



**FINNISH FOOD
AUTHORITY**
Ruokavirasto • Livsmedelsverket

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4/2020

Food Safety in Finland 2019



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Abstract

This report presents for the year 2019 the results of regulatory control related to food safety, official controls and monitoring programmes on food and feed, as well as research and risk assessments. The report also assesses, based on the results, the status of food safety and future needs for regulatory activities in Finland. The report extends the annual report referred to in the EU Control Regulation (EC) No. 882/2004, starting from 14.12.2019 the Official Controls Regulation (EU) 2017/625, with respect to food safety where the annual report describes the results of control in the various sectors of the food supply chain as a whole.

The results of regulatory control and research in 2019 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. Foodstuffs tested contain food-poisoning causing bacteria in very low concentrations. The number of food-borne epidemics as well as the number of people affected has decreased from the previous year. The amount of epidemics as well as the number of people affected varies significantly from year to year. The main pathogen in 2019 was still the norovirus. It spreads easily with the affected and often causes disease in large groups of people. The number of food frauds is increasing and fraudulent activities are also found in Finland. The number of food withdrawals is still increasing.

As a rule, food sector companies operating in Finland meet food safety requirements excellently or very well. Severe shortcomings occur in very low numbers.

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Tiivistelmä

Tässä raportissa kerrotaan elintarviketurvallisuuteen liittyvän viranomaisvalvonnan, elintarvikkeiden ja rehujen virallisten valvonta- ja seurantaohjelmien, tutkimusten ja riskinarviointien tuloksista vuodelta 2019, sekä arvioidaan niiden perusteella Suomen elintarviketurvallisuustilannetta ja viranomaistoiminnan tulevaisuuden tarpeita. Raportti syventää elintarviketurvallisuuden osalta EU:n valvonta-asetuksen (EY) No 882/2004, 14.12.2019 alkaen EU:n virallista valvontaa koskevan asetuksen (EU) 2017/625, edellyttämää vuosiraporttia, jossa kuvataan valvonnan tulokset koko elintarvikeketjun eri sektoreilla.

Viranomaisvalvonnan ja -tutkimusten tulokset vuodelta 2019 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 samoin kuin epidemioissa sairastuneiden määrä on laskenut edellisvuodesta. Epidemioiden ja niissä sairastuneiden määrä vaihtelee vuosittain paljon. Norovirus oli vuonna 2019 edelleen yleisin tunnistettu taudinaiheuttaja. Se leviää helposti sairastuneiden mukana ja sairastuttaa usein suuren määrän ihmisiä. Ruokapetosten määrä kasvaa ja myös Suomessa havaitaan petoksellista toimintaa. Elintarvikkeiden takaisinvetojen määrä on edelleen kasvussa.

Kotimaassa toimivat elintarvikealan yritykset täyttävät elintarviketurvallisuusvaatimukset pääosin oivallisesti tai hyvin. Vakavia puutteita esiintyy hyvin vähän.

Beskrivning

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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 2019 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, från den 14.12.2019 förordningen om offentlig kontroll (EU) 2017/625, förutsätter för livsmedelssäkerhetens del. I rapporten beskrivs resultaten av kontrollen i olika sektorer av livsmedelskedjan som helhet.

Resultaten av myndighetstillsynen och -undersökningarna år 2019 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. Antalet livsmedelsburna epidemier liksom antalet personer som insjuknat i epidemier har minskat från året innan. Antalet epidemier och antalet drabbade människor varierar mycket från år till år. År 2019 var norovirus fortfarande den mest identifierade patogenen. Viruset sprider sig lätt via smittade och leder ofta till att ett stort antal människor insjuknar. Mängden matbedrägerier ökar och också i Finland påträffas ohederlig verksamhet. Antalet återkallelser av livsmedel stiger fortfarande.

Livsmedelsföretagen som verkar i Finland uppfyller till största delen livsmedelssäkerhetskraven utmärkt eller bra. Allvarliga brister förekommer ytterst sällan.

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Introduction

This report presents the 2019 results of official control related to food safety, official controls and monitoring programmes on food and feed, as well as research and risk assessments. The report also assesses, based on the results, the status of food safety and future needs for regulatory activities in Finland. The report extends the annual report referred to in the EU Control Regulation (EU) No. 2017/625 with respect to food safety; the annual report describes the results of the control in the various sectors of the food supply chain as a whole. The results for 2015-2018 have been published in similar Food Safety in Finland -reports. In addition, the results of previous years can be found on the Finnish Food Authority's website (<https://www.ruokavirasto.fi/> and <https://www.ruokavirasto.fi/teemat/zoonosikeskus/>).

Food business operators are responsible for the safety of their products, providing sufficient and correct information regarding their products, and compliance in their operations. Companies ensure this by carrying out their 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 2019 demonstrate that food safety is at a good level in Finland. Domestic products do not contain chemical substances in levels dangerous to consumers. Very small amounts of bacteria causing food poisoning was detected in the analysed food products. The number of foodborne outbreaks and the number of people affected decreased from the previous year. The number of outbreaks and the number of people affected by them fluctuates a great deal from one year to the next. In 2019, norovirus was still the most commonly detected pathogen. It spreads easily via infected kitchen workers and easily causes a large number of people to fall ill.

In order to maintain the good level of microbiological food safety, the situation must be monitored continuously, and strict bio safety measures are required both in primary production and the industry. The good situation regarding salmonella in Finland faces challenges from both the significant increase in the number of salmonella cases in imported feed and the reduced possibilities for eradicating salmonella from feed due to the prohibition of the use of formaldehyde. The occurrence of salmonella in primary production has also increased, the source of which has often been people or the environment, such as wild birds. Listeria has caused several serious outbreaks both in Finland and abroad, some of which have resulted in deaths. In Finland, the listeria outbreaks typically affect a small number of people, but it appears that outbreaks are occurring more frequently than before. Listeria can occur in any food product. In Finland, it has been detected in both imported foods and domestic produce. Meat and fish establishments in particular should invest in the prevention of listeria by ensuring a thorough cleaning of their production facilities and equipment.

The number of food fraud cases is increasing, and fraudulent actions have been detected in Finland as well. Typical items for fraudulent actions in Finland include indications of origin, date markings and contents that do not correspond with that indicated on the package. Organic production is increasing in popularity. The traceability of food and its raw materials is essential both in investigating cases of fraud and in ensuring the authenticity of organic food. Finland now also has laboratory analytics for investigating origin and composition of

food as well as the authenticity of organic foods. In addition to fraud, other types of criminal activity are detected in the food chain. Criminal activities may consist of the professional pursuit of financial gain and may have implications that reach far outside food-related activities.

The number of food recalls is on the rise. Recalls are an indication of the effectiveness and accountability of both official control and own checks by companies.

More than 18,000 Oiva reports were published in 2019. According to Oiva results, the rate of compliance with statutory requirements of food companies is at a good level (on average 87%, A+B result) in all the industry's sectors. Only 0.6% of companies had serious shortcomings (D-rating) in their compliance with food requirements.

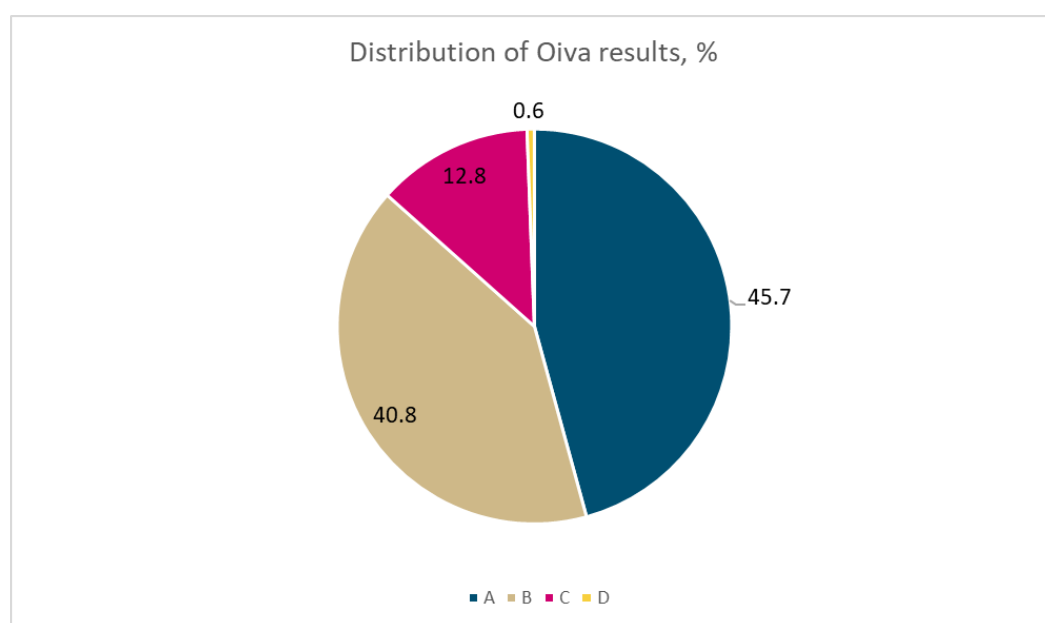


Figure 1. Distribution of Oiva results 2019

The publishing of control data has further improved the uniformity of control procedures and the accountability of operators. The Oiva system has also 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 areas fell short of their targets predominantly due to lack of resources and for technical reasons. Special situations (such as food poisoning outbreaks and recalls) that have a direct impact on food safety were well-managed.

Future challenges within official activities concern the international nature of the production, preparation, and sale of raw materials for food products, the networking of and chains built by the operators in the sector, multi-channel sales and marketing, new forms of production, technological advances, 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 monitoring of food fraud, other crime and distance selling pose new challenges to official control. Control must also be further developed to take into account chains and the division of responsibility

for compliance in operation among several operators in the chain. More consideration and from different perspectives must also be given to logistics nodes, such as warehouses. The implementation of improvements to 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.

Promoting food exports is also an important priority area in official control to ensure Finland's competitiveness. The role of the authorities in promoting exports will continue to increase as the requirements set by export countries for exporting countries, export companies and products increase. In 2019, the value of Finnish food exports increased to a record EUR 1.75 billion.

1 THE SYSTEM OF AUTHORITIES RESPONSIBLE FOR FOOD SAFETY

Table 1 contains data on human resources used in official control tasks related to food safety in 2014–2019.

Table 1. Food, feed and organic product control personnel in full-time equivalents (FTE). The Finnish Food Authority started its operations on 1 January 2019, and the personnel worked for Evira until 31 December 2018.

| Authority | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 |
|---|--------------|--------------|------------|------------|------------|------------|
| Finnish Food Authority | 357 | 338 | 338 | 324* | 321 | 314 |
| ELY Centres | 28.3 | 26 | 25.4 | 24.3* | 3.6 | 2.8 |
| Regional State Administrative Agencies | 9.6* | 19 | 23.8 | 25.5** | 13.2 | 17 |
| Municipalities | 285*** | 270 | 257 | 230.4 | 263.5 | 276.4 |
| Customs | 32 | 30 | 30** | 80 | 82 | 84 |
| National Supervisory Authority for Welfare and Health | 1.5 | 1.3 | 1.6 | 1.1 | 1.2 | 1.2 |
| Finnish Defence Forces | 1.6 | 2 | 2.6 | 2.2 | 2.3 | 2.2 |
| Åland (estimate) | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| Other including authorised inspectors | 26.2 | 14.8 | 14.3 | 14.3 | 18.9 | 18.9 |
| Total | 746.6 | 706.5 | 698 | 707 | 711 | 723 |

* organic control has been included since 2016

** basis of calculation has changed

*** estimate

In total, approximately 747 person-years were used for food, feed and organic control. There were 62 municipal food control units. The figures do not include reindeer meat controls conducted by municipal veterinarians under the Regional State Administrative Agency for Lapland, or the work hours of the fee-based meat inspection veterinarians working for the Finnish Food Authority. In addition, the figures do not include the contribution of personnel in local laboratories who examine official samples. The working time of hygiene testers is an estimate.

In order to enhance the prevention of food fraud, food control authorities, fiscal police forces, prosecutors, tax officials and financial investigators working for Customs work in closer collaboration than before. In addition, the Tax Administration's Grey Economy Information Unit is responsible for heading the cooperation of 24 authorities to combat the grey economy and economic crime. This collaboration has led to the creation of a website that gives citizens and political decision-makers up-to-date information on the grey economy and financial crime in Finland.

At the beginning of 2019, the Finnish Food Authority started as the central agency for food safety control, to which the tasks of the Food Safety Authority were transferred.

2 GENERAL INFORMATION ON FOOD SAFETY

2.1 Food sector companies

Figure 2 shows the number of food and food contact material companies by sector in 2019.

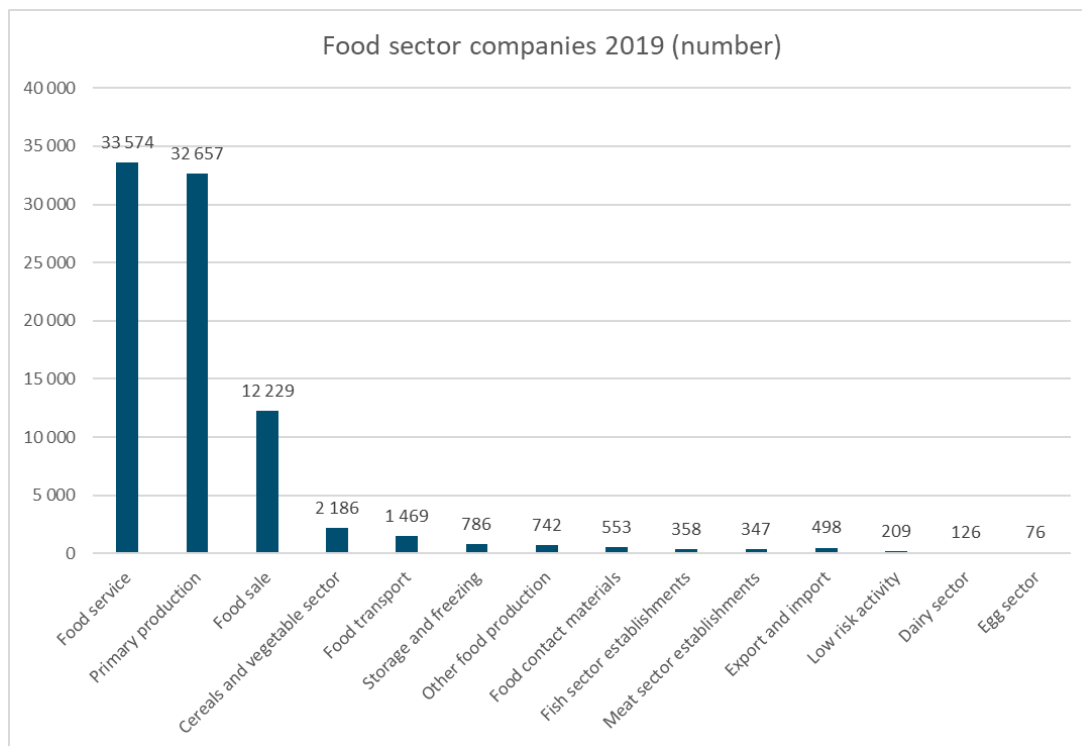


Figure 2. Number of food product and food contact material companies in official systems in 2019

2.2 Oiva food control results

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

The results for planned food control inspections i.e. the results of Oiva inspections are published in the form of the Oiva Report. The smiley face shown in the report indicates the result of the inspection. During inspections several different requirements are assessed, and each of these is given its own assessment result. The overall result of the inspection is determined on the basis of the weakest assessment. In addition, the report shows the results of the two previous inspections. A general description of the observations made during the inspection has been added to the end of the report.

Table 2. Oiva control visits in 2019

| Activity category | Number of registered control sites | Number of inspected sites | Number of inspections | Unplanned inspections % | Coverage of inspections | Oiva A, % | Oiva B, % | Oiva C, % | Oiva D, % | Distribution of inspections % |
|--|------------------------------------|---------------------------|-----------------------|-------------------------|-------------------------|-----------|-----------|-----------|-----------|-------------------------------|
| Food transport | 1459 | 160 | 161 | 1% | 11 | 78.1 | 19 | 3 | 0.0 | 0.7 |
| Food sale | 12172 | 3396 | 4117 | 9% | 28 | 47.9 | 38 | 13 | 1.2 | 17.9 |
| Food service | 33290 | 12905 | 15536 | 5% | 39 | 44.8 | 41 | 13 | 0.5 | 67.6 |
| Food storage and freezing | 779 | 180 | 275 | 23% | 23 | 52.1 | 41 | 7 | 0.5 | 1.2 |
| Food productions excl. dairy, meat, fish, egg and cereal and vegetable sectors | 743 | 213 | 268 | 13% | 29 | 56.2 | 33 | 10 | 0.9 | 1.2 |
| Fish sector | 358 | 251 | 515 | 3% | 70 | 41.5 | 46 | 11 | 1.4 | 2.2 |
| Meat sector | 347 | 217 | 756 | 1% | 63 | 34 | 51 | 14 | 1.0 | 3.3 |
| Dairy sector | 126 | 93 | 250 | 9% | 74 | 63.5 | 33 | 4 | 0.0 | 1.1 |
| Egg sector | 76 | 42 | 59 | 3% | 55 | 60.7 | 36 | 4 | 0.0 | 0.3 |
| Export and import | 504 | 94 | 124 | 31% | 19 | 55.3 | 18 | 26 | 1.2 | 0.5 |
| Cereals and vegetable sector | 2178 | 711 | 885 | 8% | 33 | 42.9 | 42 | 15 | 0.8 | 3.9 |
| Low risk activity in food premises | 210 | 35 | 34 | 0% | 17 | 43.8 | 53 | 3 | 0.0 | 0.1 |
| TOTAL | 52242 | 18297 | 22980 | | 38 | | | | | |

A total of around 18,300 Oiva controls , including follow-up inspections, were carried out in food business operators, most of which were carried out at retail and serving locations.

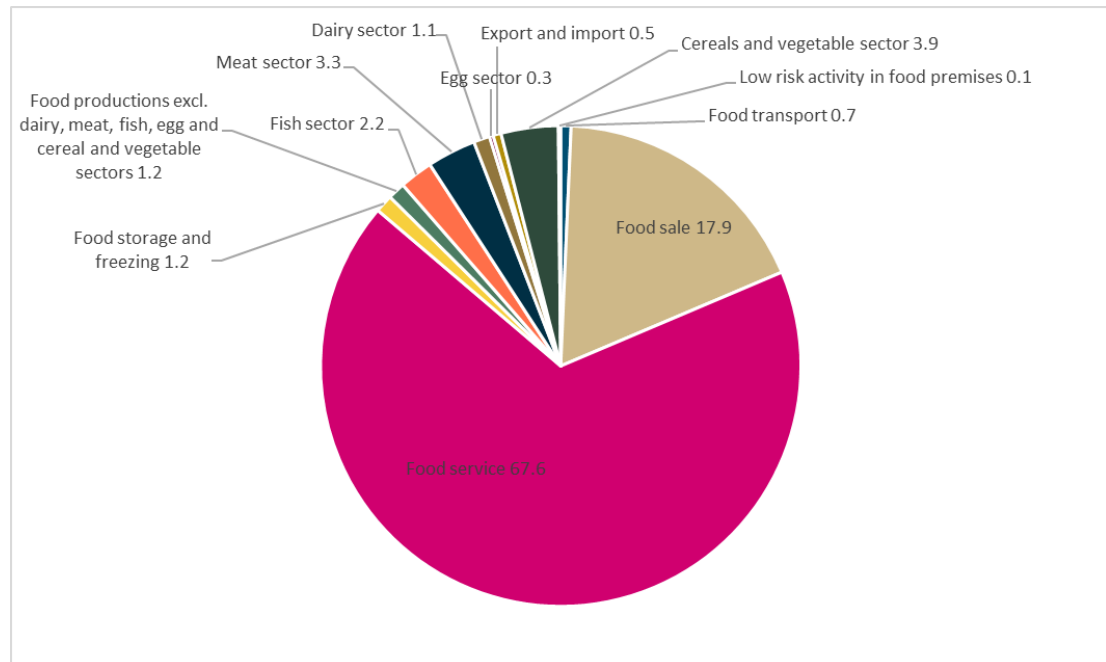


Figure 3. Percentage of controls per type of company in 2019

Figure 3 shows how the inspections are divided by company type. Nearly 70% of all Oiva inspections are to service locations.

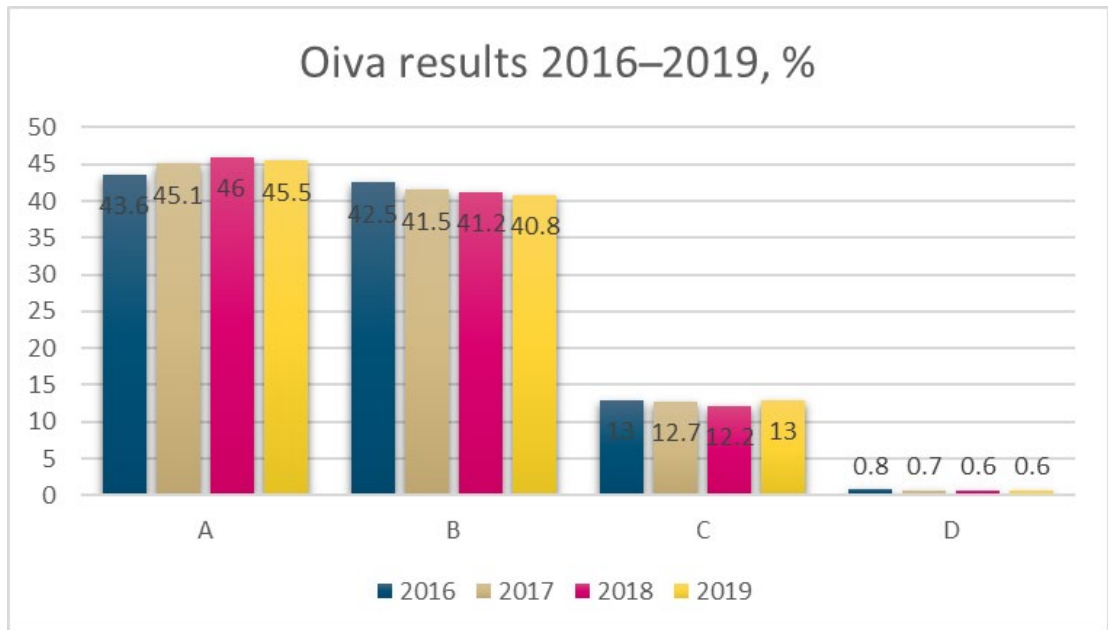


Figure 4. Development of Oiva results in 2016–2019

Oiva results have changed little in 2016–2019. The clear majority of results are excellent and good.

2.3 Hygiene proficiency

People who work in the food sector and handle unpacked readily perishable food are required to have hygiene passports.

There are around 2,100 Finnish Food Authority-approved hygiene passport examiners. No new examiners were approved in 2019.

Hygiene passport examiners held a total of 10,493 hygiene passport test events around Finland. A total of 208,067 tests were held by the end of 2019. The number includes regular hygiene passport tests, tests for special circumstances, hygiene passports granted on the basis of a qualification and renewals of previously granted hygiene passports. The number of tests held each year has remained at roughly the same level.

A total of 57,094 hygiene passports were issued by hygiene proficiency examiners. By the end of 2019, a total of 1,258,887 hygiene passports have been issued. The annual number of hygiene passports has on average remained at the same level (Table 3).

Table 3. Hygiene passport tests organised, and hygiene passports granted 2002–2019

| Year | Hygiene passport tests (number) | Hygiene passports (number) |
|--------------|---------------------------------|----------------------------|
| 2019 | 10 493 | 57 094 |
| 2018 | 11 061 | 59 248 |
| 2017 | 11 513 | 61 897 |
| 2016 | 11 527 | 61 309 |
| 2015 | 11 668 | 63 610 |
| 2014 | 12 308 | 67 750 |
| 2013 | 11 792 | 67 909 |
| 2012 | 11 746 | 66 978 |
| 2011 | 12 045 | 68 376 |
| 2010 | 12 032 | 69 632 |
| 2009 | 11 711 | 66 229 |
| 2008 | 11 737 | 63 028 |
| 2007 | 11 171 | 63 864 |
| 2006 | 10 948 | 67 352 |
| 2005 | 12 677 | 79 134 |
| 2004 | 14 786 | 108 848 |
| 2003 | 13 944 | 114 527 |
| 2002 | 4 908 | 51 102 |
| Total | 208 067 | 1 258 887 |

The audits of hygiene proficiency examiners carried out in 2009 to 2019 revealed at least minor remarks in the operations of almost every audited examiner. An average of 15% of the audits every year have resulted in the cancellation of a proficiency examiner's rights (Table 4). The most common errors and shortcomings that led to remarks have been related to the following issues: Ensuring the identity of the persons to be tested, the grounds for granting a hygiene passport, the archiving of the documents on the basis of which the hygiene passports were issued, handing over the examiner's obligations to third parties and the organisation of special situation tests.

Table 4. Audits to proficiency examiners conducted by the Finnish Food Authority and audit results in 2009–2019

| Audit results | | | | |
|---------------|-------------------|------------|-----------------------------------|-----------------------------------|
| Year | Examiners audited | Notice | Cancellation of examiner's rights | Requests for police investigation |
| | persons | (number) | (number) | (number) |
| 2019 | 21 | 21 | 0 | 0 |
| 2018 | 17 | 16 | 1 | 0 |
| 2017 | 6 | 2 | 4 | 0 |
| 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 |
| Total | 211 | 178 | 32 | 5 |

Table 5 contains the Oiva results related to the verification of hygiene proficiency. On the basis of the results, 91.8% of all food premises inspected have received an Oiva rating of A, in which case the food business operator has ensured that every employee handling unpacked readily perishable food has had a hygiene passport in accordance with the Finnish Food Authority's model. In addition, the operator has kept the records required by the Food Act as part of their own check activities that the employees' hygiene proficiency is in order. 6.7% of all food premises have had minor shortcomings in the records they have maintained, in which case they have received a rating of B. A small share of food premises (1.5%) were issued a rating of C, because they had not ensured that workers had hygiene passports and had insufficient or no records. A rating of D was issued to six reported food premises, which has meant that, despite being requested to make corrections, their rating remained at a C.

The more detailed Oiva results for 2019 have somewhat declined compared to the 2018 results. Ratings have dropped for both reported and approved food premises. The number of A ratings has decreased slightly, and the number of B and C ratings have increased accordingly. In particular, the number of D ratings has increased among reported food premises and most of them have led to coercive measures. All six inspections leading to a rating of D have been carried out in food service related to restaurant or café activities. Despite this, the distribution of overall ratings has remained relatively unchanged for several years. Shortcomings related to hygiene proficiency include both that not all the employees for whom a hygiene passport is required have one and not all operators have kept sufficient records.

When examining Oiva results as a whole for 2017, 2018 and 2019, the overall rating distribution has remained at the same level over the years. In 2017, the ratings issued to establishments were slightly poorer and in 2018 slightly better than those given to reported food premises. Based on the 2019 results, the results of both establishments and reported food premises have evened out to the same level. There are very few differences between them.

Table 5. Oiva results for the verification of hygiene proficiency

| Oiva result 2019 | | | | | | | | | |
|-------------------------------------|-------------|-------------|--------------------|------------------|------------------|----------------|--------------------------|------------|-------------------|
| Verification of hygiene proficiency | | | | | | | | | |
| Food premises | Inspected | Inspections | Result | | | | Guidance and instruction | Notices | Coercive measures |
| | | | A | B | C | D | | | |
| | (number) | (number) | (number and %) | (number and %) | (number and %) | (number and %) | (number) | (number) | (number) |
| Establishments | 218 | 235 | 214 (91.1) | 16 (6.8) | 5 (2.1) | 0 (0.0) | 20 | 7 | 0 |
| Reported food premises | 8558 | 8897 | 8168 (91.8) | 595 (6.7) | 128 (1.4) | 6 (0.1) | 952 | 136 | 4 |
| Total | 8776 | 9132 | 8382 (91.8) | 611 (6.7) | 133 (1.5) | 6 (0.1) | 972 | 143 | 4 |

2.4 Quality and accountability systems

No operator-specific applications regarding the national Sikava quality system for pork meat with the Quality Assurance label were submitted in 2019. Thus, the total number of operators remained at ten, each of them operating one or more Quality Assurance-approved sites. Sikava's national quality management system covers about 99% of pigs bred in Finland as well as pig meat of Finnish origin (Quality Accountability term). In practice, there is no longer room for expansion.

2.5 Instructions for good practices

In 2019, the Guidelines for Good Practice drawn up by the Central Organization for Finnish Horticulture for operators buying and packing vegetable products were evaluated.

Nine instructions for good practices have been evaluated in the food sector and one in the feed sector (In Finnish).

(<https://www.ruokavirasto.fi/yritykset/elintarvikeala/elintarvikealan-yhteiset-vaatimukset/omavalvonta/hyvan-kaytannon-ohjeet/ruokaviraston-arvioimat-hyvan-kaytannon-ohjeet/>).

