated that animals have been treated medically against the regulations or given prohibited substances are reported as non-compliant. Any non-compliance always results in official inspections of the cases.

**Table 45.** The number of samples tested within the residue control programme for food of animal origin categorised according to animal species or food products for tests (number) in different substance categories and the number of non-compliant samples in 2016

Animal category or food of animal origin	Prohibited substances	Approved veterinary drugs	Contaminants	Samples (total)	Non-compliant samples (number and detected residues)
Bovine animals	758	343	141	1,242	
Pigs	491	744	175	1,410	
Poultry	319	278	42	639	
Sheep	10	19	6	35	
Horses	30	14	3	47	
Elk	0	0	0	0	
Farmed game	12	59	36	107	5 samples: liver/cadmium 5 samples: kidney/cadmium
Dairy	163	295	138	295	
Fish	64	54	83	201	
Egg	142	180	61	200	
Honey	58	58	30	58	

Residues of some prohibited growth promoters for farmed animals or their metabolites may also occur naturally in small concentrations. In addition to the samples listed in Table 45, 2-Thiouracil was found in the urine samples of a bovine and a wild boar, and beta-testosterone in seven blood samples taken from cattle.

Residues of approved drugs were not detected in levels that exceed the maximum residue limits.

A large part of the liver and kidney samples taken from reindeer, categorised as farmed game, contained cadmium from the environment. Muscle samples were also tested, however, elevated concentrations of heavy metals were not detected in them. In three milk samples, aflatoxin M1 was detected in levels that do not exceed the reference points for action.

The implementation and results of the residue control programme in 2016 closely reflected those in previous years (Table 46). The percentage of non-compliant samples is usually between 0 to 0.02% of the tested samples, taking into account any possible residue caused by medical treatment of the animals. When samples that contain contaminants are taken into account, the percentage of non-compliant samples is slightly higher (0.24% in 2016).

**Table 46.** Number of samples tested in the residue control programme for food of animal origin, number of non-compliant samples and their percentage of the samples tested in 2010–2016

Year	Samples (number)	Prohibited substances (number)	Approved veterinary drugs (number)	Contaminants (number)	Percentage of non-compliance/without contaminants (%)	Percentage of non-compliance/with contaminants (%)
2010	4,344	0	0	30	0	0.6
2011	4,369	0	1	48	0.02	1.1
2012	4,424	0	1	38	0.02	0.86
2013	4,341	0	0	33	0	0.76
2014	4,324	0	0	17	0	0.4
2015	4,344	1*)	0	13	0.02	0.32
2016	4,234	0	0	10	0	0.24

\*) any use of prohibited substances was not detected

Any use of prohibited growth promoters has never been detected in Finland. Residues of approved drugs in levels that exceed the maximum residue limit have only been detected in individual cases; in 2016, no cases were detected. The results indicate that food products produced in Finland are safe for consumers and that regulations that concern the medical treatment of animals, including the withholding periods related to treatments, are complied with to a high degree.

The number of samples that contain contaminants has decreased during the period from 2010 to 2016. The number of samples taken from farmed game has remained the same and, in line with the results obtained in previous years, cadmium was found in a large proportion of the liver and kidney samples taken from reindeer. Since no samples from wild game were taken in 2014–2016, the results do not include test results of visceral samples from elks recorded in previous years. Since it is commonly known that the visceral heavy metal content in game has increased, as a risk management measure Finland does not approve the liver and kidneys of an elk over a year old as a food product. On the other hand, the number of samples that contain mould toxins varies significantly from year to year, thus, the results can usually not be predicted accurately. In the case of mould toxins in the feed for farmed animals, farmers may in some cases affect the quality of the feed by modifying their practices. Thus, feed should be inspected during the late winter, particularly if there have been problems in the feed silage due to difficult weather conditions or other reasons.

The control of prohibited substances and approved veterinary drugs is also a part of the control of cross compliance according to the common agricultural policy of the EU; therefore, non-compliances may also lead to the extension of the control to cover cross compliance and imply possible sanctions that apply to support.

The residue control programme for food of animal origin is implemented according to EU regulations, which means that the possibilities of the Member States to plan the control procedures according to their own risk profile or to make significant year-to-year changes to the monitoring are limited. New test methods will be used in the implementation of the programme, and the methods will continue to be further developed. The new multi-residue methods in particular will open up new possibilities in testing for residues. Agreed changes to the EU rules will change the contents of the program in the coming years as it is anticipated that the number of contaminant tests will be reduced significantly. Changes to the control systems are also to be expected in connection with the future regional government reform. Within the permitted limits, sampling will still continue to be focused both in terms of time and location to food products or animal species with the highest risk of containing residues.