2.6 RASFF

In 2019, Finland reported 62 cases of non-compliance detected in Finland to the RASFF (Rapid Alert System for Food and Feed) system of the EU. The number of reported cases decreased by 22 from the previous year, but was nearly the same as the year prior to that. 38 (61%) of the reports concerned food products, 16 (26%) feeds and 8 (13%) contact materials. The number of reports that concerned food products decreased notably from the previous year, whereas the number of reports that concerned contact materials and feeds remained the same.

As before, the food-related reports filed by Finland mostly concerned the poor microbiological quality of imported food products (18 reports) and violation of plant protectant regulations (10 reports). More than half of the batches unfit for human consumption for microbiological reasons were due to salmonella-contaminated meat. Four of the 10 reports on plant protection products concerned rice and six concerned tea. All reports concerning feed were related to salmonella found in feed.

Of the reports filed by Finland, 27 (44%) were based on border control and market surveillance by customs, which is the same in relative terms as the previous year, but in quantitative terms 12 reports less. The number of reports filed following observations by local food control (4) and consumers (5) decreased by half from the previous year. Finland also filed 10 reports to RASFF related to foodstuffs due to non-compliances observed in the own check activities by companies, which is three more than the year before.

Due to the special guarantees concerning salmonella applied in Finland, all imported feed batches are tested for salmonella. In these investigations, either the operators' own check controls or sampling by authorities revealed that 16 batches contained salmonella as was the case previous year as well. These findings were reported to the RASFF system.

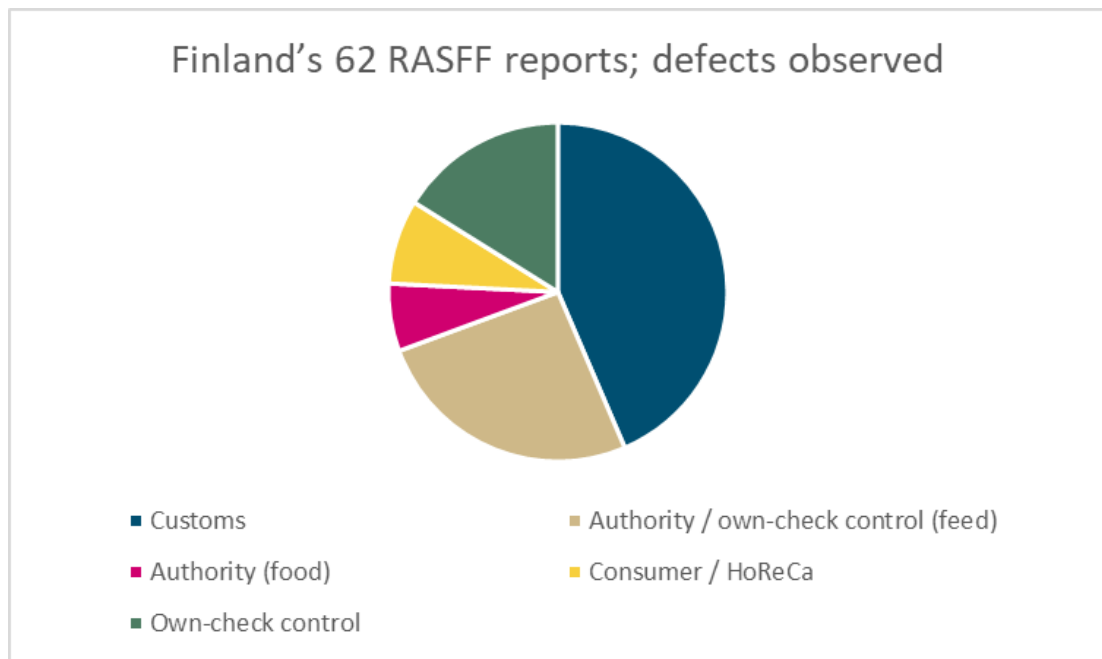


Figure 5. Reports filed by Finland to the RASFF system in 2019

Food, feed and contact material reports by Finland and to Finland through the RASFF system are subject to normal control and, if necessary, recall measures in Finland. In addition to the level of the health risk posed by the reported food, 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. If salmonella is found in feed, the feed is subjected to a chemical or thermal treatment to rid it of salmonella before use.

Most of the RASFF reports received by Finland concerned small batches of special products that had been ordered directly from the countries of production by small operators. Finland received a total of 110 reports. The annual growth was once again around 22%. Only a few of the reports sent to Finland regarding non-compliant food batches, concerned products that were sold all over the country.

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

In 2019, Finland filed seven reports in the European Commission's Administrative Assistance and Cooperation System (AAC-AA), requesting control measures from the food control authorities in Spain, Norway, Poland, Sweden and Estonia. The cases concerned misleading marketing, misleading date markings, non-compliant labelling of berries, allergens and the return food product batched that violate food legislation to the Finnish market.

Finland received 17 reports via the AAC-AA system, of which nine requested control measures from Finnish authorities. These cases were related to the non-compliant labelling of eggs, incorrect designation of a meat product, absence of GMO labelling from a feed product, a translation error on the labelling of sweets, listeria in a fish product and a labelling error on an alcoholic product. The other eight AAC reports had been sent to more than one

Member State for information or they included requests for information on interpretations or control practices from other Member States.

Finland filed one report to six Member States through the ACC-FF system for food fraud requesting all the countries for help in investigating the case. Finland received a total of four reports through this channel: One related to the data collection in the OPSON project coordinated by EUROPOL and INTERPOL, two reports in which Finnish authorities were warned about a suspected case of fraud, and one report concerned suspected fraud by a Finnish operator.

2.8 Prevention of crimes in the food product chain

The Finnish Food Authority continued to participate in the work of the situational awareness committee led by the Grey Economy Information Unit together with 20 other authorities. The committee publishes a website for citizens and policy makers <https://www.vero.fi/harmaa-talous-rikollisuus/>. The website is also maintained in English <https://www.vero.fi/en/grey-economy-crime/>.

The use of the multidisciplinary case management model developed for the management of suspected offences and multisector supervision cases was continued, and the notion that an operator engaged in activities that violate legislation in one of the Finnish Food Authority's sectors is likely to fail to comply with the requirements of the legislation in other legislative sectors was more clearly confirmed.

As was the case the previous year, the Finnish Food Authority and other food control authorities became aware of a growing number of suspected offences in the food chain, and more requests for investigation were also submitted to the police. Court rulings were given in approximately ten cases. In one case, a restaurant entrepreneur and an employee were sentenced to 20 days of conditional imprisonment for a health offence, while a third person was sentenced to a penalty of 50 unit fines for a health offence. Three judgements were issued on health offences and marketing offences. In one case concerning a primary production operator, the operator was sentenced to 6 months' conditional imprisonment for an animal welfare offence, a marketing offence and a violation of the Environmental Protection Act.

2.9 Recalls

The growth in the number of food recalls continued for the fourth consecutive year. The number of cases counted as recalls was 200, 32 more than the previous year. Statistics for the different years are not fully comparable due to small variations in recording methods. However, the statistics give valuable insights into long-term trends (Figure 6).

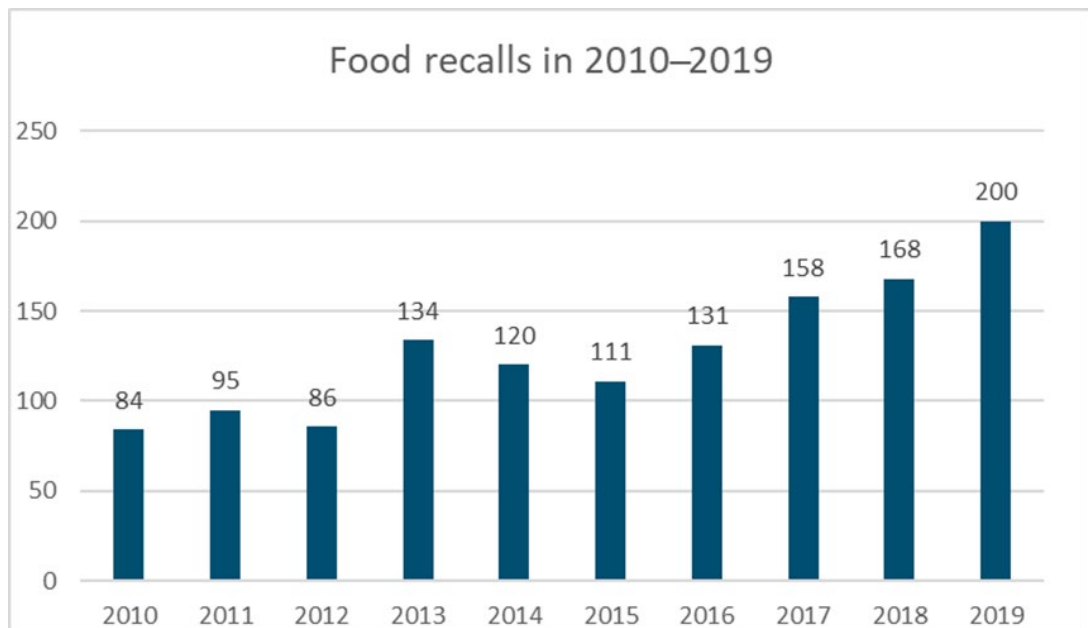


Figure 6. Food recalls in 2010–2019

The statistics also include the cases where the product had already reached the distribution chain but was not yet available to consumers. In these cases, the products recall was conducted from the importer's, wholesale dealer's or retail trader's warehouse, and there was no health risk to consumers.



Figure 7. Reasons for recalls 2019

Implemented recalls have been categorised according to the cause of recall (Figure 7). During the year under review, there were no cases or problems that would have caused a large number of recalls at once. The largest number of recalls resulted from allergens. There were 54 recalls related to allergens (27% of all recalls). Errors involving allergens have various causes, such as allergen contaminations during production, labelling errors or a

product being packed in the wrong package. Allergen errors were also the most common cause of recalls the previous year, when they accounted for 21% of cases.

Various microbiological issues (salmonella, listeria and other bacteria and moulds) were the second most common cause for recalls, accounting for 20% of recalls. Salmonella has been the most prevalent cause in this category for several years as it is now. During the period under review, 15 recalls were reported due to salmonella. Of these, 14 concerned foreign products, mostly meat from other EU Member States. Also, the 8 liquid products in which fermentation was observed to cause the packaging to balloon were recorded as a microbiological error. Many of the recalls in this category represented a health risk that only developed over time, and which operators then minimised by rapidly withdrawing the products from the market and providing information to consumers.

As shown in Figure 7, 10–20 recalls were made in numerous different reason categories in 2019. Numbers increased slightly in these categories. Only the number of physical errors returned to its previous level after an increase in 2018.

When observing the manufacture or production of the food and food contact materials that were recalled, the following can be noted: 45% of the products originated from another EU Member State. The remaining cases were nearly evenly divided between Finland and non-EU countries as regards country of origin. The division was nearly the same the previous year.

Finland most often receives information on product defects leading to recalls through the EU Rapid Alert System for Food and Feed (RASFF). There were 57 of these cases for the second consecutive year (29%). It cannot be determined from RASFF reports whether the error was first detected in an operator's own check, by consumers, by authorities or by other means. In cases where products are of Finnish origin, this can be easier to determine.

A notably larger number of recalls in which the product error was first observed by a consumer or a company that purchased the product, such as an institutional kitchen or another HoReCa operator were made than the previous year. These cases nearly doubled from the previous year, 48 cases. The strong significance of own checks by companies is reflected in 33 recalls.

The specific reason for the increase in the number of cases is unknown, but it is an indication our food control chain being of high-quality and effective and, at least in Finland's case, to how active all actors and consumers in the chain are in fostering food safety.

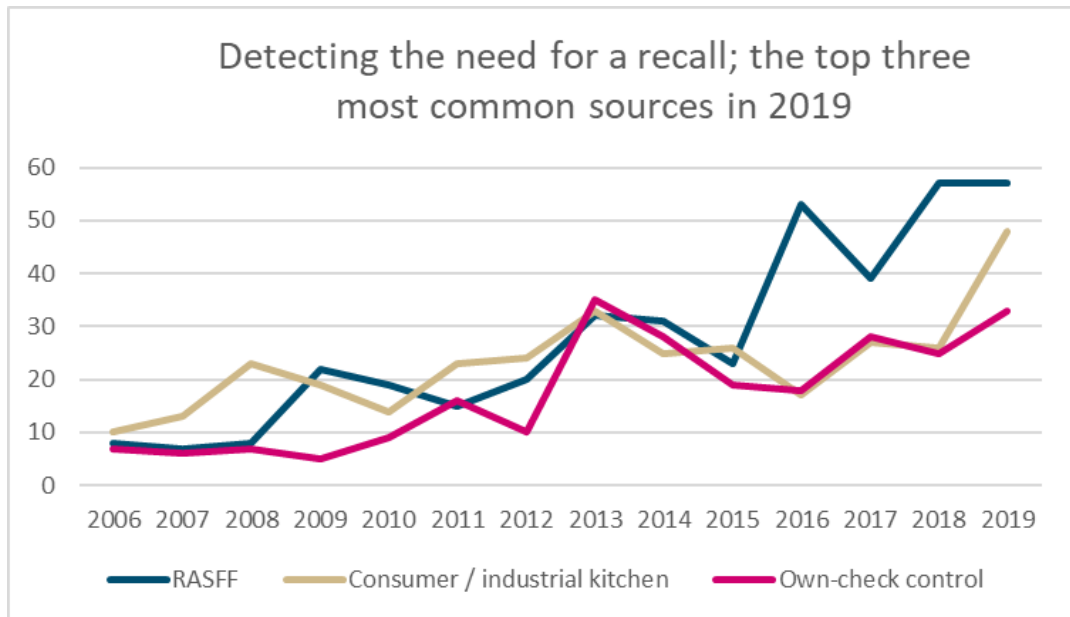


Figure 8. Detecting the need for a recall; the top three most common sources in 2019

2.10 Foodborne and household water borne outbreaks

In 2019, municipal control units reported 81 suspected foodborne or waterborne outbreaks. The number of suspected outbreaks was smaller than in 2018 when 100 suspected cases were reported.

Municipal control units and the Finnish Food Authority submitted a total of 86 reports on the outbreak investigations. The control units submitted investigation reports on all suspected cases they reported in 2019. Three investigation reports were submitted without preceding notifications of suspicion and two reports were such that their notifications of suspicion has been submitted in previous years. Based on investigation reports, 54 outbreaks were classified as foodborne or domestic household water borne outbreaks. The remaining 32 were found to something other than foodborne or domestic household water borne outbreaks (e.g. human-to-human or swimming water borne) or only one person was affected, and the case was therefore not classified as an outbreak (Figures 9 and 10).

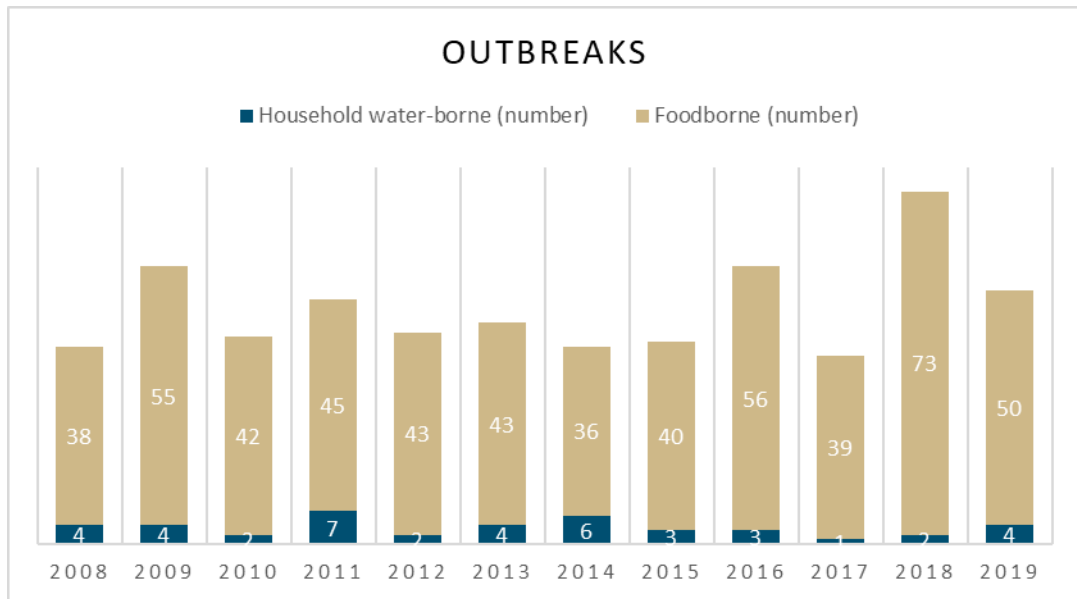


Figure 9. Number of food and household water borne outbreaks in 2009–2019

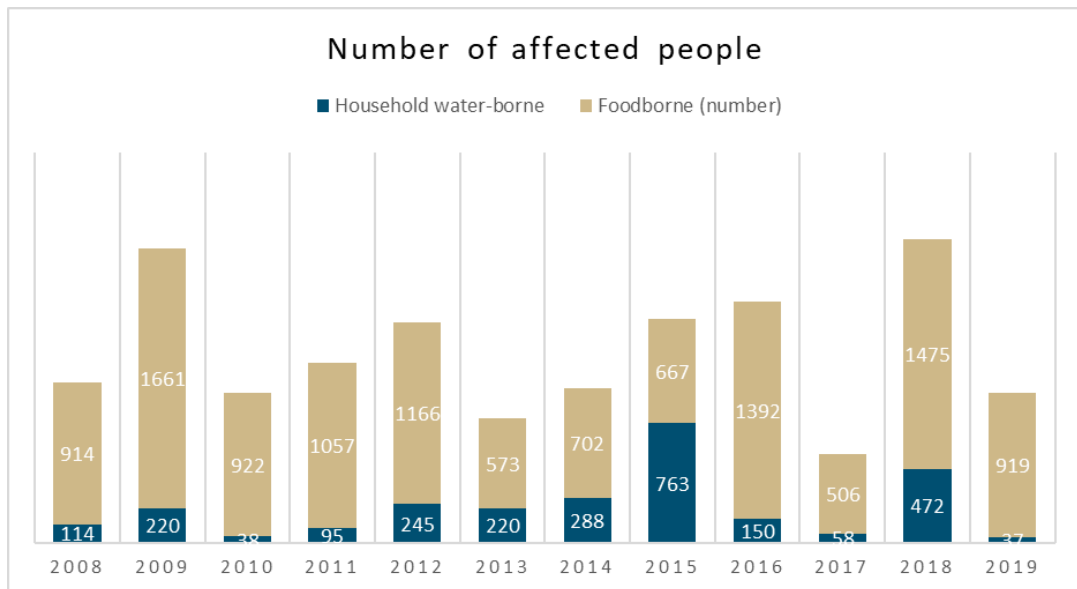


Figure 10. Number of people affected by food and household water-borne outbreaks in 2009–2019

The number of foodborne (50 outbreaks, 919 affected persons) and domestic household water borne (4 outbreaks, 37 affected persons) outbreaks reported in 2019 was lower than in 2018. The number of outbreaks and the number of people affected by them fluctuates a great deal from one year to the next.

In 2019, no foodborne outbreaks were reported where over 100 people were affected. Of the most common causes of food poisoning, norovirus was still the most commonly known pathogen in outbreaks (22 outbreaks, 471 affected persons). An infected kitchen worker was often identified as the factor that led to foodborne norovirus outbreaks (at least 8 outbreaks). When classifying norovirus outbreaks, it is difficult to determine whether the infection occurred through humans, food or surfaces.

The Finnish Institute for Health and Welfare and the Finnish Food Authority together coordinate the investigation of outbreaks that have spread to a large geographical area or are challenging for some other reason. Investigations are carried out together with municipal control units. Salmonella Poona resulted in nine infections at care facilities across Finland. In food tracing, watermelon cubes were found to be one of the combining factors in the cases. No salmonella was found in the cubes. Several cases of *Yersinia enterocolitica* were diagnosed in November-December and two separate notifications of suspicion were submitted to RYMY, Finland’s food poisoning reporting system. In order to identify a potential outbreak, the Finnish Institute for Health and Welfare launched a fixed-term classification of yersinia strains. Based on the classification 20 cases where people had fallen ill were observed in Satakunta, Southwest Finland, Northern Ostrobothnia and North Savo. Based on interviews and food tracing, chopped iceberg salad was suspected to have been the cause of the outbreak. Two listeria outbreaks, in which patients from different parts of Finland were investigated for a longer period of time, and they were recorded in food poisoning outbreaks in 2019, even though on the basis of classification some people had been affected prior to 2019. One of the outbreaks was medium in size, and the food that caused it remains unknown. The other outbreak was small, and a cooked meat product was suspected as the cause.

Of the toxin-producing causative agents for food poisoning, *Clostridium perfringens* caused one medium-sized outbreak, and *Bacillus cereus* and *Staphylococcus aureus* each caused one small outbreak. Outbreaks were influenced by an incorrect combination of food storage time and temperature, which is typical of outbreaks caused by these bacteria. In addition, two small campylobacter outbreak, one small yersine outbreak and one small histamine outbreak were recorded in 2019. The source of an outbreak could not be identified in 16 outbreaks (Figure 11).

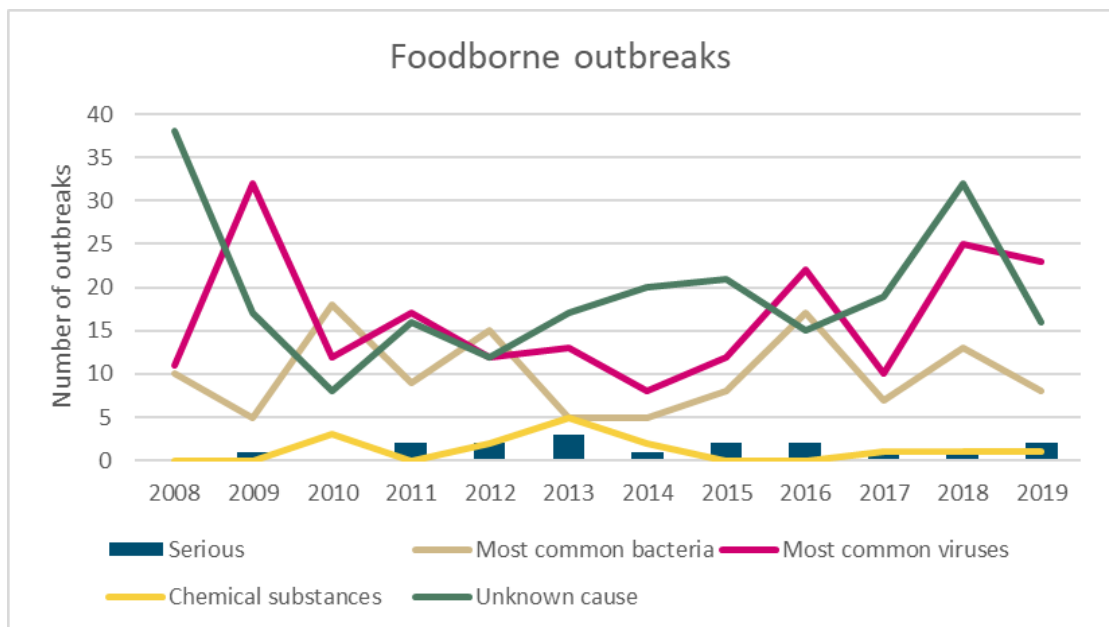


Figure 11. Foodborne outbreaks categorised according to pathogens and severity in 2009–2019. (In a severe outbreak, those affected were diagnosed with listeria, EHEC or hepatitis).

3 IMPORT OF FOOD PRODUCTS AND CONTACT MATERIALS

3.1 Veterinary border control

A total of 735 batches of food derived from animals were imported directly to Finland from outside the EU (in 2018 653), of which four (0.5%) (in 2018 12, 1.8%) received a written notice and seven (1.0%) (in 2018 4, 0.6%) were rejected. In 2019, fishery products accounted for the largest share of products imported to Finland directly from third countries (78%). The second largest group of food products was meat (17%). Notices were given for incomplete labelling (2), temperature (1) and packing methods (animal welfare). Reasons for rejection included lack of documentation (3), lack of hygiene (2), unapproved establishment of origin (1) and unapproved country of import (1)

3.2 Internal market import of animal-derived food products

In 2019, there were around 650 operators that imported animal-derived food products as a first point of entry from other EU Member States or another country within the internal market area. A total of 94 inspections targeted operations concerning first point of entry, of which 2 inspections were carried out in connection with shortcomings observed during other control and 6 were follow-up inspections. The other inspections were all included in the control plan.

Inspections of first points of entry were targeted according to risks, taking the type and volumes of imported food products, the effectiveness of own checks and control history into account. Inspections were also carried out on imports of pork meat and wild fowl or food produced from these that were from countries where African swine fever (ASF) was detected, and, in particular, on point of first arrival operations where shortcomings in the implementation of own checks had previously been observed. A large share of the inspections focused on point of first arrival operations, where salmonella special guarantee products covered by EC Regulation 1688/2005 were imported. Where possible, inspectors were instructed to take official samples of imported products subject to special guarantees for salmonella testing. A total of 10 of these samples were taken in 2019, of which 2 were positive for salmonella. Salmonella was found in a batch of pork cheek from Poland and in a chicken batch that originated from the Netherlands. In both cases, the finding was Salmonella Typhimurium.

The most common shortcomings in first point of entry activities concerned the timeliness of notifications and own check plans as well as negligence in taking own check samples.

3.3 Import of other than animal-derived food products

The high standard of food control carried out by Customs was maintained in 2019, as 86% of the sample objective was achieved and approximately 20% of the samples were effectively targeted (objective 23%). Targeting reflects the number of non-compliant products and includes both minor errors (which do not result in measures) and serious errors (which result in measures such as an import ban).

A total of 265 product batches that were seriously non-compliant foods and contact materials were found. The import or placing on the market of these rejected products was prohibited, or a request was issued to correct a detected (labelling) error in the next import batch.

If the product proves to be non-compliant during investigations, the following import batches will undergo enhanced control until it is verified that the problem has been resolved. This is considered verified when at least one compliant product has been investigated. Finnish Customs will notify the Finnish Food Authority of any non-compliant products on the market that have been revealed during control carried out by Customs.

The standard of plant health checks remained high, as the number of inspections complied with the inspection percentages specified in the legislation and no deficiencies were found during the inspections.

86% of food product and food contact material samples recorded in the control plan were achieved. 794 batches of food products were imported from countries subject to plant health inspections. The number of import batches fell 38% from the previous year. The documents related to all batches were inspected, in addition to which a physical plant health inspection was conducted on 559 batches. The number of inspections carried out complied with the inspection percentages specified in legislation.

The largest number of defects in Customs' product safety controls were found on the labelling of food products, which led to a rejection for almost 100 products. Packaging labelling errors are detected in almost all types of products, but products with special labelling requirements are highlighted in terms of error rates. Such products include beans for which instructions and warnings must be provided, and dietary food supplements which are subject to special labelling requirements.

Around 30 products were rejected due to their plant protectant residue levels being too high. 24 food products were found to be non-compliant due to incorrect use of additives. 12 products were found to be non-compliant with regard to their salt volume or high salt content labelling. In addition, food products were rejected due to poor microbiological quality, unpermitted irradiation and mould toxins.

Serious errors observed in food contact materials were most commonly associated with removable harmful substances, such as volatile compounds in silicone materials or melamine from melamine containers, which led to the rejection of 15 products. In addition, contact materials were rejected due to missing or incomplete documentation, loose heavy metals, incorrect labelling and loose particles.

As in previous years, non-compliant rejected products were found in all product groups and no clear trends or common denominators can be named.

The largest number of errors that were minor in nature, i.e. errors that led to a notice, were found in package labelling, as shortcomings were observed in the labelling of more than 100 food products. In addition, Customs issued notices on microbiological quality, the use of plant protection products, and mould toxins.

In the control of imported food, non-compliance is most often observed in the information provided on a product. This may be due to shortcomings in the knowledge or skills of the importing company. There are many labelling requirements in some product groups, and determining all the requirements requires resources from the operator. According to observations made by Customs, the competence of companies importing food products needs improvement, especially as regards labelling requirements.