## 8.2. Pesticide residues

The aim of the pesticide residue control programme is to monitor that prohibited pesticide residues are not present in food products and that food products do not contain approved substances in levels that exceed maximum residue levels defined in the legislation. Authorities collaborate in the monitoring of pesticide residues and usage. The control programme is carried out in collaboration between municipal food control authorities (Finnish products), Customs (other than animal-derived intra-EU and imported products), Environmental Centre of the City of Helsinki (Finnish fruit and vegetables) and the National Supervisory Authority for Welfare and Health, Valvira (alcoholic beverages). Evira also controls organic products and Finnish food of animal origin for pesticide residues.

The control plans were generally well carried out; only the number of samples taken by Evira did not meet the target (Finnish plant and food of animal origin and baby foods). However, the total number of samples taken exceeded the target, mostly due to Customs taking follow-up samples and samples based on the EU Regulation (EC) No 669/2009 that were not included in the planned targets. The actual number of samples compared to the of the pesticide residue control plan is shown in Table 47.

**Table 47.** Results of the pesticide residue control (number/% of samples) in 2013–2016

Year	Customs			Evira			City of Helsinki			Valvira		
	Plan	Samples taken	%	Plan	Samples taken	%	Plan	Samples taken	%	Plan	Samples taken	%
2013	1,550	1,921	124	245	244	99.6	110	110	100	30	20	66.7
2014	1,340	2,036	152	239	223	93.3	100	101	101	30	23	76.7
2015	1,435	1,760	123	202	169	83.7	100	100	100	25	26	104
2016	1,500	1,686	112	137 <sup>1</sup> 10 <sup>2</sup> 40 <sup>3</sup> 338 <sup>4</sup> 18 <sup>5</sup> TOTAL 543	126 <sup>1</sup> 8 <sup>2</sup> 35 <sup>3</sup> 286 <sup>4</sup> 18 <sup>5</sup> TOTAL 473	87.1	80	80	100	25	24	96.0

<sup>1</sup> fruit and vegetables (incl. organic)

<sup>2</sup> baby foods

<sup>3</sup> animal origin

<sup>4</sup> organic fruit and vegetables and plant-derived

<sup>5</sup> organic animal origin

A total of 2,263 samples were tested in the pesticide residue control. Accounting for the measurement uncertainty, the maximum residue level (MRL) of pesticide determined in the legislation was exceeded in 28 samples (1.2%). In these cases, the competent food control authorities took the measures determined in the legislation. 11 of the samples did not comply with the organic legislation.

The percentage of imported (from EU Member States and non-EU countries) products that contained pesticide residues was 50%. Residue was found most frequently in fresh fruit and berries (about 75%). About 50% of fresh vegetables contained pesticide residues. 28 product batches (1.7%) turned out to be non-compliant due to levels of one or more pesticide that exceeded the accepted maximum level. The delivery of any non-compliant products to the food product chain was stopped and follow-up samples were taken from the following batches before releasing them to the market. Non-compliant batches were destroyed or returned to the countries of origin under the supervision of the authorities. Recall measures that applied to consumers were taken in the cases of the batches that had reached the market and were assessed to pose a risk to consumers (acute reference dose, ARfD, was exceeded). These were Thai chilli peppers, Chinese pomelo and French leek. Based on the risk assessment, a RASFF report to other EU Member States was sent

in connection with eleven (11) non-compliant batches. In 52 batches, the residue level was at MRL level or only exceeded it slightly, which only resulted in a notice to the holder of goods. The non-compliance of any batch was not caused by a single product; instead, several products were non-compliant. 20 of the non-compliant batches were food products produced in non-EU countries and eight batches contained food products that originated in EU Member States. This indicates that not all non-EU countries are able to comply with farming practices that respect the MRL requirements of the EU.

All Finnish food products complied with the requirements of the Food Act. Among the 553 samples taken from Finnish products, 66 (11.9%) contained residues, however, they did not exceed the MRL values. In three organic breads, pesticide residues were detected that are prohibited in organic products, however, the levels did not exceed the approved limit values determined in the food legislation. Three Finnish fruits and vegetables contained residues of the active substances of pesticide that are not approved for the plant in question in Finland. Residues of thiophanate-methyl were found in tomatoes, spiromesifen in red peppers, and pyridalyl in iceberg salad. The cases were transferred to the Finnish Safety and Chemicals Agency (Tukes), and the Centre for Economic Development, Transport and the Environment inspected the use of plant protectants on the farms, however, misuse of plant protectants was not detected. The farmers had either used a product under a trial licence, or an approved product had been used in the previous year, resulting in residues in the growing medium.

Tables 48 and 49 show the percentage (%) of samples not compliant with the Food Act in 2013–2016 and the percentage of non-compliant samples among all samples tested in 2016.

**Table 48.** Percentage (%) of non-compliant samples in 2013–2016

Year	Samples number	Non-compliant number	Non-compliant %
2016	2,263	28	1.2
2015	2,088	35	1.7
2014	2,383	49	2.1
2013	2,240	63	2.8

**Table 49.** Percentage of samples in pesticide protectant residue monitoring programme not compliant with the Food Act among all samples tested in 2016

Origin	Customs			Evira			City of Helsinki			Valvira		
	samples tested number	residue findings number	non-compliant number	samples tested number	residue findings number	non-compliant number	samples tested number	residue findings number	non-compliant number	samples tested number	residue findings number	non-compliant number
Finnish	0	0	0	473	39	0	80	27	0	0	0	0
Products from EU Member States	1,218	613	8	0	0	0	0	0	0	17	7	0
Products from third countries	468	235	20	0	0	0	0	0	0	7	1	0
<b>Total</b>	1,686	848	28	473	39	0	80	27	0	24	8	0

In addition to the monitoring programme coordinated by Evira, municipal food control authorities conducted a total of 44 inspections that focused on pesticide residues within the framework of the Oiva system (Oiva item 17.12). The distribution of the ratings given in the inspections is visible in Table 50. The sites to be monitored for pesticide residues in the Oiva system are selected based on the risk according to the influence and scope. The Oiva inspections resulted in 42 A results and two B results. Since the Oiva system was extended to cover all food control sites only in phases during 2015, a more detailed analysis of the number and results of inspections is only possible when the Oiva system has covered all food control sites for three years.

**Table 50.** Pesticide residue control and its results as a part of the Oiva system implemented by the municipal food control authorities in 2015–2016

Year	Inspections number	A %	B %	C %	D %	Guidance and instruction number	Notices number	Coercive measures number
2016	44	95	5	-	-	2	-	-
2015	25	96	4	-	-	1	-	-

### 8.3. Contaminants from the environment and other contaminants

The goal of the control of the contaminants from the environment and other contaminants is to monitor that the levels of harmful contaminants do not exceed the maximum limits defined in the legislation and/or the levels considered safe, while also providing information regarding the current national status. In general, the control plan for 2016 regarding the inspections coordinated by Evira was followed closely (Table 51). Matrices inspected in 2016 included salads, cereals, milk, beef, seeds of oleiferous plants, breads and breakfast cereals.

**Table 51.** Planned number of samples for contaminants from the environment and other contaminants and implementation (%) in 2012–2016 (control and mapping coordinated by Evira)

Year	Contaminants from the environment, other contaminant								
	POPs	Nitrate	PAH	Acrylamide	Heavy metals	Mould toxins	Coumarin	Radioactive substances	Perchlorate
2016	10/100%	10/100%	30/100%	-	118/97%	20/75%	-	-	-
2015	-	15/67%	10/120%	-	-	71/82%	-	-	50/100%
2014	40/90%	11/92%	-	46/93%	46/93%	44/95%	-	60/100%	-
2013	40/90%	32/78%	-	32/44%	46/93%	34/94%	30/100%	-	-
2012	40/100%	38/76%	225/74%	32/0%	50/100%	20/80%	14/100%	-	-

Within the control and mapping coordinated by Evira, 179 samples were tested and 130 analyses were conducted for compounds subject to a maximum allowed content defined in the legislation (dioxins, dioxin-like PCBs, indicator PCBs, nitrate, ergot sclerotia and mould toxins [DON, Zearalenol, fumonisins, ochratoxin A]). Two samples were non-compliant (Table 52). 1,771 analyses were conducted for compounds that are not yet subject to a maximum allowed level (such as ergot alkaloids, perfluorinated surface treatments, brominated flame retardants) defined in the legislation. The levels of these compounds in food products were mainly very low, therefore, the results did not provide cause for control measures. However, the heavy metal (particularly nickel and cadmium) levels in the seeds of oleiferous plants were so high that in long-time consumption in ample measure, the possibility of harmful effects caused by heavy metals on health cannot be excluded. According to the results, the industry is advised to manage the heavy metal levels of the seeds of oleiferous plants in their own check control.