Table 6. Food examined by customs in 2019

| Product group | Microbiological contamination (number) | Other contamination (number) | Composition (number) | Package labelling (number) | Other (number) | Rejected (number) | Total number of samples | Rejected (%) |
|---|--|------------------------------|----------------------|----------------------------|----------------|-------------------|-------------------------|--------------|
| Cereals and cereal products | | 9 | | 9 | | 18 | 161 | 11 % |
| Cereal dough based preparations | | | | 13 | 4 | 17 | 120 | 14 % |
| Vegetables and vegetable products | 2 | 7 | 2 | 4 | | 15 | 469 | 3 % |
| Leguminous seeds and leguminous products | | 1 | | 6 | | 7 | 41 | 17 % |
| Fruit and fruit products | | 8 | | 3 | 1 | 12 | 595 | 2 % |
| Nuts and nut products | | | | 1 | | 1 | 114 | 2 % |
| Oilseeds and oil fruits | | 4 | | 3 | | 7 | 86 | 8 % |
| Starch roots and tubers | | | | | | | 16 | |
| Herbs, spices and similar | 2 | 2 | 1 | 1 | | 6 | 168 | 4 % |
| Fruit and vegetable juices, beverages, spreads and equivalent | | | 1 | 20 | | 21 | 67 | 34 % |
| Fish and fish products | | | | | | | 44 | |
| Imitation meat and dairy products | | | | 1 | | 1 | 13 | 8 % |
| Hot beverages (coffee, cocoa and herb-drinks) | | | 6 | 9 | 1 | 16 | 58 | 28 % |
| Water, water-based soft drinks and similar | | | | 1 | | 1 | 14 | 7 % |
| Raw materials for hot and infused beverages | | 6 | | 10 | | 16 | 149 | 11 % |
| Alcoholic beverages | | | | 1 | | 1 | 33 | 3 % |
| Sweets and chocolate | | | 1 | 9 | | 10 | 66 | 15 % |
| Food products for growing children | | 2 | | | | 2 | 68 | 3 % |
| Foods for persons who follow special diets (including food supplements) | | | 7 | 9 | | 16 | 50 | 32 % |
| Composite dishes | | | | 16 | | 16 | 94 | 17 % |
| Spice preparations and sauces | | | 5 | 3 | 3 | 11 | 100 | 11 % |
| Cleaned isolated ingredients | | | 1 | 1 | 3 | 5 | 22 | 23 % |
| Food contact materials | | | 27 | 5 | 11 | 43 | 338 | 13 % |
| Total number of samples | | | | | | | 2886 | |

4 EXPORT OF FOOD AND FEED

4.1 Export control systems

Russia and China are Finland's most important non-EU food export countries. In early 2019, Chinese exports took significant steps forwards as Finland was granted approval for the export of baby formulae, fishing products and new milk establishments to China. New export establishments were incorporated into the Chinese export control system. Control conducted by these establishments was developed with operators and local control personnel, by implementing such things as training. The bilateral agreement between Finland and China on the export of pork was renewed in 2019. The new agreement will be broader than the previous and will include, among other things, the export of cooled pork and, the export a more diverse range of different parts of the carcasses to China. The previous export contract for pork applied exclusively frozen meat.

With regard to Russian exports, the situation has remained quite the same due to sanctions, and there is no sign of the situation changing anytime soon.

The United States audited pork meat exporting establishments in 2019. The establishments met the requirements set by the United States and, thus, exports can continue from all export establishments.

Municipal control authorities and the Finnish Food Authority's meat inspection veterinarians continued to carry out Oiva inspections related to export requirements laid down by China and the Eurasian Economic Union. In 2019, the number of export item controls carried out in Eurasian Economic Union export establishments was 904 (861 in 2018) and 342 (259 in 2018) in the Chinese export control system's export establishments. At the end of 2019, there were 56 Eurasian Economic Union export establishments and 24 Chinese export establishments.

4.2 Prioritised market access initiatives

Finland sought export growth in newly opened export markets. In 2019, fishing products were given market access to China and cooled pork to Singapore and for processed animal protein (PAP) from cervids and poultry to the United States. The certificate used for the export of frozen pork to Singapore was renegotiated to include the terms of export for cooled pork.

In 2019, Finland was the subject of three third-country audits related to the promotion of prioritised market access initiatives. The audits by target country authorities in Finland concerned market access for the following products:

- China: poultry meat
- Singapore: poultry meat, eggs and egg products
- Japan: BSE risk assessment, beef

To facilitate the export of the food chain's products, the authorities responded to several terms of export surveys required by the target countries. Market access initiatives were

prioritised by sector-specifically (meat, dairy, fish, eggs, feed). In 2019, the Finnish Food Authority prepared and submitted the following market access reports to the authorities of target countries for evaluation:

- Singapore: whole egg report (terms of export survey and farm-specific surveys)
- Singapore: egg product report (terms of export survey and establishment-specific surveys)
- United States: Cervid PAP survey (establishment-specific survey)
- United States: Poultry PAP survey (establishment-specific survey)
- Taiwan: Pork meat survey

In addition, a malt report was prepared for China and a responses were submitted to a number of additional surveys supplementing market access applications: Japan BSE, beef exports, China fish feed (establishment-specific report), Indonesia dairy products, Singapore poultry meat (establishment-specific report), Singapore whole eggs (farm-specific report), Singapore egg product (establishment-specific report) and Singapore pork meat (establishment-specific report).

The promotion of the following market access projects prepared by the Finnish Food Authority and processed by the authorities in export destination countries was continued in 2019:

- South Africa pork meat
- South Africa poultry meat
- South Korea ice cream
- Philippines pork meat
- Philippines poultry meat
- Chinese BSE status
- Indonesia dairy products
- Taiwan Newcastle disease exemption
- Japan beef

4.3 Maintenance of export rights and other export promotion activities

Monitoring audits carried out by the authorities of countries of export in connection with maintaining existing exports also occupied both authorities and export companies in Finland. In 2019, there were three such audits: An audit by the Singapore authorities on the export of pig meat, reindeer meat, and beef, an audit by South Korea related to the export of pork meat and dairy products and an audit by US authorities on the export of pork meat. All the audits went well, and exports can continue from all export establishments.

The following country-specific veterinary certificates for export were prepared or agreed on in 2019:

- South Africa: Bovine leather and hides (approved)
- Saudi Arabia: Certificate of fishing products (approved)
- Ukraine: Composite products (prepared in 2019) and feed of plant origin
- Argentina: Milk and dairy products (prepared in 2019)

- United States: Poultry-based PAP (Accepted)
- United States: Cervid-based PAP (Accepted)
- Japan Hog sperm (prepared)

In addition, a general health certificate for honey exports was prepared. The certificate allows the export honey and other beekeeping products intended for food use to several countries.

The European Commission has also entered agreements with third countries on a number of certificates. These export certificates are predominantly used in TRACES System.

4.4 Development of export skills for small and medium-sized enterprises

The export capacity and competitiveness of small and medium-sized food companies were promoted especially in the Finnish Food Authority's SME export project. In 2019, the export advisory service for SMEs was continued, the content of the Finnish Food Authority's export website was expanded, and training and information was provided to SMEs, supervisory authorities and other stakeholders on official export requirements. The premise was the observation that among companies interested in exports small start-ups that needed basic information not only on exports but also on the launching of food business were increasingly emphasised.

5 DOMESTIC FOOD PRODUCTION

5. 1 Meat Inspection

In comparison to the previous year, the amount of meat approved in meat inspections rose slightly in the case of red meat and decreased slightly in the case of poultry meat (254 million kg red meat in 2018 and 255 million kg in 2019; 135 million kg poultry meat in 2018 and 134 million kg in 2019). In addition, 2,130 wild game animals, 466 farmed game animals and 73,685 reindeer were inspected. In addition to reindeer, some farmed game animals, moose, bears, sheep and goats were inspected at reindeer slaughterhouses (Tables 7–9).

The number of partially or completely rejected carcasses and the number of rejected live animals varies by animal species (Tables 7 to 9). There are also differences between establishments in the percentages for reasons why a product is rejected. The variation in rejection rates between establishments has been analysed as part of the action plan for the harmonisation of meat control. The differences are due, for example, to differing accounting practices between establishments. The share of carcasses rejected during meat inspections increased slightly from the previous year for red meat, where the share of rejected carcasses was 0.56% (0.46% in 2018). For poultry, the percentage of rejected carcasses (4.5%) has slightly decreased from the previous year (4.9% in 2018).

The most common reasons for the rejection of pigs were pulmonary membrane infections (22.5% of slaughter pigs) and intestinal damage (5.0% of slaughter pigs). The most common reasons for the rejection of cattle were contusions and sores (3.5%) and lung infections (2.8%). The most common reasons for the rejection of poultry were skin changes, changes in the body cavity and slaughter errors. The most common reason for the rejection of reindeer was changes caused by parasites. No major changes were observed in the reasons for rejections compared to the previous year.

Finland has the capacity to carry out visual meat inspection facilitated by EU legislation and to reduce the *Trichinella* testing of pigs from recognised controlled housing conditions. However, the use of these possibilities is still limited, as export countries require traditional meat inspections and comprehensive *Trichinella* testing. There is currently only one pig holding with recognised controlled housing conditions in Finland. Visual inspection of pigs has not been introduced to a significant extent.

Table 7. Meat inspection information for domestic animals and reindeer; slaughterhouses, low-capacity slaughterhouses and reindeer slaughterhouses

| | Cattle | Slaughter pigs | Sows | Sheep | Goats | Horses | Reindeer | Total |
|--|---------|----------------|--------|--------|-------|--------|----------|-----------|
| Number of animals brought to slaughterhouse | 267 796 | 1 789 066 | 33 543 | 62 319 | 845 | 1 105 | 73 702 | 2 228 376 |
| Number of animals dead or put down before ante mortem inspection | 300 | 608 | 147 | 18 | 0 | 0 | 12 | 1 085 |
| Number of animals rejected while alive | 88 | 58 | 14 | 13 | 1 | 9 | 4 | 187 |
| Number of partly rejected carcasses | 25 063 | 160 156 | 5 219 | 166 | 3 | 3 | 11 811 | 202 421 |
| Number of rejected whole carcasses | 2 026 | 9 146 | 866 | 83 | 2 | 30 | 194 | 12 347 |
| Number approved in meat inspections | 265 382 | 1 779 254 | 32 516 | 62 205 | 842 | 1 066 | 73 492 | 2 214 757 |

Table 8. Meat inspection information concerning poultry; poultry slaughterhouses and low-capacity poultry slaughterhouses

| | Broilers | Broiler breeders | Turkeys | Chickens | Ducks | Geese | Mallards | Total |
|---|------------|------------------|---------|----------|-------|-------|----------|------------|
| Number of animals brought to slaughterhouse | 78 922 528 | 532 267 | 902 265 | 4 224 | 1 967 | 4 658 | 17 703 | 80 385 608 |
| % of animals that died spontaneously | 0.134 | 0.104 | 0.061 | 0 | 0.051 | 0.236 | 0 | 0.133 |
| % of animals rejected alive | 0.075 | 0.005 | 0.074 | 0.237 | 0 | 0 | 0 | 0.075 |
| % of partly rejected carcasses | 4.321 | 4.43 | 7.529 | 1.435 | 2.798 | 0.022 | 0.277 | 4.357 |
| % of rejected whole carcasses | 4.303 | 27.456 | 4.844 | 2.511 | 7.019 | 0.258 | 0.085 | 4.461 |

Table 9. Meat inspection information concerning farmed game and lagomorphs (rabbits); slaughterhouses, low-capacity slaughterhouses and reindeer slaughterhouses

| | Cervids | Ostriches and emus | Lagomorphs | Wild boar | Others |
|---------------------|---------|--------------------|------------|-----------|--------|
| Inspected | 88 | 40 | 72 | 237 | 29 |
| Completely rejected | 0 | 1 | 0 | 0 | 0 |
| Partially rejected | 2 | 0 | 0 | 0 | 0 |

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

| | Elk | Other cervids | Bears | Seals | Wild boar | Others |
|---------------------|-----|---------------|-------|-------|-----------|--------|
| Inspected | 259 | 1796 | 72 | 0 | 2 | 1 |
| Completely rejected | 8 | 15 | 3 | 0 | 0 | 0 |
| Partially rejected | 3 | 95 | 4 | 0 | 0 | 0 |

In reindeer herding areas reindeer are also traditionally slaughtered elsewhere than in slaughterhouses. This reindeer meat is used in the producers' (reindeer owners) own homes, and some of it is sold uninspected directly to consumers in the reindeer herding area, or it is used to produce dried reindeer meat, which is sold directly to consumers in the reindeer herding area. No detailed information is available on the quantity of uninspected reindeer meat that is sold directly. Some of the reindeer meat used in the producers' own households originated from reindeer slaughtered and inspected in slaughterhouses. Similarly, a large share of reindeer meat entering direct sales is from reindeer that have been slaughtered in slaughterhouses and inspected. Based on the reindeer records and slaughter statistics, the Regional State Administrative Agency for Lapland and the Reindeer Herders' Association estimated that approximately 65–70% of all slaughtered reindeer are slaughtered in slaughterhouses and about 25–30% outside slaughterhouses. There is no information on how much uninspected reindeer meat is used in the producer's own household and how much is delivered to direct sales.

Very few reindeer are reared and slaughtered outside the reindeer herding area. In the herding area, they are slaughtered in slaughterhouses approved for farmed game and are classified as farmed game in meat inspection statistics.

Only a small percentage of hunted wild game is delivered to approved game handling establishments or slaughterhouses where meat inspection is carried out. Most game meat is used uninspected in the hunters' own households. A small quantity of uninspected wild game is sold directly to consumers or delivered uninspected to retail. No information is available on the amount of uninspected game and game meat sold. In 2019, 52,300 elks, 305 bears (of which 86 in the reindeer herding area) and 855 wild boars were hunted according

to the Finnish Wildlife Agency. Meat inspection was carried out on 259 elks (0.5% of those killed by hunters) and 72 bears (24% of those killed by hunters). In addition, 1,796 other cervids were inspected in game handling establishments. Two wild boars were inspected (Table 10).

5.2 Control of slaughterhouses and connected establishments

At the end of 2019, there were 15 slaughterhouses, 49 low-capacity slaughterhouses and 10 game handling plants approved by the Finnish Food Authority. Five of the slaughterhouses were poultry slaughterhouses and five of the low-capacity slaughterhouses were poultry slaughterhouses.

In 2019, one new low-capacity slaughterhouse for farmed game and two new game handling establishments were approved. Therefore, the total number of establishments increased by three.

The Finnish Food Authority organised controls at 53 low-capacity slaughterhouses/game handling establishments, and three inspections and meat inspections were carried out by a veterinarian employed by the municipality.

At the end of 2019, a total of 37 (2018:37) permanent Finnish Food Authority meat inspection veterinarians and 47 (2018:48) meat inspectors worked in slaughterhouses. In 2019, 82 meat inspection veterinarians were employed at low-capacity slaughterhouses and game handling establishments.

66 inspection-specific notices were issued in the control of slaughterhouses, and administrative coercive measures were used in slaughterhouses 15 times in connection with establishment controls (2018: 9 times). Coercive measures in the control of slaughterhouses have mainly been implemented in areas such as the maintenance of facilities and equipment, food production hygiene, food production studies and shortcomings in the cleanliness of surfaces, fixtures, equipment and machines.

An A or B rating was given to 83% of slaughterhouses, low-capacity slaughterhouses and their connected establishments, while 17% were rated C or D (Table 12). No control results are separately available for inspections carried out at establishments connected to a slaughterhouse, as their results are included in the control results for the slaughterhouse in question.

In 2019, control inspections at slaughterhouses, low-capacity slaughterhouses and their connected establishments, supervised by the Finnish Food Authority, focused on monitoring the hygiene of food production and the cleanliness of facilities as well as on the activities and training of personnel. In terms of numbers, slaughterhouses, low-capacity slaughterhouses and their connected establishments, the highest number of inspections were related to hygiene of food production (198 times) and the cleanliness of facilities, surfaces and equipment (190 times), as well as on the activities and training of personnel (173 times). Information provided on food products, allergens and substance that cause intolerance, as well as food composition and food-specific special requirements were rarely checked.

The largest percentage of defects (C or D ratings) were observed in the maintenance of facilities and equipment (9% resulted in a C or D , 76 inspections), food production hygiene (6.6% resulted in a C , 198 inspections) and the activities and training of personnel (6.4% resulted in C and D, 173 inspections). Defects were also observed in information provided on food products (6.7% resulted in a C or D, 30 inspections) (Figure 12), which indicated that there is a need for more control in this area.

In 2019, the Regional State Administrative Agency of Lapland organised controls at 19 reindeer slaughterhouses and seven establishments connected with them. The number of reindeer slaughterhouses has not changed for several years. In 2019, the Regional State Administrative Agency of Lapland employed 62 part-time meat inspection veterinarians. Some of them only carried out ante-mortem inspections at reindeer round-up sites. The work input of part-time meat inspection veterinarians for reindeer meat inspections was estimated at 3.5 person-years.

In 2019, 72% of inspections carried out in reindeer slaughterhouses and their connected establishments resulted in a rating of A or B (68% in 2018), while 28% resulted in a rating of C or D (32% in 2018). The most shortcomings were observed in the activities and training of personnel, food production monitoring and food production hygiene. In 2019, the Regional State Administrative Agency for Lapland did not use coercive measures in their control of reindeer slaughterhouses and their connected establishments.

Table 11. The number controls at slaughterhouses, low-capacity slaughterhouses and game handling establishments monitored by the Finnish Food Authority and at establishments monitored by the Regional State Administrative Agency for Lapland in 2019.

| | Sites | | | Inspection visits | |
|---|----------|-----------|----|-------------------|-----------|
| | Total | | | Planned | Unplanned |
| | Total | Inspected | | | Total |
| | (number) | (number) | % | | (number) |
| Slaughterhouses, low-capacity slaughterhouses and game handling establishments and connected establishments | 74 | 40 | 54 | 177 | 3 |
| Reindeer slaughterhouses and their connected establishments | 26* | 17 | 65 | 29 | 0 |

*Reindeer slaughterhouses and their connected establishments are recorded as separate control sites, unlike establishments connected to other slaughterhouses, which are recorded as the same control site with the slaughterhouse in question.

Table 12. Control results for establishment controls at slaughterhouses, low-capacity slaughterhouses and game handling establishments monitored by the Finnish Food Authority and at establishments monitored the Regional State Administrative Agency for Lapland.

| | Inspections | Result | | | | Sanctions |
|---|---|------------------------------|------|------|-----|---|
| | Planned incl. Follow-up inspections | Inspection-specific result % | | | | Inspections that led to a notice or the use of coercive |
| | (number) | A | B | C | D | (number) |
| Slaughterhouses, low-capacity slaughterhouses and game handling establishments and connected establishments | 180 | 27.8 | 55.0 | 15.6 | 1.7 | 81 (66+15) |
| Reindeer slaughterhouses and their associated establishments | 29 | 24.1 | 48.3 | 24.1 | 3.4 | 20 |

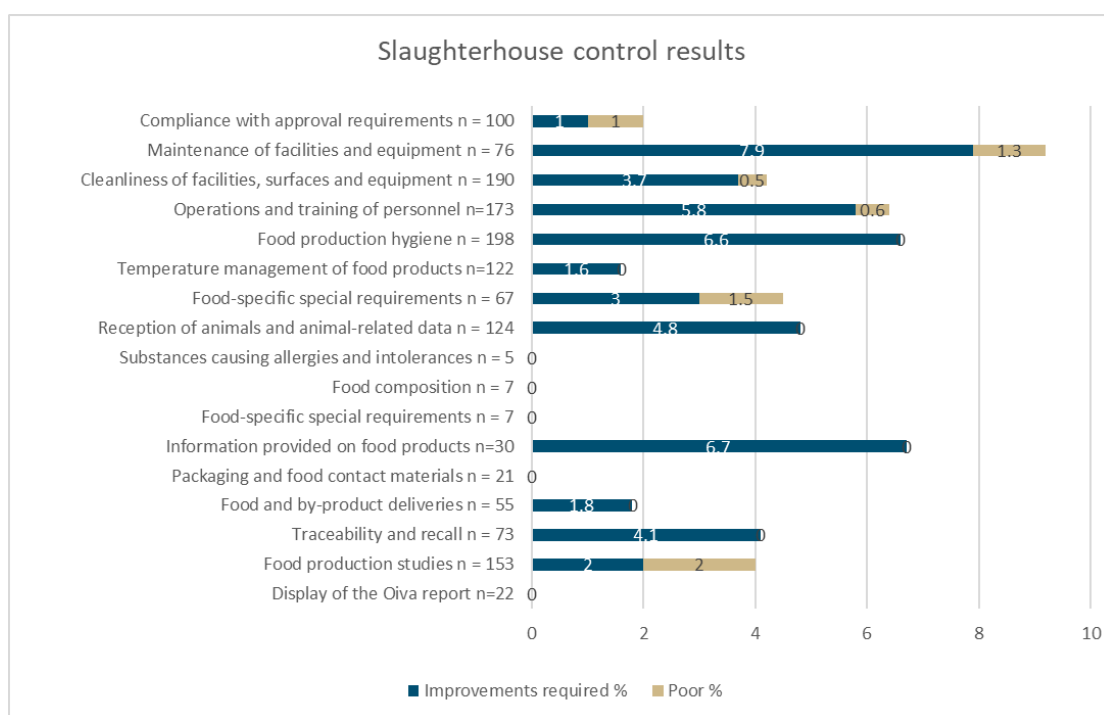


Figure 12. The C and D ratings given in inspections concerning compliance with set requirements for slaughterhouses, low capacity slaughterhouses and their connected establishments (number and %); n= number of inspections for the requirement in question.

5.3 Food establishments controlled by municipalities

Figure 13 shows the number of establishments by sector in 2015–2019.

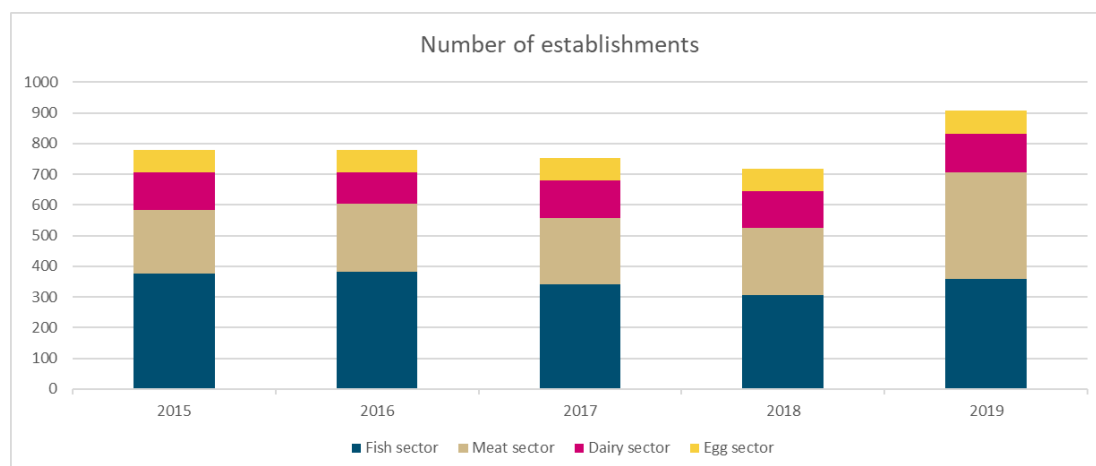


Figure 13. Number of establishments in 2015–2019

The number of establishments that produce animal-derived food products (fish, meat, dairy and egg sector establishments) rose slightly during the inspection period. The number for meat establishments in 2019 includes all meat sector establishments including those controlled by the Finnish Food Authority. The numbers for 2015–2018 only include meat establishments under municipal control.

Table 13. Number of establishments and inspections carried out in them

| Establishment | Sites | | | Inspection visits | | | |
|----------------------------|----------|-----------------|----|----------------------|--------------------------------|-----------------------|----------|
| | Sites | | | Approval inspections | Unplanned external inspections | Follow-up inspections | Total |
| | total | inspected sites | | | | | |
| | (number) | (number) | % | (number) | (number) | (number) | (number) |
| Fish sector establishment | 358 | 246 | 69 | 14 | 9 | 9 | 491 |
| Meat sector establishment* | 347 | 217 | 63 | 16 | 11 | 21 | 772 |
| Dairy sector establishment | 126 | 90 | 71 | 2 | 20 | 1 | 238 |
| Egg sector establishment | 76 | 39 | 51 | 1 | 1 | 0 | 57 |

*The data for meat establishments includes all meat sector establishments including those controlled by the Finnish Food Authority.

A total of 468 inspections in accordance with the control plan were carried out in the fish sector establishments. Approximately 69% of fish sector establishments had been inspected. Compared to previous years, the number of implemented inspections has decreased. 2% of the inspections were inspections not included in the control plan. Nine follow-up inspections were carried out.

A total of 745 inspections in accordance with the control plan were carried out in the meat sector establishments. 63% of meat sector establishments were inspected, which is less than in previous years. An average of three inspections were carried out at controlled meat sector establishments in 2019. Approximately 1% of inspections were not included in the control plan. Fewer follow-up inspections were conducted than in previous years.

A total of 215 inspections in accordance with the control plan were carried out at dairy sector establishments. 71% of dairy sector establishments were inspected. Compared to previous years, the number of implemented inspections has decreased. 8% of inspections were not included in the plan. One follow-up inspection was carried out.

A total of 55 inspections in accordance with the control plan were carried out at egg sector establishments. Approximately 51% of egg sector establishments were inspected. Fewer inspections were carried out compared to previous years. Around 2% of the inspections were inspections not included in the control plan. No follow-up inspection were now carried out and this is less than in previous years.

The recommended frequency for inspections at all establishments is at least once a year, depending on the size of the establishment.

Table 14. Inspection-specific assessments of establishments and sanctions

| Establishment | Inspection visits | Result | | | | Sanctions | |
|----------------------------|-------------------------------------|--------------------------------|------|------|-----|----------------------------------|--|
| | Planned incl. follow-up inspections | Inspection-specific estimate % | | | | Inspections that led to a notice | Inspections that led to the use of coercive measures |
| | (number) | A | B | C | D | (number) | (number) |
| Fish sector establishment | 482 | 41.3 | 46.3 | 10.9 | 1.5 | 62 | 1 |
| Meat sector establishment* | 745 | 34 | 50.9 | 14.1 | 1 | 145 | 2 |
| Dairy sector establishment | 216 | 63.8 | 32.3 | 3.9 | 0 | 14 | 1 |
| Egg sector establishment | 55 | 61.8 | 34.5 | 3.6 | 0 | 4 | 0 |

*The figures for meat establishments includes all meat sector establishments including those controlled by the Finnish Food Authority.

A total of 1,366 planned inspections were carried out in fish, meat, dairy and egg sector establishments. The total number of planned inspections was lower than in previous years. On average, 92% of the inspections resulted in a rating of A or B and 8% in a rating of C or D. The number of A or B results increased compared to previous years.

In fish sector establishments, 88% of inspections resulted in a rating of A or B and 13% in a rating of C or D (Table 14). The number of A or B results has increased slightly in fish sector establishments in recent years, while the number of C results has decreased accordingly. Approximately 13% of the inspections led to notices for corrections or the use of coercive measures. The number of notices for corrections and use of coercive measures has been declining over the past few years.

In meat sector establishments, approximately 85% of inspected sites received A or B results and 15% of the inspected sites received C or D results. The number of A and B results increased slightly from the previous year. Approximately 20% of the inspections led to notices for corrections or the use of coercive measures. The number of notices for corrections and use of coercive measures has remained fairly unchanged from one year to the next.

Of dairy sector establishments (Table 14), 96% of inspected sites were rated A or B. Only less than 4% of dairy establishments were given a C rating. The number of A or B results has remained at the same level as in previous years. None of the inspected dairy sector establishments were given a rating of D. 6% of inspections led to requests for corrective action. Coercive measures were used once. A small number of inspections have still led to

requests for corrective action and the use of coercive measures, and the number remains at the same level as in previous years.

In egg sector establishments, 96% of inspected sites received A or B results and 4% of inspected sites received a C. None of the inspected egg sector establishments were given a rating of D. The number of A or B results has remained at the same level as in previous years. 7% of the inspections led to requests for corrective action. No coercive measures were used. Few inspections led to requests for corrective action and the use of coercive measures, and the number remains at the same level as in previous years.

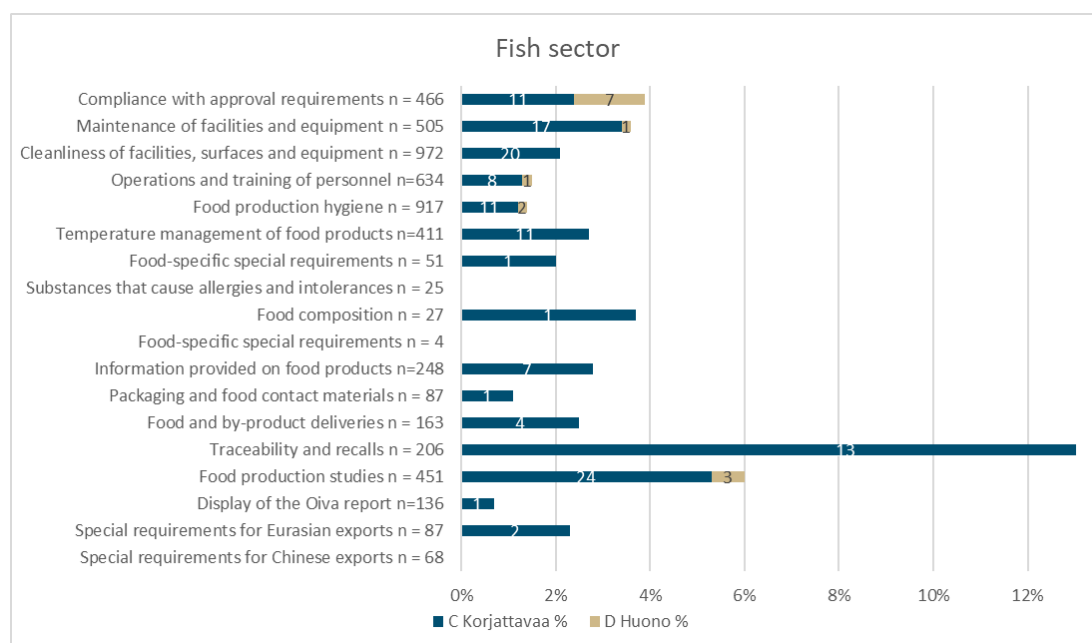


Figure 14. The C and D ratings given in inspections concerning compliance with various requirements for fish sector establishments (number and %); n= number of inspections for the requirement in question.

In 2019, inspections in fish sector establishments focused on the cleanliness of facilities, surfaces and equipment (972), food production hygiene (917) and the activities and training of personnel (634). These have also been the most frequently inspected issues in previous years.

The largest share of shortcomings (C and D ratings) in fish sector establishments were observed in the items traceability and recalls (206), food productions studies (451) as well as compliance with approval requirements (466) (Figure 14). The share of C and D ratings given in these items was 13%, 6%, and just under 4%.

In fish sector establishments, only a very small number of inspections was conducted on substances that cause allergies and intolerances and the composition of food products in general, even though the information provided on food products was inspected. The largest number of shortcomings in the information provided on food products in fish sector establishments were observed in general information on packaging, which were also inspected the most. The labelling of fishery and aquaculture products in accordance with special legislation was inspected during approximately one in four labelling inspections. The

largest number of shortcomings in food production inspections were related to water and ice own checks as well as sampling and own check inspections.

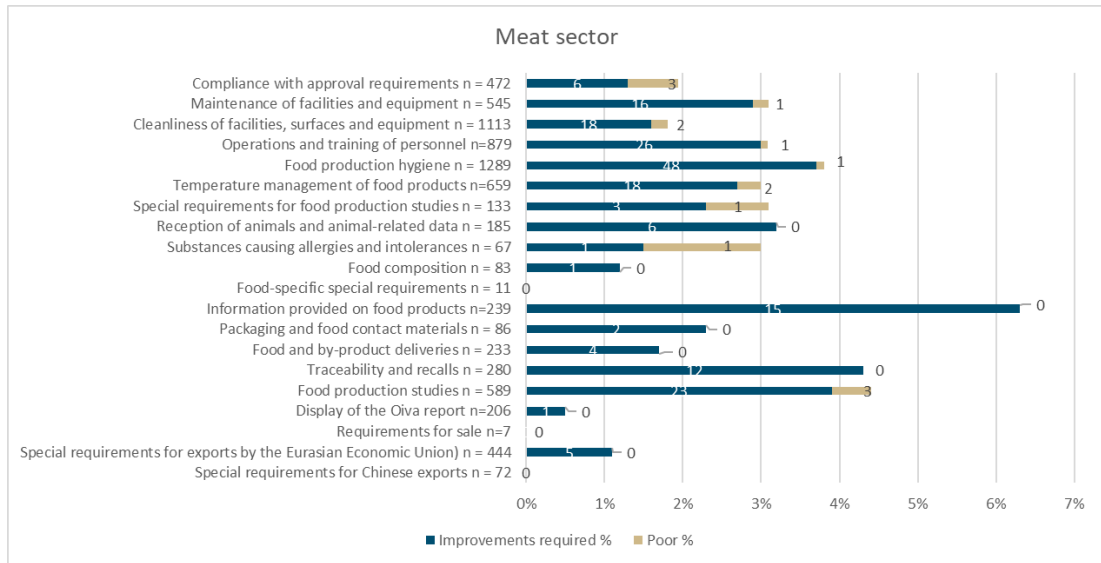


Figure 15. The C and D ratings given in inspections concerning compliance with various requirements for meat sector establishments (number and %); n= number of inspections for the requirement in question. In this image, the numbers also include slaughterhouses and meat establishments controlled by the Finnish Food Authority.

In terms of numbers, the largest number of inspections in meat sector establishments were related to the hygiene of food production (1,289 times) and the cleanliness of facilities, surfaces and equipment (1,113 times), as well as on the activities and training of personnel (879 times). Information provided on food products was inspected less frequently than for the previous sites (239 times). Food composition and substances that cause allergies and intolerances were rarely inspected.

The share of observed shortcomings (C or D ratings) was greatest at meat sector establishments in the areas of information provided on food products (239 inspections, food production studies (589 inspections) and traceability and recalls (280 inspections). The share of C and D ratings given in these areas was 6%, 4% and 4%. The results indicate that meat sector establishments should in the future invest more in the control of food composition and information provided on food, traceability and food production studies (Figure 15).

Table 15. C and D ratings given for compliance with requirements for dairy sector establishments

| | Number of inspections | C % | D % | Number of inspections | C % | D % |
|---|-----------------------|-----|-----|-----------------------|-----|-----|
| Requirements for sale | 9 | 0 | 0 | 9 | 0 | 0 |
| Display of the Oiva report | 69 | 0 | 0 | 69 | 0 | 0 |
| Food production studies | 328 | 1.8 | 0 | 328 | 1.8 | 0 |
| Traceability and recalls | 108 | 0 | 0 | 108 | 0 | 0 |
| Food and by-product deliveries | 93 | 0 | 0 | 93 | 0 | 0 |
| Packaging and food contact materials | 43 | 0 | 0 | 43 | 0 | 0 |
| Information provided on food products | 89 | 1.1 | 0 | 89 | 1.1 | 0 |
| Reception of animals and animal-related data | 0 | 0 | 0 | 0 | 0 | 0 |
| Substances that cause allergies and intolerances | 29 | 3.4 | 0 | 29 | 3.4 | 0 |
| Food composition | 32 | 3.1 | 0 | 32 | 3.1 | 0 |
| Food-specific special requirements | 7 | 0 | 0 | 7 | 0 | 0 |
| Food production related special requirements | 1 | 0 | 0 | 1 | 0 | 0 |
| Temperature management of food products | 180 | 0 | 0 | 180 | | |
| Food production hygiene | 538 | 0.4 | 0 | 538 | 0.4 | 0 |
| Operations and training of personnel | 327 | 0.3 | 0 | 327 | 0.3 | 0 |
| Cleanliness of facilities, surfaces and equipment | 459 | 1.1 | 0 | 459 | 1.1 | 0 |
| Maintenance of facilities and equipment | 235 | 3.8 | 0 | 235 | 3.8 | 0 |
| Compliance with approval requirements | 215 | 0 | 0 | 215 | | 0 |
| Special requirements for exports by the Eurasian Economic Union | 300 | 0 | 0 | 300 | 0 | 0 |
| Special requirements for Chinese exports | 169 | 0 | 0 | 169 | 0 | 0 |

In 2019, controls in dairy sector establishments focused on food production hygiene (538 inspections). The cleanliness of facilities, surfaces and equipment and food production studies were also monitored extensively in relation to other matters (459 and 328). Few shortcomings were observed during inspections at dairy sector establishments. No D ratings were given, and C ratings were rare. (Table 15).

With regard to Oiva assessments, the special requirements for food production, food-specific special requirements and sale requirements were inspected the least as has been the case previously as well (1–9 times).

At dairy establishments, need for the corrective actions regarding facilities and equipment (3.8%, 235 inspections) were observed. Inspections led to a number of notices concerning substances in food products that cause allergies and intolerances (3.4% of 29 inspections) and food composition (3.1% of 32 inspections). (Table 16).

Table 16. C and D ratings given for compliance with requirements for egg sector establishments in 2019

| | Number of inspections | C % | D % |
|---|-----------------------|-----|-----|
| Requirements for sale | 106 | 2.8 | 0 |
| Display of the Oiva report | 13 | 0 | 0 |
| Food production studies | 38 | 0 | 0 |
| Traceability and recalls | 26 | 0 | 0 |
| Food and by-product deliveries | 46 | 0 | 0 |
| Packaging and food contact materials | 16 | 0 | 0 |
| Information provided on food products | 34 | 0 | 0 |
| Food composition | 5 | 0 | 0 |
| Substances that cause allergies and intolerances | 2 | 0 | 0 |
| Reception of animals and animal-related data | 3 | 0 | 0 |
| Food production related special requirements | 4 | 0 | 0 |
| Temperature management of food products | 18 | 0 | 0 |
| Food production hygiene | 125 | 0 | 0 |
| Operations and training of personnel | 54 | 1 | 0 |
| Cleanliness of facilities, surfaces and equipment | 121 | 0 | 0 |
| Maintenance of facilities and equipment | 60 | 0 | 0 |
| Compliance with approval requirements | 79 | 0 | 0 |

In terms of numbers, the largest number of inspections in egg sector establishments were related to the control of hygiene of food production (125 times) and the cleanliness of facilities, surfaces and equipment (121 times), as well as compliance with requirements set for the sale of eggs (106 times). The lowest number of inspections were carried out in the items special requirements for food production (4), the reception of animals and information provided on animals (3), the composition of food products (5) and substances that cause allergies and intolerances (2). These have also been the most frequently inspected issues in previous years.

Only few shortcomings were observed in egg sector establishments just as in dairy sector establishments. Inspections at egg sector establishments led to C ratings in the items of compliance with requirements for the sale of eggs (C ratings in 2.8% of 106 inspections) and activities and training of personnel (C ratings in 1.0% of 54 inspections). None of the inspections carried out in the egg sector resulted in a rating of D (Table 16).

5.4 Other food premises

The number of registered food premises subject to food control, where food products are produced or packed are shown in Figure 16. The number of premises has increased each year.

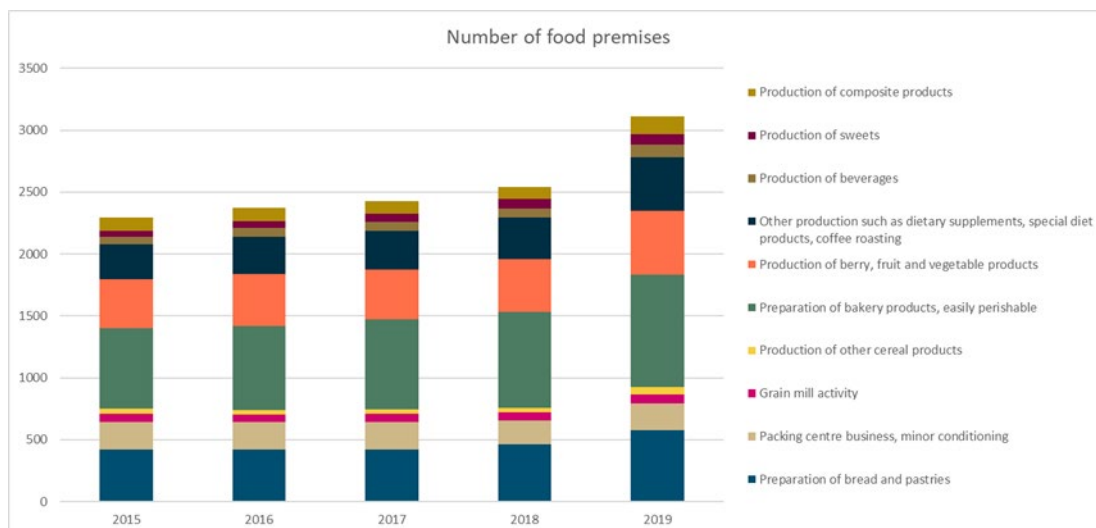


Figure 16. Number of reported food premises in 2015–2019

Table 17. Sites that produce food, inspections and sanctions in 2019

| Food premises | Sites | | | Inspection visits | | Sanctions | |
|---|----------|-----------------|----|---|--|----------------------------------|--|
| | Total | Inspected sites | | Follow-up inspections in accordance with the control plan | Inspections not included in the control plan | Inspections that led to a notice | Inspections that led to the use of coercive measures |
| | (number) | (number) | % | (number) | (number) | (number) | (number) |
| Cereals and vegetable sector | 2351 | 634 | 27 | 750 | 73 | 135 | 1 |
| - Grain mill activity | 68 | 13 | 19 | 13 | 3 | 0 | 0 |
| - Production of perishable bakery products | 908 | 281 | 31 | 345 | 23 | 75 | 1 |
| - Production of bread and pastries | 577 | 164 | 28 | 197 | 19 | 37 | 0 |
| - Production of other cereal products | 64 | 21 | 33 | 21 | 9 | 1 | 0 |
| - Production of berry, fruit and vegetable products | 516 | 131 | 25 | 150 | 15 | 16 | 0 |
| - Packing centre business minor conditioning | 218 | 24 | 11 | 24 | 4 | 6 | 0 |
| Production of composite products | 147 | 57 | 39 | 75 | 5 | 7 | 0 |
| Production of sweets | 81 | 15 | 19 | 17 | 1 | 0 | 0 |
| Production of beverages | 105 | 32 | 30 | 33 | 6 | 4 | 0 |
| Other production such as dietary supplements, special diet products, coffee roasting | 430 | 85 | 20 | 91 | 22 | 12 | 1 |

Less than one third (27%) of food premises in the cereal and vegetable sector were inspected in accordance with the control plan. The share of inspected sites was lower than in previous years. The majority of inspections at food premises in the cereals and vegetables sector were included with the control plan (750). Approximately 9% of all inspections (73) were not included in the control plan. Approximately 17% of the inspections led to requests for corrective action (135) or the use of administrative coercive measures (1). In 2018, fewer inspections led to requests for corrective action (99), but more led to the use of administrative coercive measures (8).

Less than half (39%) of sites that produce **composite products** were inspected, which was less than in previous years. The majority (75) of inspections were in accordance with the plan, while five inspections were not included in the control plan. Approximately 9% (7) of the inspections led to requests for corrective action, which is slightly more than the previous year (5%, 4).

Around one fifth (19%) of food premises that **produce sweets** were inspected. This percentage is lower than in previous years. 17 inspections were carried out in accordance with the control plan, while one of the conducted inspections was not included in the plan. None of the inspections led to notices or administrative coercive measures. Last year, two inspections led to requests for corrective actions.

Around one third (30%) of the sites that **produce beverages** were inspected, which is close to the same percentage of sites inspected in recent years. 33 inspections were carried out in accordance with the plan. Six of the carried out inspections were not included in the control plan. 10% of the inspections led to requests for corrective action (4). The number is lower than in 2018, when 13% of inspections led to requests for correction action or the use of administrative coercive measures.

Inspections were carried out at one fifth (20%) of sites involved in **other production**. In previous years, inspections were carried out at one third of the sites. In 2019, the majority of inspections were in accordance with the control plan (91), while 22 were not included in the plan. Approximately 12% of inspections led to a request for corrective action (12 inspections) or the use of administrative coercive measures (1 inspection), which is approximately the same share (11%) as in the previous year. The groups of sites involved in other production includes sites that produce food supplements and foods for special consumer groups (Table 17).

Table 18. Results of food production inspections in 2019

| Food premises | Inspections | Result | | | |
|--|-------------------------------------|----------------------------|-------------|-------------|------------|
| | Planned incl. follow-up inspections | Inspection-specific result | | | |
| | (number) | A % | B % | C % | D % |
| Cereals and vegetable sector | 750 | 43.1 | 41.6 | 14.4 | 0.8 |
| - Grain mill activity | 13 | 69.2 | 30.8 | - | - |
| - Production of perishable bakery products | 345 | 34.4 | 45.9 | 18.8 | 0.9 |
| - Production of bread and pastries | 197 | 43.4 | 39.3 | 15.8 | 1.5 |
| - Production of other cereal products | 21 | 76.2 | 19 | 4.8 | - |
| - Production of berry, fruit and vegetable products | 150 | 50 | 42.6 | 7.4 | - |
| - Packing centre business, minor conditioning | 24 | 79.2 | 20.8 | - | - |
| Production of composite products | 75 | 56 | 34.7 | 9.3 | - |
| Production of sweets | 17 | 58.8 | 41.2 | - | - |
| Production of beverages | 33 | 63.6 | 27.3 | 9.1 | - |
| Other production* (such as dietary supplements, special diet products, coffee roasting) | 91 | 53.8 | 30.8 | 13.2 | 2.2 |

During the Oiva inspections at cereal and vegetable sector sites, 85% of the sites received a rating of A or B result, and around 15% a rating of C or D.

A total of 91% of sites that produce composite products were given a rating of A or B, while 9% were given a rating of C. No sites were given a rating of D.

All the sites that product sweets were given a rating of A or B. No C or D ratings were given.

A total of 91% of inspections at beverage companies resulted in a rating of A or B. 9% of beverage companies were given a rating of C.

In other production around 85% of inspections resulted in a rating of A or B, 13% resulted in a rating of C, and 2% in a rating of D.

The results of the inspections are very similar to those of previous years.

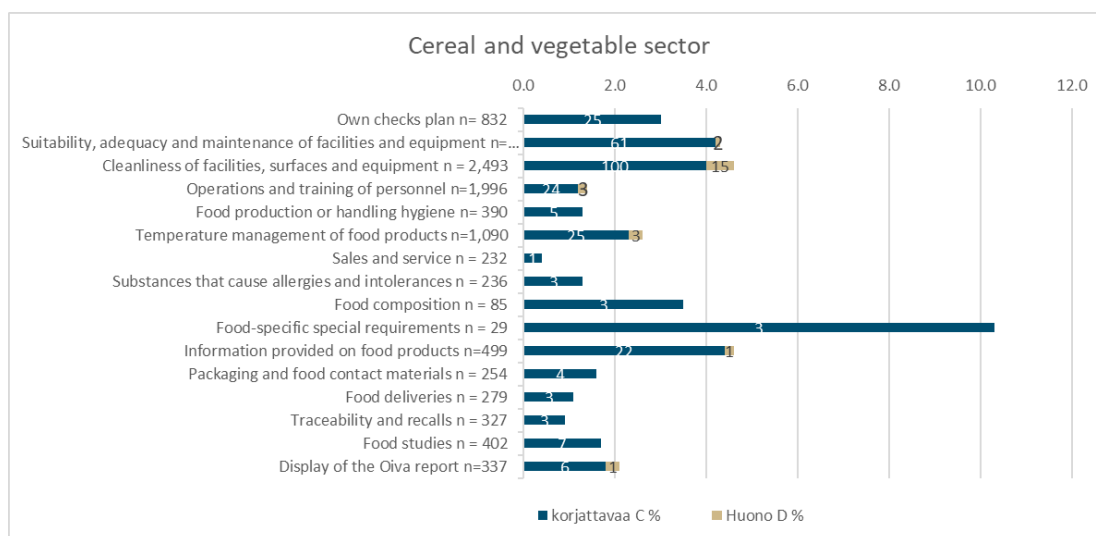


Figure 17. The C and D ratings given in inspections concerning compliance with various requirements for vegetable and cereal sector establishments (number and %); n= number of inspections for the requirement in question.

Based on the conducted inspections the cereal and vegetable sector is fairly compliant with legislation. The highest number of defects were found in the food-specific special requirements (10% of inspections resulted in a C rating, 3 inspections), information provided on food products (4.4% of inspections resulted in a C rating, 22 inspections), suitability, adequacy and maintenance of facilities and equipment (4.2% of inspections resulted in a C rating , 61 inspections and 0.1% resulting in a D rating, 15inspections), and cleanliness of facilities, surfaces and equipment (4.0% of inspections resulted in a C ratings, 100 inspections, and 0.6% resulted in a D rating, 9 inspections) (Figure 17).

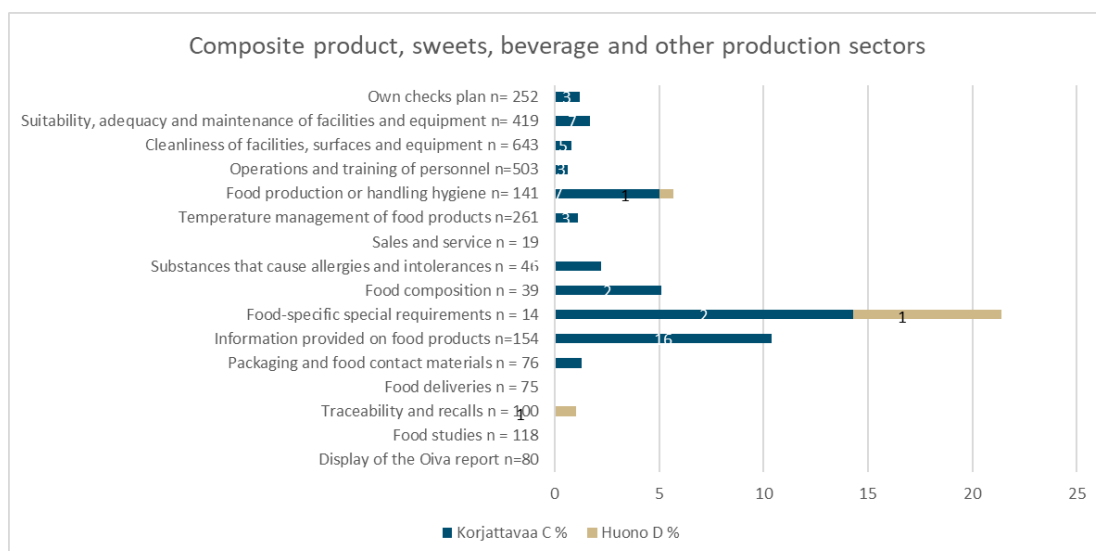


Figure 18. The C and D ratings given for inspections concerning compliance with set requirements for composite products, sweets, beverages and other production (e.g. dietary supplements, special diet products, coffee roasting) (number and %); n= number of inspections for the requirement in question.

On the basis of inspections, the facilities, equipment and conditions as well as the activities of personnel also seem to be at a good level in composite products, sweets, beverages and other production (e.g. dietary supplements, special diet products, coffee roasting establishments). Relatively speaking the largest number of defects were observed in food-specific special requirements (14.3% of inspections resulted in a C rating, 2 inspections, and 7.1% resulted in a rating of D, 1 inspection), traceability and recalls (1% of inspection resulted in a rating of D, 1 inspection), information provided on food products (0.4% of inspections resulted in a rating of C, 16 inspections), food product composition (5.1% of inspections resulted in a rating of C, 2 inspections), and food product production and handling hygiene (5,0% of inspections resulted in a rating of C, 7 inspections, and 0.7% in a rating of D, 1 inspection) (Figure 18).

5.5 Organic production

The control of organic production was carried out as planned and the effectiveness objective of control was achieved. In other words, the consumer can trust organic labelling. More than 98% of operators registered in the control system complied with production-related terms and conditions. Based on the results of the market surveillance of retail, the consumer can rely on the accuracy of organic labelling.

The three year focus theme of the control of organic products has been traceability. The first year, the adequacy of the operators' organic plan for with regard to traceability was assessed, the second year, the effectiveness of traceability was examined in more detail with batch-specific verifications carried out during annual inspections, and the third year, inspectors were tasked with providing an overall assessment of the traceability of the operators. A traceability form was designed for operators, the purpose of which is to provide information on the measures required in the planning and monitoring of traceability. In general, the focus results of organic control show that food companies have planned the verification of traceability well and that traceability is effective.

Table 19. Number of organic operators inspected in 2016–2019

| Operators (number) | 2016 | 2017 | 2018 | 2019 |
|------------------------------|-------------|-------------|-------------|-------------|
| Organic primary production | 4 356 | 4509 | 4 988 | 4 990 |
| Organic food operators | 697 | 742 | 749 | 784 |
| Organic feed operators | 47 | 45 | 44 | 39 |
| Organic seed packing centres | 25 | 25 | 28 | 31 |
| Organic alcohol operators | 116 | 116 | 125 | 168 |

Market surveillance is carried out in retail shops where the use of organic claims and the authenticity of organic products must be inspected every three years. During an inspection, the organic labelling and the supplier's control status will be examined. Organic products sold by the operator are taken into account during the inspection. The most essential point to ensure is that consumers are not misled. Municipal food inspectors inspected the sale of organic products at a total of 157 sites in accordance with the Oiva guidelines.

Table 20. Market surveillance inspections during which observations on the presentation of organic products were recorded in 2016–2019

| Inspections | | 2016 | 2017 | 2018 | 2019 |
|-----------------------|---------------------|------|------|------|------|
| Number of inspections | | 165 | 209 | 161 | 157 |
| | Retail sales points | 146 | | 82 | 97 |
| | Serving places | 14 | | 62 | 31 |
| | Others | 7 | | 17 | 29 |

Market surveillance carried out by municipalities detected shortcomings in 8.3% of inspections, which is slightly more than in 2018 (shortcomings in 7.4% of inspections). The most common reason for a deviation was the placing of products too close to conventional products, in which case the products are at risk of getting mixed up. The Finnish Food Authority intends to raise the awareness of retailers on organic products by informing retailers and training municipal supervisors.

Table 21. Results of market surveillance inspections in 2017– 2019

| Results on a scale | | Corrective measure | Percentage (%) of inspected | | | |
|--------------------|-------------------------------|---|-----------------------------|------|------|------|
| | | | 2016 | 2017 | 2018 | 2019 |
| A | All conditions met | No action | 95 | 93 | 92.5 | 91.7 |
| B | Small defect | Guidance and advice | 5 | 7 | 6.2 | 6.4 |
| C | Misleading activities | Request to correct in due time | 0 | 0.5 | 1.2 | 1.9 |
| D | Serious misleading activities | Coercive measures or prohibitions, the defect must be corrected immediately | 0 | 0 | 0 | 0 |

Control report on organic production 2019:

[https://www.ruokavirasto.fi/globalassets/tietoa-meista/mika-on-ruokavirasto/elintarviketurvallisuus/luonnonmukaisen tuotannon valvontaraportti 2019.pdf](https://www.ruokavirasto.fi/globalassets/tietoa-meista/mika-on-ruokavirasto/elintarviketurvallisuus/luonnonmukaisen_tuotannon_valvontaraportti_2019.pdf)

5.6 Alcoholic beverages

The number of remarks and notices issued by the National Supervisory Authority for Welfare and Health (Valvira) in the activities of wholesalers and in product control grew a bit from the previous year, while the number of administrative coercive measures used declined from the previous year. 8% of alcoholic beverages taken as market surveillance did not fully meet the requirements for alcoholic beverages, which was lower than the previous year. Residues of a plant protectant were detected in one organic product, the processing of the matter continued in 2020. As a rule, the deviations observed in the operators' activities were related to own checks and the keeping of records.

No recalls of alcoholic beverages were implemented by Valvira in 2019, and Valvira received three notifications on recalls from operators. Defects observed in product control mainly consisted of the inadequate labelling of products, in addition to which three deviations in composition were observed.

The key figures for the control of the effectiveness of the food product chain that apply to the control of alcoholic beverages only include the share of inspected sites that comply with requirements. Based on the control results, the safety of alcoholic beverages is at a good level.

Valvira's 2019 control plan estimated that 135 inspections would be carried out. In the end, a total of 109 inspections were conducted. A total of 57 control inspections that were included in the inspection plan were carried out, initial inspections included in the plan at alcohol production sites where inspections 25 and organic inspections were carried out under the Food Act. There were 106 inspection sites and two inspections were carried out at three locations. The control focused on producers of alcoholic beverages, and the coverage for the inspection of producers was around 53%. The coverage of inspections was 17% for manufacturers and wholesalers, which is slightly less than the previous year. Supervision by Valvira pursuant to the Food Act changed as of 1 March 2018 with the amendment of the Alcohol Act as follows: in addition to production sites and duty-free storage sites, Valvira now also inspects taxable warehouses maintained by wholesalers.

In 2019, Valvira took 39 market surveillance samples. All these samples were taken as was specified in the control plan. The implementation rate of the plan was only 27%, and it decreased significantly from the implementation rate for the previous year's plan.

The shortcomings identified in inspections of producers of alcoholic beverages were mainly related to their own checks plan and inadequate recordkeeping as well as incorrect labelling and deviations in the composition of products. Shortcomings observed during product controls included not only package labelling but also reporting of alcohol content. In some products, the alcohol content specified in the analysis exceeded the legal tolerance of the alcohol content indicated on the label.

Valvira drafted instructions on the labelling of alcoholic beverages. The instructions were updated in 2018. Control inspections still focus on ensuring that own check plans drawn up by producers and wholesalers give a sufficiently detailed description of the actions that are taken to guarantee that the mandatory labelling on alcoholic beverages meet with legal requirements.

Deviations in the alcohol content labelling of alcoholic beverages lead to administrative coercive measures under the Alcohol Act. Package labelling is also inspected during controls, in which case the instructions are given to the operator in question. In the future, attention will also be paid to the fact that own check plans give a sufficiently detailed description of the factors related to quality assurance and analysis of alcohol content.