**Table 52.** The number of samples tested in the control and mapping of contaminants from the environment and other contaminants (coordinated by Evira), the percentage of non-compliant products (%) and the number of individual analyses in 2012–2016

Year	Samples tested number	Percentage of non-compliance %	Analyses for compounds subject to maximum allowed limits defined in the legislation, number	Analyses for compounds without maximum allowed limits defined in the legislation, number
2016	179	1 (*)	130	1,771
2015	80	0	133	834
2014	149	0	257	3,351
2013	99	0	197	2,921
2012	316	2	277	4,056

\*) In two raw grain samples, the maximum allowed limit defined for ergot sclerotia in the legislation was exceeded. The maximum limit of ergot sclerotia is applied to untreated grain brought to market for first processing. First processing refers to any physical or thermal treatment of the grain, excluding drying. Therefore, the application of the maximum allowed limit in the cereal chain is appropriate in the reception of the cereal after the primary treatment. In these two cases, the collection of samples by authorities was focused on primary production, which is why the municipal food control authorities took appropriate control measures. This included making sure that the buyer of grain received information on the excessive level of ergot sclerotia in the raw cereal. This enabled the buyer to take the necessary risk-management measures and to ensure on their part that food products brought to market do not contain it in levels that exceed the maximum allowed limit.

Municipal food control authorities conducted a total of 139 inspections related to contaminants from the environment and other contaminants within the framework of the Oiva system (Oiva items 17.13–17.16). The distribution of the results of the inspections is visible in Table 53. According to the Oiva results, shortcomings (C or D result) that concern the management of contaminants from the environment and other contaminants were detected in two of the inspected sites (Contaminants formed in the process). The detected shortcomings concerned the fact that food sector operators involved in smoking had not ensured the compliance of their products regarding PAHs. According to the findings in the inspections, municipal food control authorities took the necessary control measures to correcting the shortcomings. The sites to be controlled for contaminants from the environment and other contaminants in the Oiva system are selected based on the risk and according to the influence and scope. A more detailed analysis of the number and results of inspections is only possible when the Oiva system has covered all food control sites for three years.

**Table 53.** Control of contaminants from the environment and other contaminants and its results as a part of the Oiva system implemented by the municipal food control authorities in 2015–2016

Issue to be inspected	Year	Inspections number	A %	B %	C %	D %	Guidance and instruction number	Notices number	Coercive measures number
Contaminants from the environment	2016	23	91.3	8.7	-	-	1	-	-
	2015	18	88.9	11.1	-	-	2	-	-
Mould toxins	2016	28	100	-	-	-	-	-	-
	2015	21	100	-	-	-	-	-	-
Contaminants formed in the process	2016	62	82.3	14.5	1.6	1.6	8	2	1
	2015	32	68.8	31.3	-	-	10	2	-
Other contaminants	2016	26	96.2	3.8	-	-	1	-	-
	2015	7	85.7	14.3	-	-	1	-	-

Only minor changes to the control procedures are necessary in the coming years, since the monitoring/mapping plan coordinated by Evira will be implemented, following the same regulations as in 2016 and subject to available resources. The plan is to complete a risk profile regarding contaminants from the environment and other contaminants in 2019 to help create a more scientific basis for the correct focusing of the resources.

#### 8.4. Harmful and prohibited substances in feed

Feed control covers the whole operating chain from the primary production of feed to production, import, export, marketing, storage, transportation and use in the farms. The results of the feed sample controls indicate that feeds produced and marketed in Finland mostly continue to fulfil the statutory requirements specified for the safety and quality of feeds.

The number of samples taken within the scope of official feed control followed the control plan in 2016. The number of analyses for harmful and prohibited chemical substances conducted within the official feed control was 4,211, which is 140% of the planned number of analyses. In the case of official samples, the number of samples for the control of heavy metal residues, plant protectant residues and particularly residues of coccidiostats, drugs and other compounds exceeded the planned number of samples, which increased the number of analyses conducted.