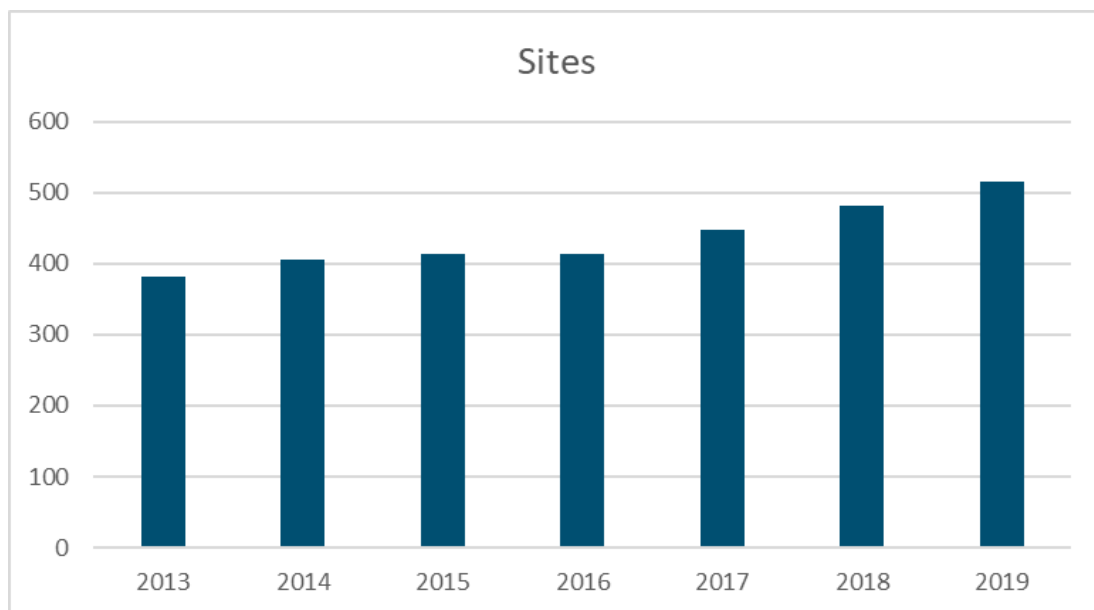


Figure 19. Sites for alcoholic beverage production and wholesale control in 2019

Table 22. Alcoholic beverage production and wholesale sites, inspections and sanctions in 2019

| | Sites | | | Inspection visits | | Sanctions | |
|---|-------------------|-----------------|----|--|--|--|--|
| | Total (number) | Inspected sites | | Inspection included in control plan including follow- up inspections (number) | Inspections not included in the control plan (number) | Sites where a notice was given (number) | Inspections that led to the use of coercive measures (number) |
| | | (number) | % | | | | |
| Production and wholesale of alcoholic beverages | 516 | 109 | 21 | 106 | 3 | 16 | 3 |

5.7 Contact materials

In 2019, the total number of control sites registered primarily as operators in the contact material sector was 552 (primary sites). The majority of registered control sites in the contact material sector are located in Southern, Western, Inland, and South-Western Finland (468 sites that operate in the contact material sector). In 2019, the number of operators in the contact material sector increased from 428 to 552, and growth took place in all areas of Finland. In 2019, inspections were, in particular, directed at importers of contact materials and operators were surveyed, which may partly explain the large increase in the number of control sites in 2019.

The overall coverage of inspections was 20%. The aim is to reach about 33% of sites in coverage, which means that each contact material control site should on average be inspected once every three years. The decrease in the coverage of inspections is at least partly explained by the increase in the number of control sites.

Table 23. Inspections at sites within the food product contact material sector in 2019 and their rating distribution

| Total number of inspected sites | | Inspections (number) | Inspection-specific result | | | | Inspections that led to a notice (number) | Sites where coercive measures were used (number) |
|---------------------------------|----|-------------------------|----------------------------|------|-----|-----|--|---|
| (number) | % | | A% | B% | C% | D% | | |
| 110 | 20 | 118 | 67.1 | 23.8 | 8.8 | 0.4 | 24 | 0 |

The results for the inspections of all contact material control sites are shown in Table 23. Operators in the contact material sector must have a quality management system in accordance with EU Regulation 2023/2006, which they comply with in their own activities. Its implementation is assessed separately by means of inspections in seven different areas. Table 23 shows the distribution of ratings as a compilation of all the ratings given for different items. Around 20% i.e. one fifth of inspections led to notices. No coercive measures had to be used.

Table 24. Distribution of contact material inspections and ratings according to different material types.

| Media type | Number of sites | Total number of inspections (number) | Total number of inspected sites (number) | Coverage of inspections % | Assessment | | | | | Locations where a notice was given or where coercive (number) | Inspections that led to a notice or where coercive measures were (number) |
|----------------------------------|-----------------|--|---|---------------------------------|------------|------|-------|-----|-----------|---|---|
| | | | | | A% | B% | C% | D% | (A + B) % | | |
| Active and intelligent materials | 4 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0 | 0 |
| Ion exchange resin | 4 | 2 | 2 | 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| Ceramics | 114 | 9 | 9 | 8.0 | 67.7 | 22.6 | 9.7 | 0.0 | 90.3 | 1 | 1 |
| Cork | 13 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| Rubber | 36 | 1 | 1 | 3.0 | 66.7 | 33.3 | 0.0 | 0.0 | 100.0 | 0 | 0 |
| Varnishes and coatings | 16 | 2 | 2 | 13.0 | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 0 | 0 |
| Glass | 49 | 3 | 2 | 4.0 | 50.0 | 50.0 | 0.0 | 0.0 | 100.0 | 0 | 0 |
| Metals and alloys | 92 | 8 | 8 | 9.0 | 69.0 | 20.7 | 10.3 | 0.0 | 89.7 | 3 | 3 |
| Plastics | 243 | 45 | 44 | 18.0 | 72.1 | 21.3 | 6.6 | 0.0 | 93.4 | 7 | 7 |
| Other | 57 | 6 | 6 | 11.0 | 78.3 | 17.4 | 4.3 | 0.0 | 95.7 | 1 | 1 |
| Paper and cardboard | 183 | 41 | 36 | 20.0 | 65.8 | 24.6 | 9.6 | 0.0 | 90.4 | 9 | 9 |
| Wood | 45 | 7 | 7 | 16.0 | 45.2 | 32.3 | 16.1 | 6.5 | 77.5 | 2 | 2 |
| Silicones | 38 | 2 | 2 | 5.0 | 33.3 | 66.7 | 0.0 | 0.0 | 100.0 | 0 | 0 |
| Textiles | 34 | 2 | 2 | 6.0 | 66.7 | 33.3 | 0.0 | 0.0 | 100.0 | 0 | 0 |
| Waxes | 5 | 2 | 2 | 40.0 | 33.3 | 50.0 | 16.7 | 0.0 | 83.3 | 1 | 1 |
| Adhesives | 19 | 1 | 1 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| Printing inks | 19 | 1 | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| Regenerated cellulose | 6 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0 |

Table 24 shows that, as in previous years, inspections focused most on plastic materials as well as paper and cardboard, which are handled by the largest number of contact material companies. The inspections did not target all the contact materials listed in Regulation 1935/2004 (Annex I), but, unlike in previous years, they did target some materials not previously inspected. This is due in part to the fact that the share of inspected sites that importers accounted for was higher than in previous years due to the supervision theme in which inspections were focused on importers and wholesalers. The product ranges of importers and wholesalers generally includes several different types of material. The higher number of C ratings for varnishes and coatings, wood and waxes is partly an indication that the requirements laid down in contact material regulations for their operations may have come as a new issue for them.

Control of the use of contact materials in food premises

The use and conformity of contact materials in food premises was inspected in 5,599 food premises in accordance with Oiva guideline 14.1. This figure is somewhat lower than in 2018 (6,747 inspections) and 2017 (6,415 inspections). There are roughly 81,045 food premises in which contact materials should be inspected. Therefore, contact materials were inspected in

around 6.9% of the sites where their inspection is relevant. Contact materials were inspected at 24.7% of all Oiva inspections carried out at food premises. The share of A + B ratings has remained very similar over the years. Table 25 shows the distribution of the number of contact material inspections carried out in food premises and of the Oiva ratings given in them between 2016 and 2019.

Table 25. Contact material inspections (Oiva guideline 14.1) in food premises 2016–2019 and the distribution of ratings in these assessments

| Inspections according to Oiva inspection guideline 14.1 | | | | | |
|--|------------------------|-----------|-----------|------------|-----------|
| Year | Inspected sites | A% | B% | C% | D% |
| 2019 | 5599 | 91.2 | 7.9 | 0.9 | 0.0 |
| 2018 | 6747 | 91.7 | 7.5 | 0.8 | 0.0 |
| 2017 | 6415 | 92.8 | 6.5 | 0.7 | 0.1 |
| 2016 | 5882 | 92.2 | 7.1 | 0.7 | 0.0 |

According to the Finnish Food Authority's Oiva inspection guidelines, the use of contact materials should be inspected at nearly all food control sites at least once every three years (approximately 33% of the control sites each year).

Around 1% of contact material inspections led to notices (59 times).

*The figure does not include the Oiva observation item 14.1 inspections carried out by the Finnish Food Authority.

Table 26 shows the distribution of contact material inspections (Oiva guideline 14.1) in the activity categories of different food premises and the distribution of their results. In relation to all Oiva inspections carried out, the safety of the contact materials was inspected the most at different production sites. Of these, the most C ratings were given to meat sector establishments. The second highest number of C ratings was given at cereal and vegetable sector production sites. However, the highest number of notices were given at serving places. When reviewing the comments in inspection reports, it was found that the highest number of notices had been issued on the compliance of disposable gloves. In addition, the use of non-food eligible materials and shortcomings in the declarations of conformity had been observed.

Table 26. Distribution of contact material inspections (Oiva guideline 14.1) in the operating classes of different food premises and the distribution of their ratings

| ACTIVITY CATEGORY | All Oiva inspections in total | Inspections according to Oiva inspection guideline 14.1 | | | | | | | Number of issued notices |
|---|-------------------------------|---|-----------------------------|---------------------------|-------------|------------|------------|----------|--------------------------|
| | | Distributing of ratings | | | | | | | |
| | | Inspected sites | Total number of inspections | % of all Oiva inspections | A % | B % | C % | D % | |
| Transports | 161 | 2 | 2 | 1.2 | 100 | 0 | 0 | 0 | 0 |
| Sales | 3652 | 763 | 778 | 21.3 | 93.8 | 5 | 1.2 | 0 | 8 |
| Service | 14708 | 4276 | 4376 | 29.8 | 91.6 | 7.6 | 0.8 | 0 | 39 |
| Storage, freezing | 191 | 22 | 22 | 11.5 | 81.8 | 18.2 | 0 | 0 | 0 |
| Production, excluding meat, fish, milk, egg | 217 | 71 | 76 | 35.0 | 90.8 | 7.9 | 1.3 | 0 | 1 |
| Fish | 486 | 80 | 87 | 17.9 | 73.6 | 25.3 | 1.1 | 0 | 3 |
| Meat | 729 | 78 | 86 | 11.8 | 77.9 | 19.8 | 2.3 | 0 | 4 |
| Milk | 234 | 41 | 43 | 18.4 | 79.1 | 20.9 | 0 | 0 | 0 |
| Egg | 56 | 15 | 16 | 28.6 | 93.8 | 6.3 | 0 | 0 | 0 |
| Export and import | 85 | 0 | 0 | 0.0 | 0 | - | - | - | - |
| Cereal and vegetable | 756 | 245 | 254 | 33.6 | 91.3 | 7.1 | 1.6 | 0 | 4 |
| Low-risk | 32 | 11 | 11 | 34.4 | 72.7 | 27.3 | 0 | 0 | 0 |
| TOTAL | 21307 | 5751 | 5604 | 26.3 | 91.2 | 7.8 | 0.9 | 0 | 59 |

5.8 Food transport

Table 27. Food transport control sites, inspections and sanctions

| Transport | Sites | | | | Inspection visits | | Sanctions | |
|------------------------|----------|-----------------|----------|-----|--------------------------------------|--|----------------------------------|--|
| | Total | Inspected sites | | | Planned incl. Follow-up inspections. | Inspections not included in the control plan | Inspections that led to a notice | Inspections that led to the use of coercive measures |
| | (number) | (number) | (number) | % | (number) | (number) | (number) | (number) |
| Total food transports | 1459 | 160 | 11 | 159 | 2 | 10 | 0 | |
| transport | 863 | 78 | 9 | 77 | 2 | 7 | 0 | |
| cooled transportation | 587 | 58 | 10 | 57 | 0 | 2 | 0 | |
| warm transportation | 147 | 11 | 7 | 10 | 0 | 0 | 0 | |
| frozen transportations | 248 | 16 | 6 | 15 | 0 | 1 | 0 | |

Table 27 shows that the coverage of food transport controls remains low. The meagre number of inspections is partly due to the difficulty in accessing transport equipment. It is characteristic of transports that the receiving party sets high requirements for transport temperatures. In this respect, reception practices and own checks have been found to be at a good level. The own check plan and its adequacy, the general suitability of the facilities for transport operations and the activities of the personnel have been the key areas observed during inspections. Another area to which attention has been drawn is the conditions during transport, depending on the type of transport in question. Food delivery inspections have led to some notices.

Table 28. Inspection-specific results for food transport

| Transport | Inspection visits | Result | | | |
|------------------------|--------------------------------------|----------------------------|------|-----|-----|
| | Planned incl. Follow-up inspections. | Inspection-specific result | | | |
| | (number) | A % | B % | C % | D % |
| Food transport | 161 | 78.1 | 18.8 | 3.1 | 0 |
| transport | 77 | 79.2 | 15.6 | 5.2 | 0 |
| cooled transportation | 64 | 76.6 | 21.9 | 1.6 | 0 |
| warm transportation | 9 | 77.8 | 22.2 | 0 | 0 |
| frozen transportations | 11 | 80 | 20 | 0 | 0 |

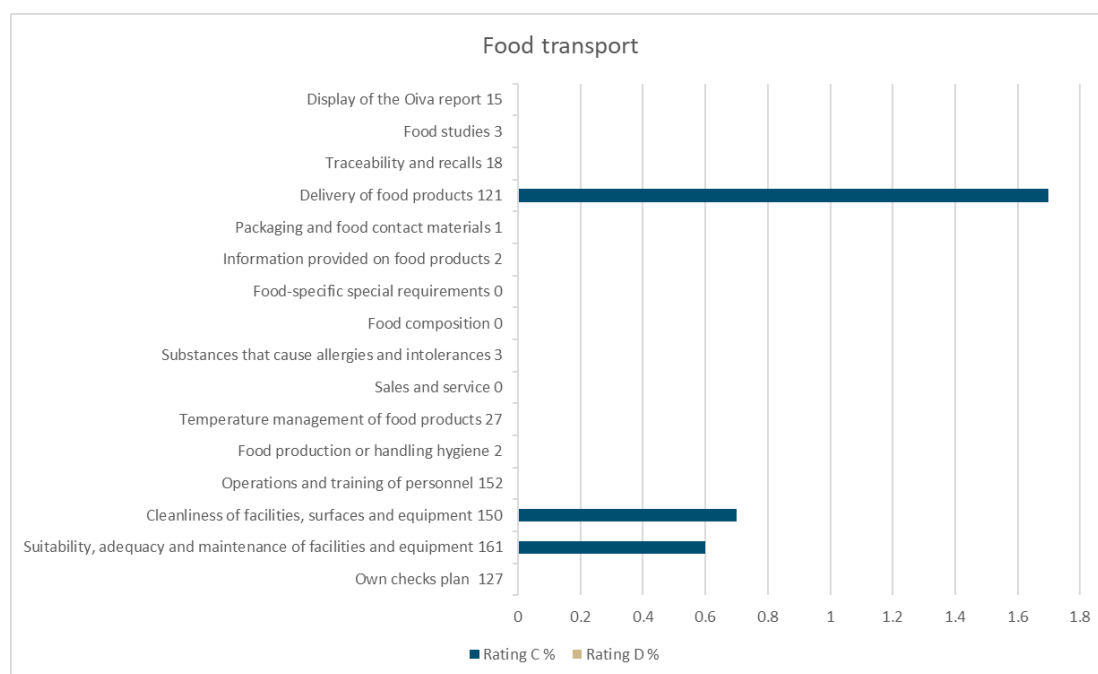


Figure 20. The C and D ratings given to food transports for inspections concerning compliance with set requirements (number and %); n= number of inspections for the requirement in question.

Inspections of the international transport of perishable food products and the special equipment used for such transports

A total of 59 ATP inspections were carried out in control units. A total of 30 control sites were inspected. Four inspections led to notices. The reasons for the notices were deficiencies in the ATP labelling or documents and damage to the wall structure of the means of transport. In 2019 there were fewer inspections of ATP vehicles than in 2018. As ATP vehicles are certified and monitored within the certification system, it is not sensible to direct the resources available in food control into monitoring the technical characteristics of the vehicles in a larger scale than currently.

5.9 Wholesale and storage of food

Table 29. Controlled sites, inspections and sanctions within wholesale and storage in 2019

| Food premises | Sites | | | Inspection visits | | Sanctions | |
|-----------------------------------|----------|-----------------|----|---|--|----------------------------------|--|
| | Total | Inspected sites | | Inspection included in control plan including follow-up inspections | Inspections not included in the control plan | Inspections that led to a notice | Inspections that led to the use of coercive measures |
| | (number) | (number) | % | (number) | (number) | (number) | (number) |
| Food wholesale | 580 | 122 | 21 | 132 | 8 | 30 | 0 |
| Food storage and freezing | 799 | 191 | 24 | 212 | 63 | 22 | 2 |
| - storage of animal-derived foods | 154 | 76 | 49 | 96 | 33 | 9 | 2 |
| - storage of other foods | 613 | 97 | 16 | 89 | 27 | 8 | 0 |
| - freezing of feed products | 43 | 12 | 28 | 15 | 2 | 3 | 0 |
| - packing of food products | 52 | 13 | 25 | 12 | 1 | 2 | 0 |

Compared to the 2018 report, the number of sites for both wholesale trade (14%) and storage and freezing (23%) had increased (Table 29). 21% of wholesale trade sites were inspected. Ninety-four per cent (94%) of the inspections were inspections included in the control plan. 30 inspections led to notices, which is the same amount as in 2018.

24% of control sites involved in the storage and freezing of food products were inspected. Of these inspections, 77% were inspections included in the control plan. 22 notices were given on the basis of the inspections and administrative coercive measures were used twice. Around 25% fewer notices were given than in 2018.

Table 30. Inspection-specific results of food product wholesale and storage in 2019

| Food premises | Inspections | Result | | | |
|-----------------------------------|-------------------------------------|----------------------------|------|------|-----|
| | Planned incl. follow-up inspections | Inspection-specific result | | | |
| | (number) | A % | B % | C % | D % |
| Food wholesale | 121 | 51.3 | 26.9 | 17.6 | 4.2 |
| Food storage and freezing total | 190 | 52.4 | 40.2 | 6.9 | 0.5 |
| - storage of animal-derived foods | 92 | 46.2 | 45.1 | 7.7 | 1.1 |
| - storage of other foods | 76 | 61.8 | 31.6 | 6.6 | |
| - freezing of feed products | 10 | 40.0 | 60.0 | | |
| - packing of food products | 12 | 50.0 | 41.7 | | |

At wholesale sites, 78% of inspections resulted in a rating of A or B and 22% in a rating of C or D (Table 30).

93% of sites engaged in the storage and freezing of food products got an inspection-specific result of A or B, while 7% got a C or D.

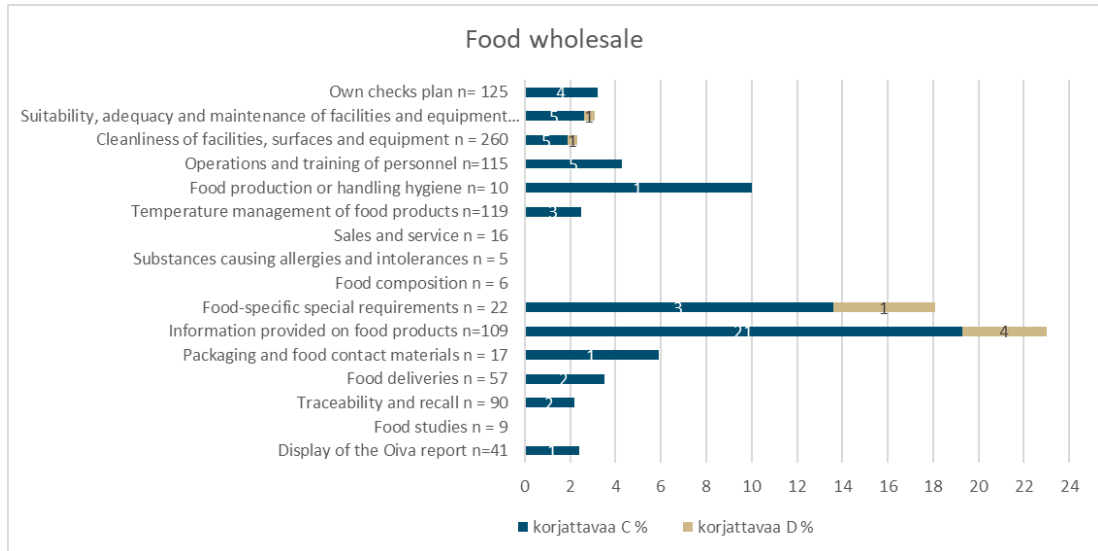


Figure 21. The C and D ratings given in inspections concerning compliance with set requirements for the wholesale of food products (number and %); n= number of inspections for the requirement in question.

The largest share of shortcomings (C or D ratings) in the wholesale of foods were observed in the items information provided on food products and food-specific special requirements when considering the relative shares of given ratings (Figure 21). The highest number of defects was observed in the item information provided on food products.

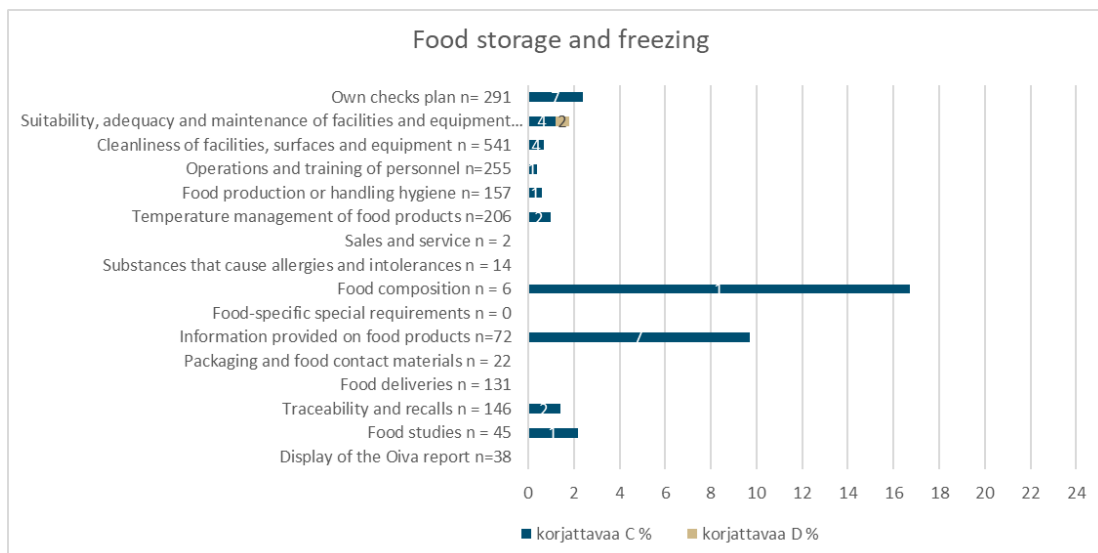


Figure 22. The C and D ratings given for inspections concerning compliance with set requirements for the storage and freezing of food products (number and %); n= number of inspections for the requirement in question.

The largest share of shortcomings (C or D ratings) in the storage and freezing of foods were observed in the items information provided on food products and food-specific special requirements when considering the relative shares of given ratings (Figure 22). The highest number of defects were observed in sites' own check plans, the suitability, adequacy and maintenance of facilities and equipment as well as in information provided on food products.

5.10 Food retail sale

Table 31. Food retail control sites, inspections and sanctions, all inspections in 2019

| Food premises | Sites | | | Inspection visits | | Sanctions | |
|-------------------|----------|-----------------|----|---|--|----------------------------------|--|
| | Total | Inspected sites | | Inspection included in control plan including follow-up inspections | Inspections not included in the control plan | Inspections that led to a notice | Inspections that led to the use of coercive measures |
| | (number) | (number) | % | (number) | (number) | (number) | (number) |
| Food retail trade | 11 182 | 3229 | 29 | 3573 | 340 | 504 | 14 |

There were 11,182 retail sites of which just over one fourth were inspected. Compared with 2018, the number of sites increased by about 8% (10,239 in 2018), but the number of sites inspected decreased by about 11% (3,621 sites were inspected in 2018). In 2019, around 12% fewer inspections for retail sales than the previous year, i.e. a total of 3,913 (a total of 4,446 inspections in 2018), of which 14 (0.4%) led to the use of administrative coercive measures.

Table 32. Inspection-specific Oiva results for food retail in 2016–2019

| Year | Food premises | Inspections | Result | | | |
|------|-------------------|---|----------------------------|------|------|-----|
| | Food retail trade | Planned incl. follow-up inspections (number) | Inspection-specific result | | | |
| | | | A % | B % | C % | D % |
| 2019 | | 3500 | 47.7 | 38.4 | 12.8 | 1.1 |
| 2018 | | 3870 | 47.1 | 38.6 | 12.9 | 1.4 |
| 2017 | | 4087 | 45 | 40.3 | 13.6 | 1.1 |
| 2016 | | 4090 | 46.4 | 38.9 | 13.4 | 1.2 |

The number of inspections carried out at retail sites has decreased year by year, but the results have remained almost the same. As a rule, activities were in compliance with the requirements or only minor shortcomings were observed in activities. 86% of inspections resulted in the best possible ratings of A and B, while 14% of inspections result in the poorest ratings of C or D.

Table 33. Distribution of item-specific topical results of inspections included in the control plan for food retail and food services and the resulting follow-up inspections in 2019

| Food premises | Inspections in accordance with the control plan | | | | |
|---------------|---|---|------|-----|-----|
| | Inspection visits | Distribution of results of food premises for compliance with set requirements % | | | |
| | (number) | A % | B % | C % | D % |
| Retail trade | 3573 | 88.6 | 9 | 2.2 | 0.2 |
| Service | 12904 | 87.3 | 10.2 | 2.5 | 0.1 |

97.6% of planned inspections at retailers resulted in a rating of A or B, while 2.4% resulted in a rating of C or D.

97.5% of planned inspections at serving establishments resulted in a rating of A or B, while 2.6% resulted in a rating of C or D.

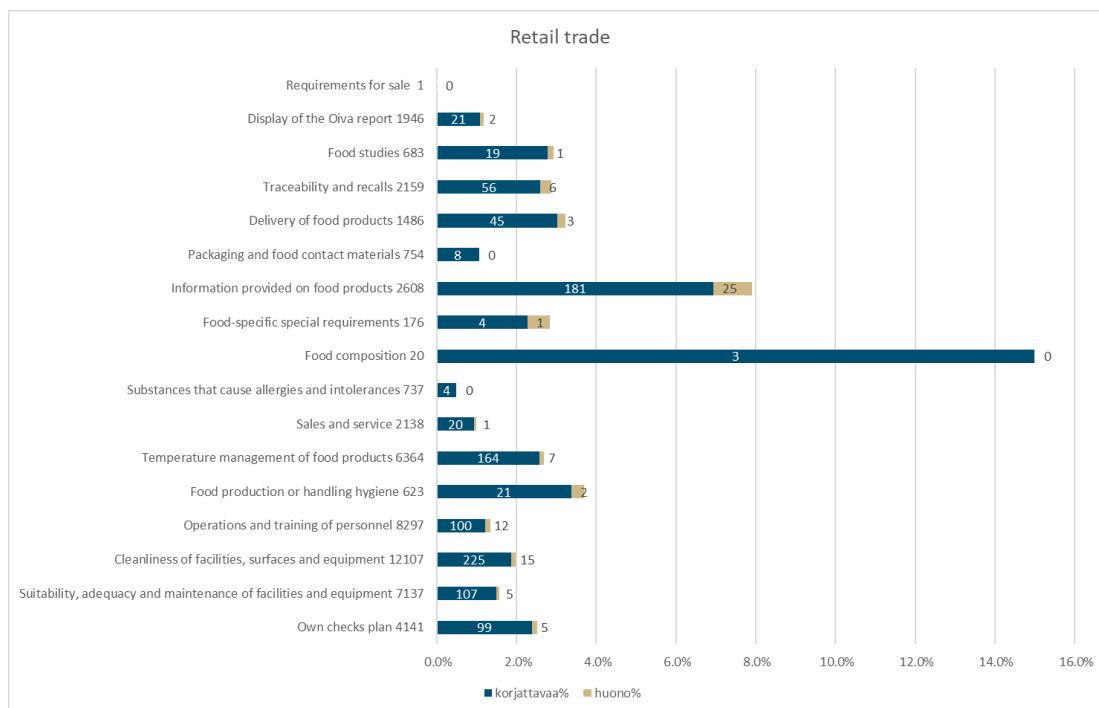


Figure 23. The C and D ratings given to inspections concerning compliance with set requirements for retail sale of food (number and %); n= number of inspections for the requirement in question in 2019.

As a rule, the results for different items were good, i.e. A or B ratings accounted for more than 96% of all ratings. 92% of inspections in the item information provided on food products resulted in a rating of A or B. 85% of inspections in the item composition of food resulted in a rating of A or B. However, this item was only inspected 20 times, as retail activities rarely include these activities.

In the case of food retailers, in addition to the items information provided on food products and food composition, the largest number of shortcomings (results C or D) in relation to the item were in food production or handling hygiene, food delivery related matters, food-specific special requirements, food temperature management, food studies, as well as traceability and recalls.

Table 34. Control sites, inspections and sanctions for low-risk activities involving food in 2019

| Food premises | Sites | | Inspection visits | | Sanctions | |
|-------------------|----------|-----------------|---|--|----------------------------------|--|
| | Total | Inspected sites | Inspection included in control plan including follow-up inspections | Inspections not included in control plan | Inspections that led to a notice | Inspections that led to the use of coercive measures |
| | (number) | (number) % | (number) | (number) | (number) | (number) |
| Low risk activity | 210 | 35 | 17 | 34 | 0 | 3 |

Table 35. Inspection-specific results for low-risk activities involving food products in 2019

| Food premises | Inspections | Result | | | |
|-------------------|-------------------------------------|----------------------------|------|-----|-----|
| | Planned incl. follow-up inspections | Inspection-specific result | | | |
| | (number) | A % | B % | C % | D % |
| Low risk activity | 32 | 43.8 | 53.1 | 3.1 | 0 |

Low-risk activities refer to the handling of animal-derived food products in accordance with Regulation 1258/2011. In 2019, 17% of these operators engaged in meat handling were inspected. The inspections were in accordance with the control plan (Table 35). As a rule,

low-risk activities have been in compliance with the requirements and only some shortcomings have been identified.

5.11 Food service

The number of food serving establishments subject to food controls are presented in Figure 24.

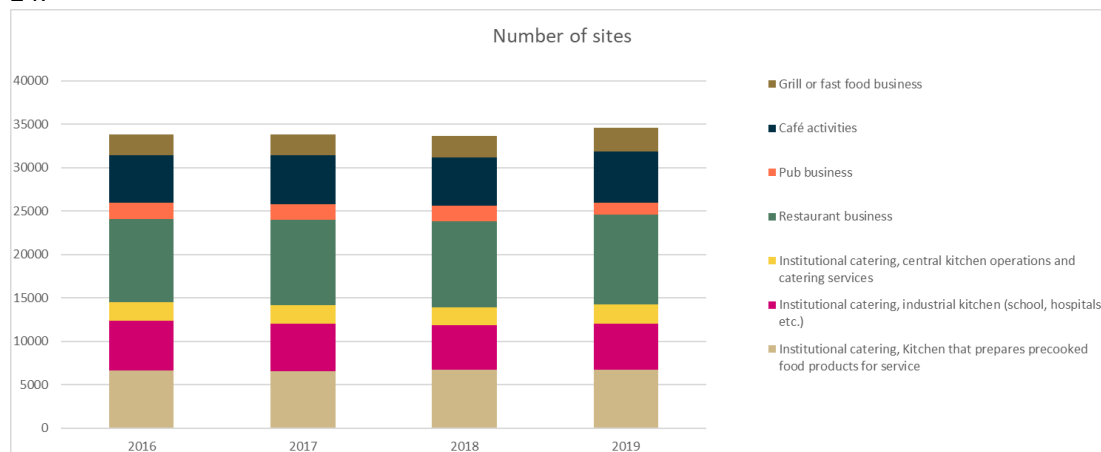


Figure 24. Number of serving establishments under municipal supervision in 2016–2019

In 2019, there were a total of 33,29 serving establishments (Table 36).

Table 36. Control sites, inspections and sanctions within food service in 2019

| | Sites | | | Inspection visits | | Sanctions | |
|--|----------|-----------------|----|---|--|----------------------------------|--|
| | Total | Inspected sites | | Inspection included in control plan including follow-up inspections | Inspections not included in control plan | Inspections that led to a notice | Inspections that led to the use of coercive measures |
| | (number) | (number) | % | (number) | (number) | (number) | (number) |
| Total food service | 33290 | 12904 | 39 | 14796 | 739 | 2145 | 29 |
| - Grill or fast food business | 2672 | 898 | 34 | 1015 | 69 | 188 | 1 |
| - Café business | 5965 | 1580 | 26 | 1684 | 124 | 224 | 5 |
| - Pub business | 1299 | 179 | 9 | 169 | 30 | 13 | 1 |
| - Restaurant business | 10396 | 5344 | 51 | 6330 | 390 | 1327 | 21 |
| - Institutional catering, central kitchen | 2219 | 1179 | 53 | 1453 | 29 | 109 | 1 |
| - Institutional catering, industrial kitchen | 5256 | 2019 | 38 | 2123 | 51 | 148 | 0 |
| - Institutional catering, Kitchen that prepare precooked food products for service | 6768 | 1930 | 29 | 2023 | 46 | 136 | 0 |
| Food control by the Finnish Defence Forces | | | | | | | |
| - institutional catering and field kitchens | 192 | 85 | 44 | 104 | 6 | 33 | 2 |

Serving establishments are classified into five categories according to their activities. The largest number of them are institutional catering establishments and restaurants (Figure 24 and Table 36).

In relation, the largest number of inspections at serving establishments were carried out in institutional catering establishments (central kitchen activities and industrial kitchen, restaurants and fast food establishments while the least were carried out in pubs. Inspections not included in the control plan (5%) were generally related to complaints made by consumers, such as suspicions of food poisoning or other suspicions. Joint inspections carried out by inspectors may be recorded for the other inspector as an inspection not included in the control plan. The results demonstrate that serving establishments were usually well managed, especially institutional catering establishments, as inspections led to

few notices and coercive measures. Notices were given and coercive measures undertaken in connection with inspections at restaurants (Table 36).

86% of service establishments were given an Oiva rating of A or B and 14% were given a rating of C or D (Table 37). A D rating was very rare in serving establishment inspections. When examining serving establishments in more detail, it can be said that regardless of their activity institutional catering establishments are all of the same standard, and they have obtained better Oiva results than other operators. 94% of institutional catering sites were given an Oiva rating of A or B and 6% were given a rating of C or D. The results correspond with last year's results.

Table 37. Inspection-specific Oiva inspection results for food serving establishments in 2019

| Total food service | Inspections | Result | | | |
|---|-------------------------------------|----------------------------|------|------|-----|
| | Planned incl. follow-up inspections | Inspection-specific result | | | |
| | (number) | A % | B % | C % | D % |
| | 14640 | 45.0 | 41.4 | 13.2 | 0.4 |
| - Grill or fast food business | 1013 | 40.3 | 41.7 | 17.6 | 0.4 |
| - Café business | 1666 | 47.4 | 40.9 | 11.3 | 0.4 |
| - Pub business | 128 | 49.6 | 43.3 | 6.3 | 0.8 |
| - Restaurant business | 6281 | 34.2 | 45.6 | 19.4 | 0.8 |
| Institutional catering | | | | | |
| - central kitchen | 1426 | 58.6 | 35.0 | 6.2 | 0.3 |
| - industrial kitchen | 2121 | 57.6 | 36.6 | 5.8 | 0.0 |
| - kitchen that prepares precooked food products for service | 2005 | 55.8 | 38.1 | 6.1 | 0.1 |

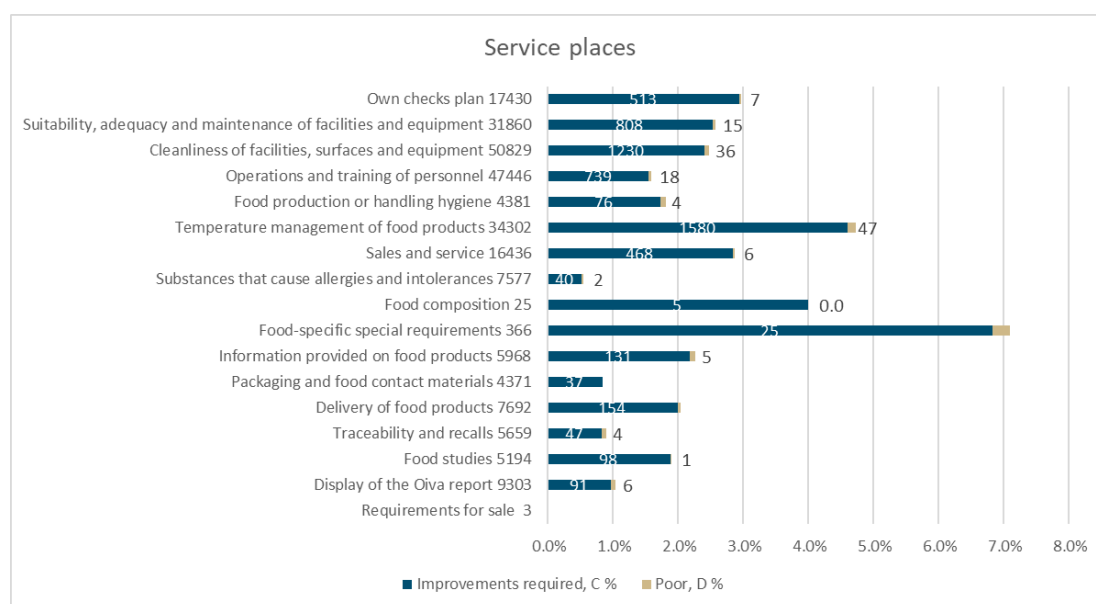


Figure 25. The C and D ratings given to inspections concerning compliance with set requirements for serving establishments (number and %); n = number of inspections for the requirement in question in 2019.

Activities in servicing establishments are as a rule compliant with requirements or minor shortcomings were observed, as 97% of results for different requirement areas were excellent or good.

Relatively speaking, the largest number of defects (C or D ratings) in serving establishments were in compliance with management of food temperatures (1,627 times, 4.7%) and in maintaining an own check plan (C or D ratings given 520 times, 3.0%). A rating of C or D was given 823 times (2.6%) for the maintenance of facilities, surfaces and equipment, and there were defects in the cleanliness of facilities, surfaces and equipment (C or D rating) 1,266 times (2.5%). Temperature management during serving is inspected as part of the sales and serving inspection entity. Shortcomings were observed in the temperature management during serving 474 times (2.9%).

Food control by the Finnish Defence Forces

The objectives set for the food control by the Finnish Defence Forces in 2019 were successfully met. Based on the risks, control was increasingly focused on field kitchen services used in connection with field practices. It was felt that the control of field kitchen services was more effective when the control and control personnel were in clear view on the field and when given feedback could be reviewed together with control personnel and military trainers. On the other hand, the effectiveness of control activities seemed to decline if the completion and submission of the inspection record to the site was delayed. The targeting of supervision has been going in the right direction, and in the future, it must be prioritised further in order to use the control resource as efficiently as possible. In the future, an effort will be made to improve the effectiveness of the supervision in the Finnish Defence Forces operating environment with easy-to-use inspection tools and internal summaries of the inspection results. Trial use of the harmonised inspection form for the control of field kitchen services was introduced and it was finalised during the under review. Authorities that have taken part in cooperation with one another have included the Finnish Food Authority, regional state administrative authorities (AVI) and municipal authorities.

In its entirety, food control by the Finnish Defence Forces was completed well. (90% of the planned inspections were conducted, and they covered 44% of sites). Most of the shortcomings observed and requests for corrective action given during controls were related to the need to repair structures, the cleaning of facilities and equipment or to own checks and the errors in the records concerning them. The most common shortcomings in field kitchen services were observed in the records kept on own checks and the implementation of own checks, in the management of food storage temperatures and allergens as well as in general hygiene and related structural arrangements (e.g. hand washing points).

Small shortcomings were observed at nearly all sites in the implementation of own checks. A lack of space, the impracticality of the facilities, worn surfaces and equipment that is in poor condition have hampered hygienic work in garrison restaurants awaiting renovation. In field kitchen activities, the proficiency of trainers was directly reflected in the motivation of the kitchen service groups and their work hygiene.

The Finnish Defence Forces did not have official food control audit activities in 2019. In order to ensure awareness of relevant regulations, operators have been given versatile instruction, guidance and training both in connection with inspections and in other ways. Efforts have been made to share good practices. During the year under review, the development of

online training platforms began. The content of the audit inspection was developed by introducing a uniform inspection form for field kitchen services control. In addition to this, photographs are attached to the inspection reports, if necessary, which also present examples of good practices in addition to the shortcomings observed. An effort has been made to keep inspections advisory-focused in nature and their main aim is to guide operators to use the correct practices. During 2019, the hygiene passport examiners approved by Evira provided food hygiene training and organised 42 hygiene passport tests. Administrative coercive measures were used twice during the year under review (regulation and deadline). In addition, operators (a total of 28 sites) were given notices to correct operational and structural shortcomings.

The number of personnel who carry out Finnish Defence Forces food control tasks is small, only eight, and the special characteristics of the operating environment are nationwide coverage and long distances. In addition, the same personnel's scope of duties also includes many other official and expert tasks in environmental health care. However, on average, the resources available for food control are estimated to be sufficient when monitoring is targeted based on risk. The allocation of resources in the Defence Forces' area of responsibility in 2019 was reasonably well implemented. A significant amount of time was spent in substitution and recruitment processes and the following onboarding phases. An effort is made to cut down on the needed time by limiting the job description of substitutes. In 2019, the input required of the Finnish Defence Forces in international military exercises, training assignments and staff leave affected the availability of human resources in food control activities.

The effectiveness of food control by the Finnish Defence Forces will be further improved over the following years so that control is targeted based on risk and the control of low-risk sites is reduced. An effort will also be made to improve impact by implementing control projects focusing on selected types of control sites on a yearly basis. Control practices will be harmonised by developing work instructions and a quality management system. Efforts will be made to inspect and develop exercises and to provide guidance to actors on the prevention of problems by harmonising control documents and drawing up summaries of them for the Defence Forces' management policies. In addition, training in food hygiene provided by the sector will be developed by updating the training material and creating new learning channels. Environmental health care by the Finnish Defence Forces will make an effort to adopt use of the national environmental health monitoring information system (VATI) in 2020. Site and control data classified as public will be transferred to the information system when the availability of the system makes it possible. In addition, the site and control data are collected to the Military Medicine Centre's network drive in a table depicting situational awareness on control (VALTIKKA), which helps in the maintenance of site data and real-time monitoring to the extent that the VATI system does not meet the needs of the organisation.

6 SALE OF FOOD PRODUCTS

6.1 Products with registered names

The EU scheme for the protection of names refers to protected designations of origin (PDO), protected geographical indications (PGI) and traditional specialities guaranteed (TSG). 395 inspections were carried out to inspect the production, sale and marketing of food products with registered names. This was 85 fewer inspections than the previous year. The difference is due to the registered names control initiative carried out the previous year, at which time the number of inspections was particularly high.

Food service establishments were inspected by far the most (82%) (restaurants, cafés, grills and fast food places). In a previous control initiative, a large number of non-compliances had been observed in this group. A small portion (5%) of the inspections focused on sites that produce bakery products, such as Karelian pies. 73% of all inspected sites received a rating of A, 20% received a rating of B and 7% a C. The distribution of inspections and Oiva assessments in different activity categories is shown in Figure 26.

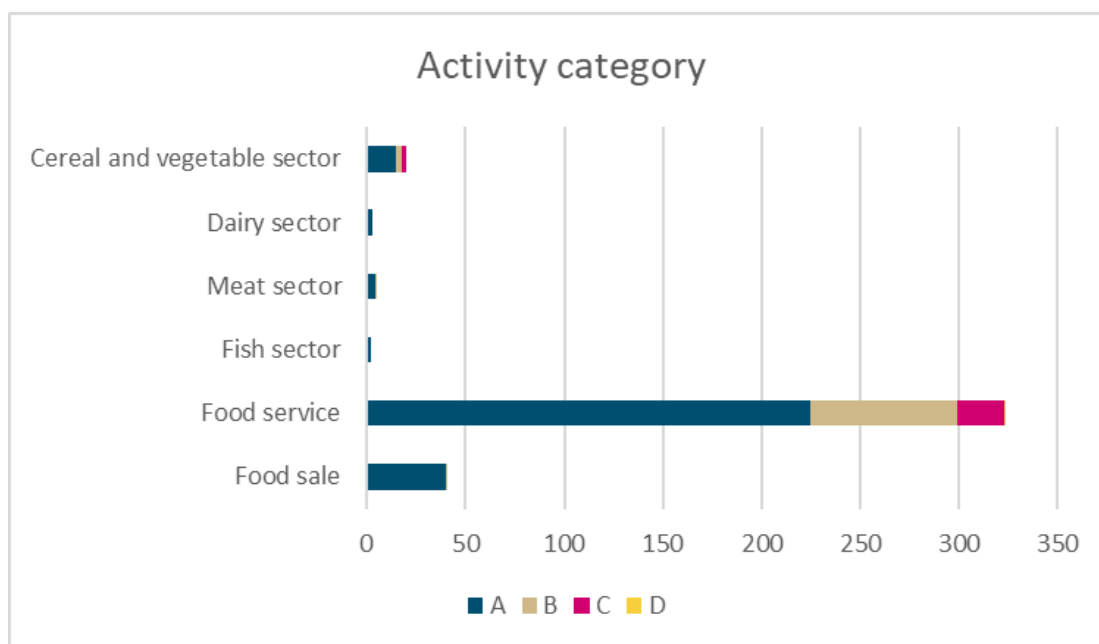


Figure 26. Distribution of inspections of food products with registered names by activity category and Oiva rating.

6.2 Requirements for the sale of vegetables

The conformity to the requirements for the sale of vegetables was inspected in five packing centre inspections that targeted a total of 30 product batches. A total of 25 inspections were carried out in wholesale establishments. A total of 157 fruit and vegetable batch inspections were carried out. A total of 46 inspections were carried out in the retailers, which included the inspection of 2,688 batches of fruit and vegetables.

The largest number of inspections were carried out on tomatoes, apples, bell peppers, salads, kiwis, pears and grapes. Of the inspected products the largest share of non-compliant items were found in peaches (28%), oranges (26%), satsumas (26%) and nectarines (24%). The highest number of inspections were carried out on vegetables cultivated in Finland. The next largest number of inspections were carried out on vegetables batches declared as originating in Spain, the Netherlands, Italy and South Africa. In relative terms (100%), the highest number of non-compliant items came from a country that had not been reported, in which case the reason for the non-compliance was a labelling error, i.e. the absence of country of origin. In relative terms, the next largest number of non-compliant items came from Egypt (67%), Belgium (14%), Sweden (13%) and Spain (11%). The most important reason for non-compliance was a labelling error (192 batches). The next largest number of non-compliances were caused by spoilage (49 batches), physiological defects (15 batches), and surface defects (12 batches).

The number of inspections and the number of batches inspected remained at the same level as in previous years. The products inspected most often and the main errors resulting from non-compliance remained unchanged.

6.3 Requirements for the sale of eggs

Production facilities

The inspections of production sites are focused on all new poultry farms producing free-range and barn eggs, as well as poultry farms in which changes have been made after the most recent inspection. Four inspections were carried out in 2019 (Table 38). All of the conducted inspections were measurements of new barn egg production farms required for the approval of a site as barn egg production farms before they were introduced. In addition to these inspections, changes were made to one existing barn poultry farm due to an extension to the farm. No inspections were carried out in 2019 at free-range egg production farms, because no free-range farms were established during the year nor did any poultry farms change their activities from another form to free-range.

Table 38. Actual inspections conducted at egg production farms

| Inspected site | Number of inspections | | | | Total number of barn egg farms in the Evira register | | | |
|----------------------|-----------------------|------|------|------|--|------|-------|------|
| | 2016 | 2017 | 2018 | 2019 | 2016 | 2017 | 2018 | 2019 |
| Barn egg farms | 10 | 5 | 6 | 4 | 186 | 187 | 124 * | 127 |
| Free-range egg farms | 6 | 1 | 3 | 0 | 10 | 10 | 11 | 11 |

* The decrease in the number of registered poultry farms producing barn eggs from the 187 registered farms in 2017 to 124 farms producing barn eggs in 2018 is the result of updating the register in 2018 and the removal from the register of 63 farms that had either ceased their operations or switched to another production sector.

Table 39. Actual inspections conducted at egg production farms

| Reason for inspection | Number of actual inspections | | | |
|---|------------------------------|------|------|------|
| | 2016 | 2017 | 2018 | 2019 |
| New barn egg farms | 10 | 5 | 6 | 4 |
| New free-range egg farms | 6 | 1 | 3 | 0 |
| Inspections on compliance with requirements at existing barn / free-range egg farms | 0 | 0 | 0 | 1 |

No deficiencies were found in the poultry farms where inspections were carried out. The inspections were approval inspections in which egg farms are approved in the barn egg or free-range egg production systems on the basis of the legislation related to the sale of eggs. The number of inspections cannot be influenced in advance, as it is not known in advance whether new egg farms will be established, or the production form of existing egg farms will be changed. The number of inspections has remained at the same level in 2016–2019.

Egg packing centres

In 2019, there were 73 egg packing centres in Finland. A total of 106 inspections were carried out at the centres to assess compliance with sales requirements. Of these inspections, 35 concerned the quality and weight grading of eggs, 37 the labelling and packaging of eggs and 34 the records kept on eggs at egg packing centres. The number of assessments on compliance with sales requirements at egg packing centres has remained at the same level between 2015 and 2019, when Oiva evaluations have been carried out at egg packing centres.

88.7% (94 inspections) of inspections at egg packing centres on compliance with the requirements for sale resulted in an A rating (excellent). 8.5% (9) of inspections resulted in a B rating and 2.8% (3) in a C rating. Not one inspection resulted in a rating of D.

The distribution of ratings for inspections at egg packing centres on compliance with the requirements for sale was as follows: 97.1% of inspections that looked into compliance with requirements for quality and weight grading of eggs resulted in an A or B rating, while 2.9% resulted in a rating of C. 94.6% of inspections that looked into compliance with requirements for stamping of eggs and package labelling resulted in a rating of A or B, while 5.4% resulted in a rating of C. 100% of inspections on compliance with egg-related record keeping resulted in a rating of A or B (Table 40). Three inspections at egg packing centres concerning requirements for the sale of eggs resulted in a rating of C. No D ratings were given in these inspections. The distribution of inspection results on compliance with requirements for sale has remained at the same level from 2016 to 2019. Most inspections have resulted in a rating of A or B, and they annually account for 90% of ratings. Few inspections have resulted in a rating of C and hardly any have resulted in a rating of D.

Guidance and instruction were provided during seven inspections related to compliance with requirements for the sale at egg packing centres. In five instances, the provided guidance and instruction was related to the stamping of eggs and labelling of egg cartons, while in two cases it was related to the records kept on eggs by egg packing centres. No guidance and instruction was provided in inspections related to the weight and quality grading of eggs.

Six inspections related to compliance with requirements for the sale of eggs carried out at egg packing centres led to notices. Notices were given once in relation to the weight and quality grading of eggs, four times in relation to the stamping of eggs and labelling of egg cartons and once in relation to records kept on eggs by egg packing centres.

The notice concerning monitoring the correct weight and quality grading of eggs specified that the eggs in different weight grades should be checked regularly, that weighing results should be recorded each time and that the necessary corrective measures be implemented to own checks as well as to calibrate the scale used for weighing eggs.

A notice was given on the stamping of eggs. During the inspection, it has been noted stamps were unclear on 29% of inspected eggs. The legibility of producer codes stamped on eggs was poor. The illegibility exceeded the legal error limit. In each inspected batch, up to 20% of inspected eggs can have an illegible stamp. Stamps are considered illegible when they are partly or entirely missing or are unclear or contain errors. The legibility of the stamps must be checked regularly and exceptions must be recorded. Own checks must be supplemented to include how often controls are carried out and records must be kept.

A notice was given in related to a best before date. The best before date for eggs is calculated as 28 days from the date of laying or the first day of the laying period.

Guidance and instruction were provided on labelling of egg cartons during inspections concerning compliance with requirements for sale. Shortcomings were observed in the package labelling of egg batches delivered to institutional catering facilities. The best before date and storage instructions must be marked on these batches. In addition to other information, the packaging of eggs sold in retail shops must include the name, address and packing centre ID of the egg packing centre, as well as the weight grade and minimum shelf life of the eggs. Guidance had been provided on the missing weight grading. The parts of the stamping machine had been replaced and guidance had been given on the regular refilling of the stamp colour.

Shortcomings were observed in the records on eggs kept by egg packing centres. There were shortcomings in the storage of documents. The packing centre did not have any records to show on the quality grading of eggs. Guidance had been provided on the day-to-day records required of egg packing centres, which should show the number of eggs graded and rejected and where eggs have been delivered. There were also shortcomings in records concerning the weight grading of delivered eggs, which must be included in the maintained records. Guidance and instruction were provided during one inspection on day-to-day record keeping, which must include the number of Grade A eggs processed at the packing centre, the number of rejected eggs as well as the names and addresses of customers to whom eggs have been delivered. Records must be kept for at least one year.

Non-compliance with the provisions on requirements for sale has not caused much of a risk to food safety, but the shortcomings identified may, for example, mislead the consumer and make traceability of eggs more difficult.

Table 40. Inspection-specific results on the assessment of compliance with the requirements for sale from egg packing centres in 2019

| Control of compliance with requirements for sale at egg packing centres | Inspections | Result | | | |
|---|-------------------------------------|----------------------------|------|-----|-----|
| | Planned incl. follow-up inspections | Inspection-specific result | | | |
| | (number) | A % | B % | C % | D % |
| Egg quality and weight grading | 35 | 97.1 | 0 | 2.9 | 0 |
| Stamping of eggs and labelling of egg cartons | 37 | 81.1 | 13.5 | 5.4 | 0 |
| Records kept on eggs by egg packing centres | 34 | 88.2 | 11.8 | 0 | 0 |

6.4 Marketing of food products

A total of 230 sites were inspected in 2019 in the item area marketing of food products. In 2015–2019, the number of inspections has increased slightly (Table 41). The majority of food sector businesses market their products or try to promote their sale by other means. However, marketing inspections throughout Finland only accounted for about 1% of all Oiva inspections (Table 41). During 2015–2019, the share that marketing inspections made up of all Oiva inspections increased from 0.4% to 1.3%.

Table 41. Number of sites inspected for marketing of food products and the share of Oiva inspections that marketing inspections accounted for in 2015–2019

| Year | Sites where an Oiva inspection has been carried out | Sites where marketing has been inspected | Share of Oiva inspections carried out for marketing control |
|------|---|--|---|
| 2015 | 21807 | 94 | 0.4 % |
| 2016 | 20261 | 190 | 0.9 % |
| 2017 | 19865 | 178 | 0.9 % |
| 2018 | 20409 | 235 | 1.2 % |
| 2019 | 18241 | 230 | 1.3 % |

Over the period running from 2015 to 2019, the relative share of A ratings given in the control of marketing has declined and the relative share of C ratings has increased (Figure 27). This is probably due to the fact that, as inspectors have gained experience, the more confidence they have had to give ratings that are in accordance with the Oiva guidelines and also dare to take on more difficult supervision cases. There is a difference in the distribution of the % of ratings given by Regional State Administrative Agencies. Based on the results of control of marketing, it appears that the marketing of food is not monitored equally or adequately.