In the feed control for chemical harmful and prohibited substances, shortcomings regarding the concentrations of mycotoxins, heavy metals, melamine, dioxins and plant protectants were not detected. Residues of coccidiostats were detected in two batches of mixed feed in levels that exceed the maximum allowed limit, which led to a recall order of the batches.

The production of medicated feeds is periodic and follows the current animal health situation, which affects the collection of samples by authorities.

The control of genetic modifications concentrated on the labelling and traceability of the genetically modified organisms approved in the EU. Feeds with no indication of genetic modification were targeted in sampling. No genetically modified feeds not approved in the EU were found in the feed control.

In 2016, Evira made extensive use of multi-method analyses in the testing for residues of mycotoxins, heavy metals, coccidiostats, active substances in medicated feeds and certain prohibited substances and in analysing plant protectant residues. This significantly enhanced the efficiency of the control of residues of harmful and prohibited chemical substances in feeds using a single sample.

#### 8.5. Food allergies

65 cases of serious allergic reactions were reported to the national anaphylaxis register in 2016, 40 of which were caused by food.

An error concerning allergens means that a product contains an ingredient that causes an allergy to some consumers, but this allergen has not been listed in the labelling. In 2016, allergens caused the recall of 23 food products (18% of all recalls; in 2015, the corresponding percentage was 27%). In the case of other than imported foods of animal origin, the number of non-compliant product batches was slightly lower than in 2015.

The management of allergens and substances that cause intolerances is evaluated in the Oiva inspections (Table 54). In relative terms, the highest number of shortcomings (requires improvement or poor, about 7%) were detected in meat sector establishments and the storage of food products. In the case of storage, 15 inspections were conducted and therefore, a single C result increases the percentage. In meat sector establishments, on the other hand, the number of inspections was 108.

Table 54. The Oiva results – allergens and substances that cause intolerances

Allergens and substances that cause intolerances								
Sector	Inspected	Results				Guidance and instruction	Notice	Coercive measures
		A	B	C	D			
	number	number (%)	number (%)	number (%)	number (%)	number	number	number
Food service	8,988 (100.0)	8,646 (96.2)	301 (3.3)	39 (0.4)	2 (0.0)	316	41	1
Food retail sales	1,040	1,013 (97.4)	21 (2.0)	6 (0.6)				
Food wholesale selling	13	13 (100)	0 (0.0)	0 (0.0)	0 (0.0)			
Food production/ fish sector	40	38 (95.0)	2 (5.0)					
Food production/ meat sector	108	78 (72.2)	23 (21.3)	3 (2.8)	4 (3.7)			
Food production/ dairy sector	29	27 (93.1)	2 (6.9)					
Food production/ egg sector	2	2 (100.0)						
Food production/ cereal and vegetable sector	335	302 (90.1)	27 (8.1)	6 (1.8)				
Food production/ other	65	63 (96.9)	1 (1.5)	1 (1.5)				
Food storage and freezing	15	12 (80.0)	2 (13.3)	1 (6.7)				

According to the Oiva evaluation scale, the requirements are mostly complied within the operations or the shortcomings detected were minor (over 90% of the results were excellent).

## 9. Risk analysis and study projects in food safety – results and their use

Publications about the nitrite exposure of Finnish consumers were published, and reminders of the recommendations on the intake of sausages and meat cuts published for children were also published in this context <https://www.evira.fi/en/about-evira/news/2016/nitrite-intake-varies-by-age-group/>.

The study about the risks posed by *Campylobacter* in the food product chain and the environment (Kampylobakteeririskit elintarvikeketjussa ja ympäristössä) states that *Campylobacter* were the most common bacteria in the EU Member States that caused enteritis. The whole production chain affects the incidence and levels of *Campylobacter* in food products. The average annual incidence of the *Campylobacter*, estimated according to samples taken from retail sale products, in Finnish broiler meat was 5.5%–11.7% (95% CI) and 1.8%–5.9% in turkey meat (95% CI). *Campylobacter* were not detected in samples from Finnish pork meat or beef, and the incidence in them was estimated at 0.0–1.2% (95% CI). To access the report, please click the link

<https://www.evira.fi/globalassets/tietoa-evirasta/julkaisut/julkaisusarjat/elintarvikkeet/risk-assessment-of-campylobacter-spp.pdf>.



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