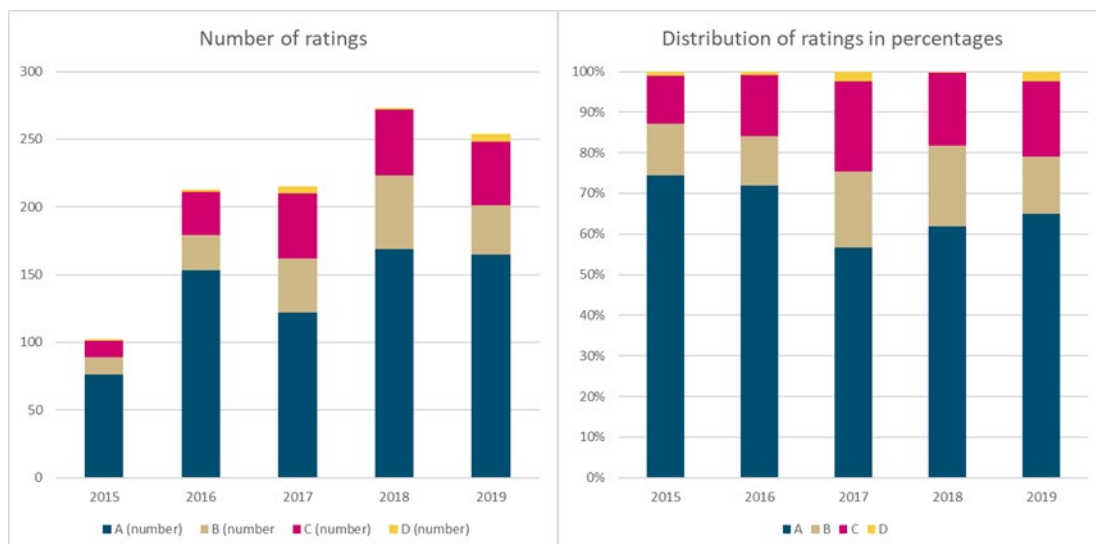


Figure 27. Number of ratings given in control of food marketing and their distribution (%) in 2015–2019

Based on the information recorded in the inspection reports, it appears that inspectors do not comply with the Oiva guidelines for control of marketing during control. For example, the pharmaceutical marketing of foodstuffs is strictly prohibited. If pharmaceutical claims are used in the marketing of a food, according to the Oiva assessment guidelines this will result in a D rating. If there are only individual pharmaceutical claims in the marketing, a C rating can be given. According to the notices entered in the inspection reports, control personnel have in many cases noticed that the company is marketing food with pharmaceutical claims. Despite this, the company has been awarded a rating of B or even an A even if the rating according to the Oiva guideline is D or C.

Nearly every company markets its products. In this respect, the marketing of food products is insufficient, detected errors are not addressed sufficiently rigorously, and operators are not all treated equally. This may distort competition in the food sector and undermine the potential of companies that comply with the legislation. Misleading consumers will eat away at the credibility of the entire food sector, cause financial losses for consumers and can also cause health risks.

6.5 Compliance of olive oils with requirements

Each Member State must ensure the correctness and accuracy of the labelling of olive oils and, in particular, whether the trade description (category of oil) corresponds to the contents of the package.

Four different brands of extra virgin olive oil were inspected for conformity with olive oil requirements. Samples were taken from retail stores in different retail chains. Based on both chemical laboratory analyses and organoleptic evaluation, all four of the extra-virgin olive oils were of the quality they were labelled, i.e. extra-virgin olive oil. The labelling of the extra virgin olive oils inspected were mainly in order. As regards general labelling, the labelling of two different brands required corrections and one of these also had acid content reported separately from all other related requirements. Control requests were sent to the food control authorities responsible for importer controls, and these authorities took the necessary measures to correct the labelling.

7 MICROBIOLOGICAL MONITORING PROGRAMMES

7.1 Salmonella in food products

The national salmonella monitoring programme has been included in the own check control programmes for slaughterhouses, low-capacity slaughterhouses and meat cutting establishments. Own checks for salmonella were inspected at a total of 38 sites; at around one third of slaughterhouses and low-capacity slaughterhouses and one fifth of meat cutting establishments. The number of inspections is the same as it was last year. There were minor shortcomings in own checks at three sites (B). Repeated shortcomings (C) were detected at three sites in the sampling plan and as a result in sampling. Follow-up inspections were carried out at the sites. The problem-points have been corrected at all three sites (A or B). Sampling had been completely neglected at one site (D), and coercive measures were taken at the site.

In 2019, samples for the national salmonella monitoring programme were taken at pig and cattle slaughterhouses according to the number of samples specified in the sampling plan drafted by the Finnish Food Authority (Table 42). The number of samples taken at low-capacity slaughterhouses and broiler, turkey and chicken slaughterhouses, cutting plants, sites that produce minced meat and meat preparations (Tables 43 to 45) are determined in accordance with the relevant legislation and the Finnish Food Authority's instructions according to the production volume.

The national salmonella monitoring programme has been successful, 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%. Of positive lymph node samples, three were from sows from the same holding. One of the positive surface smear samples originated from this same holding.

The results of the national salmonella monitoring programme were reported to the EU in an annual zoonosis report.

Table 42. Samples taken in red meat slaughterhouses and low-capacity slaughterhouses according to the salmonella control programme in 2019

| Sample type | Required in the Decree | Actual number of samples | Number of positive samples | Percentage of positive samples |
|---|------------------------|--------------------------|----------------------------|--------------------------------|
| Lymph node samples | | | | |
| Slaughter pig | 3000 | 3264 | 2 | 0.06 |
| Sow and boar | 3000 | 3281 | 5 | 0.15 |
| Cattle | 3000 | 3117 | 0 | 0 |
| Surface smear samples from carcasses | | | | |
| Slaughter pig | 3000 | 3324 | 0 | 0 |
| Sow and boar | 3000 | 3183 | 5 | 0.16 |
| Cattle | 3000 | 3014 | 0 | 0 |

Table 43. Neck skin samples taken from carcasses in broiler, turkey and chicken slaughterhouses in 2019

| Animal | Number of samples | Number of positive | Percentage of positive |
|---------|-------------------|--------------------|------------------------|
| Broiler | 1184 | 0 | 0 |
| Turkey | 260 | 0 | 0 |
| Chicken | 0 | 0 | 0 |

Table 44. Meat samples taken in cutting plants in 2019

| Animal | Number of samples | Number of positive | Percentage of positive |
|----------------------|-------------------|--------------------|------------------------|
| Domestic meat | | | |
| Slaughter pig | 1261 | 0 | 0 |
| Sow and boar | 120 | 0 | 0 |
| Cattle | 1465 | 0 | 0 |
| Broiler | 45 | 0 | 0 |
| Turkey | 60 | 0 | 0 |
| Chicken | 0 | 0 | 0 |
| Duck | 2 | 0 | 0 |
| Goose | 0 | 0 | 0 |
| Guinea fowl | 0 | 0 | 0 |
| Imported meat | | | |
| Slaughter pig | 3 | 0 | 0 |
| Sow and boar | 0 | 0 | 0 |
| Cattle | 1 | 0 | 0 |
| Broiler | 0 | 0 | 0 |
| Turkey | 0 | 0 | 0 |
| Chicken | 0 | 0 | 0 |
| Duck | 0 | 0 | 0 |
| Goose | 0 | 0 | 0 |
| Guinea fowl | 0 | 0 | 0 |

Table 45. Sampling in establishments that produce minced poultry and raw poultry meat preparations in 2019

| Domestic meat | Number of samples | Number of positive | Percentage of positive |
|---------------|-------------------|--------------------|------------------------|
| Broiler | 655 | 0 | 0 |
| Turkey | 76 | 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

According to national legislation, no salmonella bacteria may be present in feed. The presence of salmonella in feed is controlled in both official controls and own check controls by operators in the sector. The Finnish Food Authority takes samples of feed produced in Finland and imported high-risk feeds, and controls the implementation of the own check control of operators. In addition, samples of animal by-products feed for pets are taken as part of market surveillance. If necessary, feed samples will also be taken at holdings to identify the source of salmonella infections in animal holdings or when there is reason to suspect that a holding has received feed contaminated with salmonella. Feed sector operators have a statutory duty to carry out own check control for salmonella that concerns the production and import of feed, as well as production facilities, storage and transportation.

The total number of salmonella analyses on feeds and feed environment samples conducted within official control in 2019 was 3,432. Of the salmonella analyses done in connection with import, production and market surveillance, 3,146 targeted feed materials, 279 mixed feeds and 7 feed additives. In addition, in the control of primary production, a total of 76 samples of feed and feed environment were taken from Salmonella infected farms and from farms that had been suspected of being contaminated with salmonella for salmonella analyses. Five feed environment samples were taken from transport vehicles during an inspection of the means of transport. Salmonella from feed materials was mainly analysed from samples taken on imports. Salmonella analyses on mixed feeds and feed additives were mainly run on samples from domestic production and market surveillance. Salmonella analyses of feed materials accounted for 92% of all analyses (2018: 94%, 2017: 93%, 2016: 93%, 2015: 92%).

A total of 24 feed batches were found to be salmonella positive during either official control or an operator's own checks (2018: 29, 2017: 16, 2016: 18, 2015: 5) As in 2018, the number of contaminated batches was high compared to previous years. Operators applied for permission from the Finnish Food Authority for the treatment of the imported batches found to be positive for salmonella and the batches were only approved after they had been found to be clean. Feed batches that were salmonella positive accounted for 60.7 million kg of imported feed materials (2018: 57.7 million kg, 2017: 37.1 million kg, 2016: 35.6 million kg, 2015 10.3 million kg).

No salmonella was found in any feed materials or mixed feeds produced in Finland for food-producing animal species. Salmonella was found in one sample of a farm's own crushed silage in connection with feed samples taken from farms to identify the source of a salmonella infection. No salmonella was found in samples taken from other farms. Salmonella was not detected in feed environment samples taken from transport equipment or in samples taken from feed produced from Finnish animal-by-products intended for fur animals. In market surveillance, salmonella was detected in one batch of feed intended for wild birds. The batch was not approved and ordered to be recalled.

The Finnish Food Authority received reports from 63 feed sector operators on own check control samples and salmonella findings taken in a factory environment. Salmonella was not found in mixed feed produced in Finland for food-producing animal species in the own check control carried out by operators.

7.3 Campylobacter control in broiler chicken

In accordance with the national Campylobacter control programme, all broiler chicken slaughter batches are tested for Campylobacter during the period from the beginning of June to the end of October. During the remaining months, the Finnish Food Authority provides a guideline on testing targets at each poultry slaughterhouse, which is based on a calculation that takes into account the rate of incidence of Campylobacter in Finland at those times. Whether the targets set out in the programme are met is evaluated based on the numbers of tests carried out, submitted by laboratories.

The national Campylobacter control programme has been integrated into the own check control programmes of broiler slaughterhouses. The sampling conducted in each broiler slaughterhouse is inspected by official meat control veterinarians. In 2019, the own check control for Campylobacter was inspected at four poultry slaughterhouses. Two slaughterhouses were rated excellent (A) and two were rated good (B). Minor deficiencies were related to the processing of samples.

Table 46 gives the sample numbers and positive results of the Campylobacter Control Programme in broiler chicken slaughterhouses in 2019. Based on the research results in 2019, the prevalence of campylobacter in broilers has remained at a low level just as in previous years, and its prevalence was slightly lower than in 2018. Figure 28 shows the percentage of campylobacter positive slaughter batches in all slaughter batches inspected in 2012–2019. The results were reported to the EU in an annual zoonosis report.

Table 46. The number of Campylobacter samples taken in own check controls and positive results in broiler slaughterhouses in 2019

| Year | Period | Tested slaughter batches, target (number) | Tested slaughter batches, actual (number) | Number of positive slaughter batches | Percentage of positive slaughter batches |
|------|-----------------------------|---|---|--------------------------------------|--|
| 2019 | 1.1.-31.5. and 1.11.-31.12. | 331 | 335 | 2 | 0.6 |
| | 1.6.-30.10. | All | 1693 | 48 | 2.8 |
| | Entire year | - | 2028 | 50 | 2.5 |

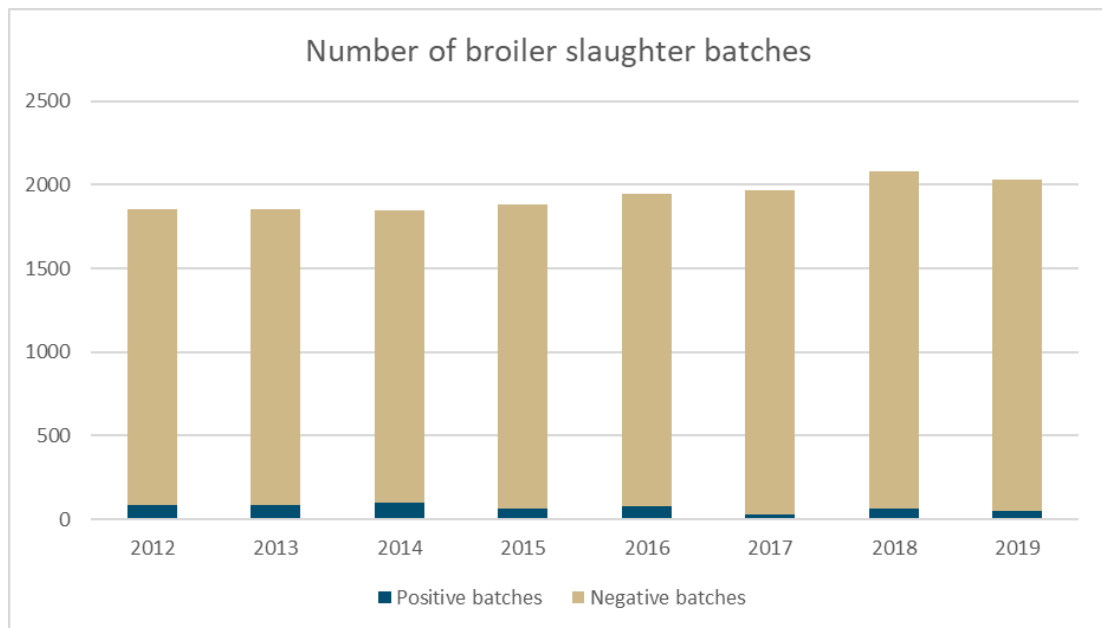


Figure 28. Test results for broiler slaughter batches (number of batches) in 2012–2019

In addition to the national Campylobacter Control Programme, from the beginning of 2018, slaughterhouses have tested carcasses for campylobacter in accordance with the test requirements set for all EU Member States. In 2019, 645 samples were inspected, of which none exceeded the limit value of 1,000 cfu/g for campylobacter.

7.4 EHEC control in cattle

EHEC tests are included in the own check control programmes of cattle slaughterhouses. The slaughterhouse-specific number of annual samples is determined in the sampling plan drafted by the Finnish Food Authority. In addition, EHEC own checks are carried out in low-capacity slaughterhouses in which the number of cattle slaughtered exceeds 100. The own check control for EHEC in cattle slaughterhouses and low-capacity slaughterhouses was inspected at five sites (28% of the sites) in 2019. All the inspected sites were rated excellent (A) or good (B). A small defect concerned the labelling of a sample.

Table 47 contains the number of EHEC own check samples examined in cattle slaughterhouses and low-capacity slaughterhouses and the number of positive test results in 2013–2019. In addition, the table shows the number of cattle holdings inspected as a result of infections in humans and the test results in 2013–2019. Both faecal and environmental samples are examined from the holding sites. Eight of the cattle holdings inspected on the basis of infections in humans in 2019 proved to be positive for EHEC.

The EHEC control programme for cattle slaughterhouses was well implemented. The estimate on implementation is based on the comparison of the target defined in the programme and the number of samples taken, which were submitted by official veterinarians at cattle slaughterhouses. The EHEC sampling targets at low-capacity slaughterhouses were not completely met in the manner required by the control programme.

EHEC-positive faecal samples accounted for 3.23% of the all taken samples. The number of positive faecal samples increased from the previous year, and now increased the first time in the monitoring period 2013–2019 to more than 3%.

Table 47. Own check control samples for EHEC tested in cattle slaughterhouses and cattle holdings inspected as a result of infections in humans in 2013–2019

| | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|--------------------------------|------|------|------|------|------|------|------|
| Slaughterhouse faecal samples | | | | | | | | |
| | Target number of samples | 1522 | 1522 | 600 | 600 | 600 | 600 | 600 |
| | Actual number of samples | 1560 | 1545 | 625 | 627 | 625 | 624 | 651 |
| | Number of positive samples | 32 | 40 | 17 | 13 | 9 | 18 | 21 |
| | Percentage of positive samples | 2.05 | 2.59 | 2.72 | 2.07 | 1.44 | 2.88 | 3.23 |
| Cattle holdings inspected as a result of infections in humans. | | | | | | | | |
| | Number of inspected holdings | 8 | 6 | 4 | 5 | 5 | 7 | 14 |
| | Number of positive holdings | 4 | 2 | 1 | 1 | 4 | 3 | 8 |

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

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

7.5 Recognition of controlled housing conditions for pigs and examinations for Trichinella

The official recognition of the controlled housing conditions for pigs allows for a reduction in the number of Trichinella tests in connection with meat inspections for pigs. Pigs bred in officially recognised controlled housing conditions are protected from Trichinella infections throughout their lives, which means they do not need to be examined after slaughtering. Pigs bred in establishments officially recognised as applying controlled housing conditions are exempt from the examination for Trichinella following an order from Evira. Evira (as of 1 January 2019, the Finnish Food Authority) 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 2019, there was one pig holding in Finland that Evira had recognised as having controlled housing conditions. In practice this means that slightly under 600 slaughtered pigs were exempt of the examination for Trichinella in 2019. All other pigs slaughtered in Finland were examined for the presence of Trichinella during meat inspections. The result was negative for all of the approx. 1.8 million tests.

7.6 Antimicrobial resistance monitoring programme

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

The zoonotic bacteria included in the programme are salmonella and campylobacters. In 2019, antimicrobial sensitivity was tested in the salmonella isolated from cattle, pigs and poultry within the salmonella monitoring programme and in the *C. jejuni* strains isolated from broiler chicken within the framework of the own check control programme for Campylobacter. Very small amounts of resistance are found in salmonella strains annually. In 2019, all strains isolated from Finnish farmed animals were sensitive with the exception of an infection caused by a monophasic strain of *S. Typhimurium* detected in two calf holdings, one sow holding and four slaughter pig holdings. In these cases, a resistance was observed to ampicillin-sulfa-streptomycin tetracycline, which is typical in the monophasic strain. In addition, one *S. Bredeney* broiler population was resistant to sulpha, tetracycline and trimethoprim. 15% (7/48) of *C. jejuni* isolated from broiler chicken slaughter batches were resistant to antibiotics from the quinolone group (nalidixic acid, siprofloxacin). This is a bit of a decline from the previous year, when 25% of the tested strains were found to be resistant to quinolone. As was the previous year, resistance to other inspected antibiotics (erythromycin, tetracycline, gentamicin, streptomycin) was not detected.

In 2019, the incidence of *E. coli* bacteria that produce ESBL, AmpC and carbapenemases in slaughtered swine and in fresh, retailed pork and broiler meat was also monitored. The incidence of ESBL/AmpC bacteria in swine was 2.4% (7/288): One (0.3%) sample was found to have ESBL and six (2.1%) had AmpC-*E. Coli*. The incidence of ESBL/AmpC-*E. Coli* in swine is of the same magnitude as during the previous monitoring period in 2017. ESBL-*E. Coli* were found in fresh beef (n=297) 2 (0.7%). Both findings were made in foreign meat. 287 domestic beef products and 10 foreign beef products were inspected. No ESBL/AmpC-*E. Coli* bacteria were found in pork (n=306). 277 domestic pork meat products and 29 foreign pork meat products were studied.

7.7 Other microbiological monitoring

In 2018, the Finnish Food Authority launched a national project on pathogens in packaged leaf vegetables that focuses on the incidence of pathogens in retailed ready-to-eat leaf vegetables, salad mixes and fresh herbs. The samples are tested for the occurrence of Shiga toxin-producing *E. coli* (STEC), enteropathogenic *E. coli* (EPEC) bacteria and bacteria in the *Bacillus cereus* group and *Bacillus thuringiensis* bacterium that belongs to the group. In addition, *E. Coli*, which describes the quality of the samples, is examined. By April 2020, total of 174 project samples had been collected in retail shops around Finland and tested. Project sampling began in February 2018 and will continue until the end of 2020.

8 CHEMICAL FOOD SAFETY

8.1 Prohibited substances, medicine residues and contaminants in animal-derived food products

The national residue control programme that concerns live animals and animal-derived food has been implemented annually as required by 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 at levels that exceed the maximum residue limits determined in the applicable legislation. The rate of incidence and levels of contaminants (e.g. heavy metals, pesticides and mould toxins) from the environment in food products are also monitored in the programme.

In 2019, the residue control programme was carried out almost as planned. Only samples from wild game (elk) were not tested. Tests were performed on a total of 4,196 samples, and nearly 50,000 results were obtained. The implementation of the so-called multi-residue method led to a more detailed method of calculating the results in comparison to the results obtained in 2015. Table 48 shows sample numbers based on production figures categorised according to animal species or food products, and the distribution of studies into different groups of substances and the number of non-compliant samples in 2019. Some samples were tested for substances in several categories. Samples are reported as non-compliant when they contain residues of approved drugs or other substances in levels that exceed the threshold values or reference points for action, as well as cases in which it can be demonstrated that animals have been treated medically in a manner non-compliant with regulations or they have been given prohibited substances. All observed non-compliances or suspicions of these lead to official investigation of the cases.

Table 48. The number of samples tested within the residue control programme for animal-derived food products categorised according to animal species or food products for tests (number) in different substance categories and the number of non-compliant samples in 2019

| Animal category or animal-derived food product | Prohibited substances | Approved veterinary drugs | Contaminants | Total samples | Non-compliant samples (number) and detected residues |
|---|------------------------------|----------------------------------|---------------------|----------------------|---|
| Bovines | 790 | 396 | 169 | 1215 | |
| Pigs | 590 | 812 | 229 | 1415 | |
| Poultry | 380 | 327 | 76 | 627 | |
| Sheep | 15 | 29 | 7 | 39 | |
| Horses | 32 | 27 | 6 | 51 | |
| Elk | 0 | 0 | 0 | 0 | |
| Farmed game | 8 | 59 | 33 | 86 | 3 liver / cadmium 8 kidney / cadmium 3 HCB / fat |
| Milk | 220 | 308 | 82 | 312 | |
| Fish | 92 | 78 | 74 | 199 | |
| Egg | 142 | 181 | 51 | 202 | |
| Honey | 55 | 55 | 37 | 55 | |

The residues of some prohibited growth promoters for farmed animals or their metabolites may also occur naturally in small concentrations. In addition to the results listed in Table 46, a small concentration of betatestosterone was found in the blood sample of three cattle, and betaboldenone and nandrolonibeta were found in the urine sample of one swine. No use of prohibited substances was observed.

The residues of permitted antimicrobials were detected in two samples. A level of benzylpenicillin slightly above the limit value was found in one milk sample, as was a low level of diclofenac, which is used as a pain killer but not authorised for farmed animals. A small concentration of oxytetracycline residues was found in one honey sample.

A large share of liver and kidney samples taken from reindeer that was categorised as farmed game contained cadmium from the environment. Muscle samples were also tested, but no elevated concentrations of heavy metals were detected in them. Low concentrations of HCB (hexachlorobenzene) were found in almost all reindeer fat samples and one sheep fat sample. In three reindeer fat samples, HCB concentrations exceeded the MRL set in pesticide regulations, but no residues were found in muscle samples. Small concentrations of mould toxin Zearalenol or its metabolites were also detected in urine samples taken from swine and cattle in 2019 (26 in total).

The implementation and results of the contaminant monitoring programme in 2019 were very similar to those in previous years (Table 49). 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 (0.36% in 2019). Nevertheless, the low levels of residue detected in a few samples did not pose a risk to food safety.

Table 49. Number of samples tested in the residue control programme for animal-derived food products, number of non-compliant samples and their percentage of the samples tested in 2010–2019

| Year | Sample quantity | Prohibited substances | Approved veterinary drugs | Contaminants | Share of non-compliant / non-contaminated samples | Percentage of non-compliance / with contaminants |
|------|-----------------|-----------------------|---------------------------|--------------|---|--|
| | (number) | (number) | (number) | (number) | (%) | (%) |
| 2019 | 4196 | 0 | 1 | 14 | 0.02 | 0.36 |
| 2018 | 4265 | 0 | 0 | 14 | 0 | 0.33 |
| 2017 | 4218 | 0 | 1 | 10 | 0.02 | 0.28 |
| 2016 | 4234 | 0 | 0 | 10 | 0 | 0.24 |
| 2015 | 4344 | 1*) | 0 | 13 | 0.02 | 0.32 |
| 2014 | 4324 | 0 | 0 | 17 | 0 | 0.4 |
| 2013 | 4341 | 0 | 0 | 33 | 0 | 0.76 |
| 2012 | 4424 | 0 | 1 | 38 | 0.02 | 0.86 |
| 2011 | 4369 | 0 | 1 | 48 | 0.02 | 1.1 |
| 2010 | 4344 | 0 | 0 | 30 | 0 | 0.6 |

*) no use of prohibited substances observed

The use of prohibited growth promoters has never been detected in Finland. Residues of approved drugs that were slightly above the limit value have only been found in individual cases; only one case in 2019. The results indicate that food products produced in Finland are

safe for consumption and that, as a rule, producers comply with the regulations that concern the medical treatment of animals, including withholding periods related to treatments.

The number of samples that contain contaminants has remained nearly unchanged from 2014 to 2019. The number of samples taken from farmed game has remained the same and, in line with results from previous years, cadmium was found in a large share of the liver and kidney samples taken from reindeer. No samples were taken from wild game in 2014–2019, which means the results do not include test results of visceral samples from elks as was the case during the years prior to this. As it is commonly known that the visceral heavy metal content in game has increased, Finland has decided to not approve the liver and kidneys of elks over a year in age as a food product. The limit value for HCB has been reduced for farmed game, and, for this reason, there are individual cases where levels exceeding limits are observed in reindeer fat. On the other hand, the number of samples containing mould toxins varies greatly from year to year, and their results cannot generally be predicted. In the case of mould toxins in the feed for farmed animals, farmers may in some cases be able to influence the quality of the feed by modifying their practices. Feed should be inspected, in particular, in late winter, especially if there have been problems in the feed silage due to difficult weather conditions. Autumn and winter in 2018–2019 were particularly rainy in Finland, which caused difficulties in the silage of feed grain, as was also the case the previous year. This was evident in the samples that contained mould toxins, as their residues were also found in 2019. The control of prohibited substance and approved veterinary drug residues 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 compliance with supplementing requirements and imply possible sanctions for farms that apply for farming subsidies.

As the residue control programme for animal-derived food products is implemented according to EU regulations, the capacity of Member States to plan the control procedures according to their own risk profile or to make significant year-to-year changes to the monitoring is limited. New research methods will be utilised in the implementation of the programme and their development will continue. In particular, new multi-residue methods provide new opportunities for the research of residues. Known changes to the EU's legal acts will significantly change the content of the programme in coming years as the contaminant tests that are currently part of the programme will be eliminated. There will also be changes to control systems. However, an effort will be made to continue the targeting of sampling both in terms of time and location to food products or animal species with the highest risk of containing residues.

8.2 Plant protectant residues

The pesticide residue control programme concerning food products is implemented annually as required by EU legislation ((EC) No 396/2005, as amended) and the monitoring regulations of the Commission. The objective of the programme is to carry out monitoring to ensure that prohibited pesticide residues are not present in food products and that food products do not contain approved plant protectants at levels that exceed the maximum residue levels defined in legislation Finland complies with the annual obligations regarding the number of samples and analyses defined in the control programme of the European Commission. Within the framework of the national part of the control programme, Member States are able to plan controls according to their own risk-based needs. In addition to the coordinated

control programme and its national part, pesticide residues are controlled in accordance with the requirements of the organic control ((EC) No 889/2008), contaminant monitoring in animal-derived food products and live animals (96/23/EC) as well as the EU's high-risk product regulation (EU Regulation(EC) No 669/2009 until December 2019) and the Commission Implementing Regulation ((EU) 2019/1793, starting from December 2019). In addition to the monitoring of compliance with regulations, pesticide residue control provides information on the current situation of domestic and imported products (from the EU Member States and third countries).

Pesticide residue control is also a part of the control of cross-compliance according to the Common Agricultural Policy of the EU. If any non-compliances with the regulations that concern pesticide residues are detected in a sample taken from a Finnish food product, the auditors of the Centre for Economic Development, Transport and the Environment will investigate the use of pesticides on farms under the supervision of the Finnish Food Authority. On farms that have applied for agricultural aid, supervision will continue to be extended, if necessary, to control cross-compliance.

Authorities collaborate in the control of the use of pesticides and their residues in foodstuff. The residue control programme is carried out in collaboration between municipal food control authorities (Finnish products), Customs (other than animal-derived products imported from the internal EU markets and third countries) and the National Supervisory Authority for Welfare and Health, Valvira (alcoholic beverages). The Finnish Food Authority also monitors domestic organic products and animal-derived food products for residues of plant protectants. The Centres for Economic Development, Transport and the Environment control the use of pesticides as instructed by the Finnish Food Authority.

The control plans were implemented in their entirety rather successfully, although the number of samples taken by Valvira (alcoholic beverages) and the Finnish Food authority (Finnish organic and regular products of plant origin and animal-derived products) did not quite meet the target. The method of calculating the number of samples planned by Customs changed in 2018, which is why the actual result seems smaller compared to previous years. Even so, Customs examined the same amount of plant protectant residue samples as the previous year. Customs also took follow-up samples and samples not included in the plan in accordance with Regulation (EC) No 669/2009 (until 14 December 2018) and (EU) 2019/1793 (as of 14 December 2019). The actual number of samples compared to the objective of the pesticide residue control plan is shown in Table 50.

Table 50. Results of plant protectant residue control (number of samples) compared to the plan in 2013–2019.

| Year | Customs | | | Finnish Food Authority | | | City of Helsinki. | | | National Supervisory Authority | | |
|------|---------|----------------|-----|--|---|------|-------------------|----------------|-----|--------------------------------|----------------|------|
| | Plan | Implementation | % | Plan | Implementation | % | Plan | Implementation | % | Plan | Implementation | % |
| 2019 | 1,500* | 1318 | 88 | 135 (1) 10 (2) 206 (3) 296 (4) 80 (5) Total 727 | 117 (1) 10 (2) 205 (3) 285 (4) 72 (5) Total: 689 | 94.8 | - | - | - | 25 | 22 | 88 |
| 2018 | 1285 | 1321 | 103 | 130 (1) 5 (2) 182 (3) 289 (4) - (5) Total 606 | 100 (1) 5 (2) 183 (3) 287 (4) - (5) Total 575 | 94.9 | - | - | - | 25 | 20 | 80 |
| 2017 | 1345 | 1535 | 114 | 1321 (1) 22 (2) 183 (3) 2384 (4) 505 (5) Total 440 | 1231 (1) 22 (2) 203 (3) 2224 (4) 845 (5) Total 367 | 83.4 | - | - | - | 25 | 22 | 88 |
| 2016 | 1500 | 1686 | 112 | 1371 (1) 102 (2) 403 (3) 3384 (4) 185 (5) Total 543 | 1261 (1) 82 (2) 353 (3) 2864 (4) 185 (5) Total 473 | 87.1 | 80 | 80 | 100 | 25 | 24 | 96 |
| 2015 | 1435 | 1760 | 123 | 202 | 169 | 83.7 | 100 | 100 | 100 | 25 | 26 | 104 |
| 2014 | 1340 | 2036 | 152 | 239 | 223 | 93.3 | 100 | 101 | 101 | 30 | 23 | 76.7 |
| 2013 | 1550 | 1921 | 124 | 245 | 244 | 99.6 | 110 | 110 | 100 | 30 | 20 | 66.7 |

* The method used by Customs for calculating planned samples has changed from 2018

¹ vegetables (incl. 22 organic samples in 2019)

² baby foods (incl. 2 organic samples in 2019)

³ animal-derived food products (as a part of the contaminant control programme for animal-derived food products and live animals; incl. 7 organic samples in 2019)

⁴ organic vegetables and plant-derived (organic legislation)

⁵ organic animal-derived (organic legislation)

A total of 2,029 samples were tested in the pesticide residue control. Accounting for the measurement uncertainty, the maximum residue level (MRL) of pesticides determined in legislation was exceeded in 34 samples (3.2%). Four samples did not comply with the organic legislation, of which 2 were imported animal-derived food products, 1 was an imported alcohol and 1 was a Finnish food product. The competent food control authorities took the necessary measures in all cases of non-compliant products.

58% of samples taken from imported (from EU Member States and non-EU countries) products contained pesticide residues. Residue was found most frequently in fresh fruit and berries as well as fresh vegetables. 32 product batches (2.4%) were rejected due to non-compliant levels of pesticides. Two of these were organic products containing residues prohibited in organic production. The supply of any non-compliant products to the food product chain was halted and follow-up samples were taken from the following batches before releasing them to the market. Non-compliant product batches were most often destroyed. Numerous non-conformities that resulted in the prohibition of import or entry to market was detected in rice imported from India and Pakistan. 19 of the non-compliant batches were food products imported directly from non-EU countries to Finland, and 11 batches were food products in the internal market, some of which originated from outside of the EU. This indicates that not all non-EU countries are able to comply with farming practices

that respect the MRL requirements of the EU. On the other hand, product batches imported via another EU Member State that originate in third countries are also included in the statistics for intra-EU imports, meaning that the non-compliances are even more frequently related to third countries than these figures indicate.

In addition, 32 imported batches were given notices due to the residue content of the plant protection product. The residue levels of these batches were at or slightly exceeded the MRL but could not be found to be non-compliant due to the uncertainty of the measurement of the studies. 9 of these batches were food products imported directly from non-EU countries to Finland, and 23 batches were food products in the internal market, some of which originated from outside of the EU.

Recall measures that applied to consumers were taken in cases where batches had reached the market and were assessed to potentially pose a risk to consumers (acute reference dose, ARfD, was exceeded or residues of pesticides not approved in the EU were detected in the product). These were Vietnamese and Indian rice and Chinese green tea. Based on the risk assessment, a RASFF report to other EU Member States was sent in connection with 10 non-compliant batches.

In the 689 samples taken from Finnish products, residues that did not exceed the MRL level were found in a total of 30 samples (4.3%). Residues were observed in strawberries, apples, carrots, cucumbers and tomatoes. None of the samples taken from conventional foods were in violation of the provisions of the Food Act. No prohibited substances were observed in organic, unprocessed plant-derived or animal-derived samples. One pesticide finding was made in a processed plant-derived samples. The reason for this was shortcomings in the separation of organic and regular products during production. However, a sample that violated organic legislation was in compliance with the requirements of food legislation.

Tables 51 and 52 show the percentage (%) of samples not compliant with the Food Act in 2013–2019 and the percentage of non-compliant samples among all samples tested in 2019.

Table 51. Percentage of non-compliant samples (%) in 2013–2019

| Year | Sample quantity | Non-compliant | Non-compliant |
|------|-----------------|---------------|---------------|
| | (number) | (number) | % |
| 2019 | 2029 | 34* | 1.7 |
| 2018 | 1915 | 66 | 3.4 |
| 2017 | 2008 | 57 | 2.8 |
| 2016 | 2263 | 28 | 1.2 |
| 2015 | 2088 | 35 | 1.7 |
| 2014 | 2383 | 49 | 2.1 |
| 2013 | 2240 | 63 | 2.8 |

* Non-compliant samples in 2019 do not include samples which have been given notices during examination by Customs, which have been included in previous years.

Table 52. Share of non-compliant samples (food and organic legislation) detected in the Plant Protectant Residue Control Programme of all samples in 2018

| Origin | Customs | | | | Finnish Food Authority | | | National Supervisory Authority for | | |
|------------------------|-------------------------|----------------|-----------|---------------|-------------------------|-------------------------|---------------|------------------------------------|-------------------------|---------------|
| | Samples tested (number) | residues found | notices | Non-compliant | Samples tested (number) | Number of residue finds | Non-compliant | Samples tested (number) | Number of residue finds | Non-compliant |
| domestic | 0 | 0 | 0 | 0 | 689 | 30 | 1 | 0 | 0 | 0 |
| EU products | 964 (*) | 518 | 23 | 13 | 0 | 0 | 0 | 19 | 3 | 1 |
| Third country products | 354 (**) | 181 | 9 | 19 | 0 | 0 | 0 | 3 | 0 | 0 |
| Total | 1318 | 699 | 32 | 32 | 689 | 30 | 1 | 22 | 3 | 1 |

*) Some samples of third country origin (origin of all not known)

**) Better 'Customs cleared products'

In addition to the monitoring programme, municipal food control authorities conducted a total of 21 inspections that focused on the adequacy and effectiveness of own-check controls of plant protectant residues within the framework of the Oiva system (Oiva item 17.12). The sites to be monitored for pesticide residues in the Oiva system are selected based on the risk according to the effectiveness and scope. In 2019, all of the Oiva inspections resulted in A ratings meaning that no shortcomings were observed in the management of plant protectants. (Table 53) It can be concluded from the results that pesticide residues were inspected fairly infrequently in relation to the number of site that were expected to need inspection: Have the sites to be inspected been identified correctly? Are the outlines defined in the guidelines too wide? Is the scale for assessment used correctly? Training and guidance are still needed in order to improve the effectiveness and uniformity of control. The control network for contaminants and pesticide residues is a means of advancing this goal.

Table 53. Plant protectant residue control and its results as a part of the Oiva system implemented by municipal food control authorities in 2015–2019

| Year | Inspections | A | B | C | D | Guidance and instruction | Notices | Coercive measures |
|------|-------------|-----|---|---|---|--------------------------|---------|-------------------|
| | Number | % | % | % | % | Number | Number | Number |
| 2019 | 21 | 100 | 0 | 0 | 0 | - | - | - |
| 2018 | 32 | 100 | - | - | - | - | - | - |
| 2017 | 22 | 100 | - | - | - | - | - | - |
| 2016 | 44 | 95 | 5 | - | - | 2 | - | - |
| 2015 | 25 | 96 | 4 | - | - | 1 | - | - |

Only minor changes will be needed in control procedures over coming years, as the monitoring programme will be implemented following the same regulations as in 2018 and subject to available resources. The transfer of pesticide residue control to the Oiva system has further harmonised the control and has made it more regular on a national level. In addition, the Oiva system simplifies reporting and supports the detection of any systematic irregularities.

8.3 Contaminants

The food contaminant control programme concerning foodstuffs is implemented as required by the EU legislation ((EC) No 1881/2006, as amended) and the monitoring regulations of the Commission. The objective of the control is to monitor that the levels of harmful contaminants do not exceed the MRL levels defined in the legislation and/or the levels considered safe, while also providing information regarding the current national status. The contents of contaminant control is not set in EU legislation. Consequently, Member States can plan control according to their own risk-based needs.

The main focus of research coordinated by the Finnish Food Authority is to create national situational awareness and to prepare legislation. In 2019, sampling in the scope of the control plan coordinated by the Finnish Food Authority was implemented fairly well and only a few of the planned samples were not taken (Table 54). Food products inspected in 2019 included salads, oat, barley, tomatoes, strawberries, spinach and reared salmon. In addition, samples were taken for acrylamide and PAH monitoring.

Table 54. Planned number of samples for food contaminants and the actual amount of samples (%) in 2013–2018 (control and mapping by the Finnish Food Authority)

| Year | Contaminant | | | | | | | | | |
|------|-------------|----------|----------|------------|--------------|--------------|----------|------------------------|-------------|-------------|
| | POPs | Nitrate | PAH | Acrylamide | Heavy metals | Mould toxins | Coumarin | Radioactive substances | Perchlorate | Erucic acid |
| 2019 | 10/100 % | 10/100 % | 17/100 % | 16/84 % | 41/114 % | 12/50 % | - | - | - | 17/100% |
| 2018 | 10/100 % | 7/70 % | - | - | 20/67% | 12/60 % | - | - | - | - |
| 2017 | 10/100 % | 12/120 % | 34/85 % | 40/100 % | 34/85 % | 8/80 % | - | - | - | 34/85 % |
| 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 % | - | - | - |

Within the control and mapping coordinated by the Finnish Food Authority, a total of 100 samples were tested and 275 analyses were conducted for compounds subject to a maximum allowed content defined in the legislation (dioxins, dioxin-like PCBs, indicator PCBs, nitrate, lead, cadmium, ergot sclerotia and mould toxins [DON, Zearalenol, fumonisins, ochratoxin A]). No non-compliant samples were detected (Table 55). 759 analyses were conducted for compounds that are not yet subject to a legal maximum allowed levels (e.g. ergot alkaloids, perfluorinated surface treatments, brominated flame retardants, ergot alkaloids, certain heavy metals and mould toxins). As a rule, the levels of these compounds in food products were very low, and therefore, the results did not provide cause for control measures.

Table 55. The number of samples tested in the control and mapping of food contaminants (coordinated by the Finnish Food Authority), the percentage of non-compliant products (%) and the number of individual analyses in 2013–2019

| Year | Samples tested (number) | Percentage of non-compliance % | Analyses for compounds subject to maximum limits laid down in legislation (number) | Analyses for compounds that are not subject to maximum limits laid down in legislation (number) |
|------|----------------------------|-----------------------------------|---|--|
| 2019 | 100 | 0 | 275 | 759 |
| 2018 | 49 | 0 | 123 | 1074 |
| 2017 | 172 | 2(**) | 362 | 1151 |
| 2016 | 179 | 1(*) | 130 | 1771 |
| 2015 | 80 | 0 | 133 | 834 |
| 2014 | 149 | 0 | 257 | 3351 |
| 2013 | 99 | 0 | 197 | 2921 |

*) 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, and municipal food control authorities took appropriate control measures. This included making sure that the buyer of grain was made aware of 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.

***) The maximum allowed limit defined for ergot sclerotia in legislation was exceeded in three raw grain samples. In one arugula sample, the maximum allowed limit defined for nitrate in legislation was exceeded.

Municipal food control authorities conducted a total of 399 inspections related to food contaminants within the framework of the Oiva system. The distribution of inspection results is presented in Table 56. The Oiva results indicate that shortcomings (C rating) in the management of contaminants were detected at four of the inspected sites. The observed shortcomings were related to operators in the food sector not observing the management of PAHs in their own check controls or to shortcomings in the sample collection related to PAHs. Acrylamide formed in the process had not been taken into account in own checks at one site.

Table 56. Food contaminant control and its results as a part of the Oiva system implemented by municipal food control authorities in 2015–2019

| Inspected issue | Year | Inspections (number) | A % | B % | C % | D % | Guidance and instruction (number) | Notices (number) | Coercive measures (number) |
|---|------|-------------------------|--------|--------|--------|--------|--|---------------------|----------------------------------|
| 17.13 Contaminants from the environment | 2019 | 26 | 96.2 | 3.8 | - | - | - | - | - |
| | 2018 | 25 | 96 | 4 | - | - | 1 | - | - |
| | 2017 | 21 | 81 | 19 | - | - | 4 | - | - |
| | 2016 | 23 | 91.3 | 8.7 | - | - | 1 | - | - |
| | 2015 | 18 | 88.9 | 11.1 | - | - | 2 | - | - |
| 17.14 Mould toxins | 2019 | 17 | 100 | - | - | - | - | - | - |
| | 2018 | 32 | 100 | - | - | - | - | - | - |
| | 2017 | 22 | 95 | - | 5 | - | - | 1 | - |
| | 2016 | 28 | 100 | - | - | - | - | - | - |
| 17.15 Contaminants resulting from processing | 2019 | 348 | 91.6 | 7.0 | 1.1 | 0.3 | - | - | - |
| | 2018 | 112 | 91 | 7 | 3 | - | 18 | 3 | - |
| | 2017 | 62 | 81 | 16 | 3 | - | 10 | 2 | - |
| | 2016 | 62 | 82.3 | 14.5 | 1.6 | 1.6 | 8 | 2 | 1 |
| | 2015 | 32 | 68.8 | 31.3 | - | - | 10 | 2 | - |
| 17.16 Other contaminants | 2019 | 8 | 100 | - | - | - | - | - | - |
| | 2018 | 19 | 100 | - | - | - | - | - | - |
| | 2017 | 25 | 96 | - | 4 | - | - | 1 | - |
| | 2016 | 26 | 96.2 | 3.8 | - | - | 1 | - | - |
| | 2015 | 7 | 85.7 | 14.3 | - | - | 1 | - | - |

8.4 Control of genetically modified foodstuff

As no GM foods are produced in Finland, all GM food products are imported, which means that the main focus of official controls is on the import controls conducted by Customs. The domestic control of genetically modified food is part of the Oiva control system. In addition, under the coordination of the Finnish Food Authority around 10 food samples are taken annually on a risk basis in the supervision of genetically modified food.

In 2019, genetically modified ingredients were subject to 24 Oiva inspections, and shortcomings were not detected in 83% of inspections (Table 57).

Table 57. Monitoring of genetically modified ingredients within the Oiva system in 2019

| Year | Number of inspections | Rating A | Rating B | Rating C | Rating D | Guidance (number) |
|------|-----------------------|----------|----------|----------|----------|-------------------|
| 2019 | 24 | 20 | 4 | - | - | 4 |

Six samples were taken of food products in accordance with control and sampling instructions provided by the Finnish Food Authority. Of these, five were of such quality that DNA could be isolated from them, and they could thus be tested. The samples were taken by

local food control authorities, and they were analysed in the Finnish Food Authority's laboratory.

Based on risks, sample collection focused on raw-materials and finished food products that might contain GM ingredients (such as soy, maize, rapeseed, [Asian] rice, papaya). Organic products and products that are claimed to be "GMO free" were also subject to the controls. Where possible, the samples were collected from raw-materials used in production, allowing the products entering the market to be controlled in the early stages of their production chain.

10 samples were planned (actual amount taken 60%). No genetically modified ingredients were found in any of the samples. (Table 58).

Table 58. Results of the GM sample collection coordinated by the Finnish Food Authority in 2019

| | Number of samples | GM detected (%) | GMO concentration exceeds the limit or unapproved GMO (%) | Voluntary marketing claim "GMO free" in use (%) | Compliant samples (%) |
|------|-------------------|-----------------|---|---|-----------------------|
| 2019 | 6 | 0 | 0 | 0 | 100 |

Customs control the conformity of plant-derived food products and composite food products imported from outside the EU and from EU Member States to Finland. Customs analyses around 150 to 200 food samples each year for genetically modified materials. More information on customs control can be found on the Customs Laboratory website: <https://tulli.fi/web/tullilaboratorio/etusivu>.

8.5 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 at farms. The results of feed sample controls indicate that feed produced and placed on the market in Finland for the most part continue to meet the requirements for the safety and quality of feed laid down in feed legislation. Feed control used multi methods extensively in the analysis of harmful and prohibited chemical substances. The use of multi-methods further enhanced the effectiveness of monitoring of residues of harmful and prohibited chemical substances in feed to be examined in an individual sample as well as the control of nutritional factors.

The number of samples and analyses for official control of feed were carried out as planned in 2019. Official controls for harmful and prohibited chemical substances focused more than planned on examining mycotoxins, heavy metals, pesticides, coccidiostats, pharmaceuticals and prohibited substance residues and whether feed was genetically modified, because the analysis methods for the compounds in question were expanded to cover more compounds, which significantly increased the total number of analyses. 8,491 analyses were carried out on harmful and prohibited chemical substances in the official control of feed. This is 130% of the planned number of analyses.

No non-conformities with regard to residues of mycotoxins, heavy metals, plant protection products, melamine and cyanuric acid, active substances in medicinal products or other prohibited substances were found in the monitoring of harmful and prohibited chemical substances in feed.

Inspections found a batch of fishmeal produced in Finland intended for food-producing animals, in which the maximum level of dioxins (PCDD/F) exceeded the maximum allowed amount. The feed batch was issued a conditional ban for placement on the market. There was no need for a recall, as the entire contaminated feed batch was in the factory's storage. The feed business operator was granted a permit for the dioxin cleansing of the batch of fish meal in question. After the dioxin purification treatment, re-sampling and re-analysis were required to verify the effectiveness of the cleaning process. The feed business operator in question was also given an order to provide clarification and take corrective measures to lower the dioxin and PCB concentration levels in their production process. In a follow-up production control monitoring sample, the maximum levels/operating limits for dioxins and PCBs were not exceeded.

In addition, a non-compliance was observed in one of the feed production site's production batches found concerning residues of coccidiostats, and the feed batch was banned and ordered to be recalled. The feed batch in question had been delivered to one holding, but the feed batch had already been used. The maximum permitted level was only exceeded by a small amount and food safety was not significantly compromised. The feed business operator in question was given an order to provide clarification and take corrective measures. The production plant was placed under enhanced sampling for residues of coccidiostats. No residues of coccidiostats were found in the official sample taken later on.

The production of medicated feeds follows the current animal health situation. In 2019, only small amounts of medicated feeds was produced: medicated feeds were only produced for fish, and medicated feed containing zinc was produced for pigs. The production of medicated feeds and the own-check analyses related to medicated feeds were inspected in connection with the statutory inspections conducted by operators involved in the production of medicated feed. In official sampling, no observations were made on zinc medicine feed.

The control of genetic modifications of feed concentrated on the control of the genetically modified organisms approved in the EU and the labelling and traceability of the feed produced from them. While official sampling was mainly targeted at feed that did not show any indication of genetically modified materials, genetically modified feed was also controlled. No genetically modified materials not approved in the EU were found in examined feed. In official sampling, no concentrations of authorised genetically modified materials were found in feed that would have required the labelling of the feed batch as genetically modified.

Annual official sample analysis report for feed: <https://www.ruokavirasto.fi/tietoa-meista/julkaisut/raportit-ja-selvitykset/>

8.6 Food allergies

62 cases of serious allergic reactions were reported to the Finnish National Anaphylaxis Register. An allergen error is a case in which a product contains an ingredient that causes an allergy to some consumers, but the allergen is not been listed on the labelling.

In 2019, a total of 75 cases of serious allergic reactions were reported to the Finnish National Anaphylaxis Register of which 49 were caused by food. In 2018, 62 cases were reported, 39 of which were caused by food.

The number of recalls due to allergen errors increased in 2019 for the second year in a row: In 2018, the largest number of recalls were made for reasons related to allergens (36 foods, which was 21% of all recalls). This means that the number of recalls in 2018 was nearly three times higher than in 2017.

In 2019, there were 54 recalls related to allergens (27% of all recalls). The underlying causes of allergen errors are, for example, allergen contamination in production, a labelling error or packaging a product in the wrong packaging.

Oiva inspections assess the control of allergens and substances that cause intolerance (Table 59).

The inspection results in all sectors were very similar to the Oiva controls in 2018. Based on the Oiva ratings, the activities are as a rule in accordance with the requirements or only minor shortcomings have been observed in the activities.

Table 59. Oiva results – allergens and substances that cause intolerances, results for 2019

| Allergens and substances that cause intolerance | | | | | |
|---|-----------------------|------------------------------------|---------------------|---------------------|---------------------|
| Sector | Inspected (number) | Result / Number of inspections (%) | | | |
| | | A (number and %) | B (number and %) | C (number and %) | D (number and %) |
| Food service | 7588 | 7285 (96.0) | 261 (3.4) | 40 (0.5) | 2 (0.0) |
| Food sales | 744 | 720 (96.8) | 20 (2.7) | 4 (0.5) | |
| Food production / Fish sector | 25 | 23 (92.0) | 2 (8.0) | | |
| Food production / Meat sector | 67 | 59 (88.1) | 6 (9.0) | 1 (1.5) | 1 (1.5) |
| Food production / Dairy sector | 29 | 27 (93.1) | 1 (3.4) | 1 (3.4) | |
| Food production / Cereal and vegetable sector | 236 | 219 (92.8) | 14 (5.9) | 3 (1.3) | |
| Food production / Other | 46 | 45 (97.8) | | 1 (2.2) | |
| Food storage and freezing | 14 | 13 (92.9) | 1 (7.1) | | |

8.7 Nutritional safety

The Finnish Food Authority promotes nutritional safety by producing material and providing information to the population on health-promoting, diverse, varied and reasonable diets and the safe use of food products. Nutritional safety has been taken into account in all new food recommendations issued by the National Nutrition Council in 2019. In January 2019, the Finnish Food Authority attached the updated instructions for safe use of food (<https://www.ruokavirasto.fi/turvallisenkaytonohjeet>) to the revised food recommendation for families with children (<http://www.julkari.fi/handle/10024/137459>). Also, in 2019, the dietary guidelines for vocational education and training and upper secondary schools were published for the first time. These also include recommendations on the safe use of food products to assist in meal selections (<https://www.oph.fi/fi/tilastot-ja-julkaisut/julkaisut/hyvinvointia-ja-yhteisollisyytta-ruokailusta>). In addition, the recommendation included basic issues related to food hygiene, taking allergens and intolerances into account in preparation and product information as well as own check issues, monitoring of nutritional quality and internal auditing and the Oiva system. The dietary guidelines for vocational education and training will also be used as training material in the food service and food sector education.

The Nutrition Commitment System maintained by the National Nutrition Council continued to be maintained in 2019. Nutrition commitments promote the realisation of food recommendations and the product design of products that promote health in the food industry, trade and crowd food industry. At the end of the year, the system had 55 commitments with the largest number of measures to increase the availability of nutritionally better foods and meals in accordance with food recommendations or to promote food education measures.

9 RISK ASSESSMENT AND RESEARCH PROJECTS IN FOOD SAFETY

Risk assessment

Risk assessments have been used to examine the possibility of comparing different causes for food risks on the same scale. Because the health risks and mechanisms caused by chemical and biological hazards are different, the objective has been indirectly pursued by assessing the resulting health problems and/or costs. A Finnish collaboration the Costs and risk assessment of the effects of the food system on public health ([RUORI](#)) [has found that nutritional risks pose the greatest threat in present day Finland, while chemical and biological threats are relatively well controlled. However, the research group stated that although the results are indicative, there is a great deal of uncertainty in the absence of accurate data.](#) Therefore, an [unplanned reduction in risk management](#), for example, could quickly undermine Finland's food safety. The development of a tool illustrating the risks significant for food safety continued.

Food viruses are a growing risk in high hygiene countries. The assessment of their potential food safety risks to the food sector will be extended from norovirus to the potential of the hepatitis E virus and African swine fever virus to cause health damage in certain meat product production processes([VirSta Project](#)). An Avian influenza study has also been initiated. A [summary](#) focusing on food safety was published on the coronavirus (SARS-CoV-2).

Studies on the effects of chemical risks in food preparation on food safety will continue, and a report on PAHs will be published in 2020, as will the report on adult exposure to [heavy metals](#) via food. An assessment of the intake of additives will be specified on the basis of a previously published [risk profile](#) for the most significant additives. In light of the available information, the most important [contaminants](#) in foods have been identified in Finland, of which a risk profile will be published during 2020.

Risks affecting food safety are researched throughout the food chain starting from primary production. The potential risks of fertiliser use were examined in two projects ([LEX4BIO](#) and [MAHEPLA](#)). In addition, the potential risks to food production from [pests](#) in pig and cattle holdings were assessed. An assessment on the effects of pig management practices on [antimicrobial resistance](#) and the pork production chain was continued. A [Cystiercosis project](#) is examining the possibility of simplifying meat inspections at slaughterhouses without compromising food safety.

All independently-developed statistical risk assessment models are available as open source codes, making it possible for users the view the content and edit it according to their needs. In addition, user interfaces are being developed for those with less coding skills or desire. A statistical model is currently being developed to assess the consumer's exposure to potential biological and chemical hazards in food ([BIKE](#)).

The use of Iris.ai artificial intelligence in the information search related to risk assessment was studied in a project in which several new literature databases from different areas of the Finnish Food Authority were included as source data for artificial intelligence.

Communication between risk management (here the Ministry of Agriculture and Forestry and the Finnish Food Authority) and risk assessment has been studied to promote

interaction. Mutual communication and understanding of messages is important, especially when the information produced in the risk assessment is needed for decision-making. The strengths and weaknesses of the four EU Member States involved in the project were very similar, and both risk managers and risk assessors had very similar views on them. Based on the results, the usefulness of risk assessments would improve, in particular through with the implementation of a clear risk assessment policy, clarification of the roles of risk management and risk assessment, explicit risk assessment requests formulated together with their limitations and concrete presentation of the uncertainties contained in the results. Above all else, however, mutual trust should be ensured. ([COMRISK Project](#)). - Risk assessment project groups communicate directly on their results, but the EFSA's communication, information dissemination and cooperation on risk assessment between Finland and different Member States takes place through [EFSA Focal Point](#) coordination at the Finnish Food Authority.

Research on microbiological food safety

The “Antimicrobial resistance and residues on cattle farms – effects on the environment and health” (NAMI) project examined how antimicrobial-resistant bacteria, resistance genes and antimicrobials, including their metabolites, spread in Finnish conditions from medicated cows via the manure chain into the farm environment and further into the surrounding environment. The project also studied the impact of manure processing (anaerobic mesophilic digestion) on antimicrobial residues and resistant intestinal bacteria and the effect of antimicrobial residues on the digestion process. In addition, the life-cycle environmental impacts of different manure processing methods and impacts on antimicrobial residues and resistance were assessed. The project report was published in 2019: https://www.ruokavirasto.fi/globalassets/tietoa-meista/julkaisut/julkaisusarjat/tutkimukset/2019_4-ruokaviraston_tutkimuksia.pdf

In 2018, Evira conducted a raw pet food project that, in addition to the statutory official inspections of enterobacteria and salmonella, investigated the occurrence of Shiga toxin-producing E. coli (STEC) and thermotolerant Campylobacteria. Furthermore, the occurrence of resistant bacteria (MRSA, ESBL, AmpC and carbapenemases-producing E. coli bacteria) was mapped. The results were published in 2019. They are available for example on the Finnish Food Authority's website:

<https://www.ruokavirasto.fi/teemat/zoonosikeskus/uutiset/2019/lemmikkien-pakasteraakaruoissa-ihmiseen-tarttuvia-bakteereita/>

Chemical food safety and nutrition

The Makera-funded project Alkuperältään aidot (Genuine at their origin), is a collaboration between Natural Resources Institute Finland (Luke) and Evira to develop a method for identifying cases where the origin of strawberries have been falsified. In 2017–2019, strawberry samples were collected at Finnish strawberry farms to analyse the ratios of certain stable isotopes and the concentrations of the elements the berries contain.

This data was used to create a reference database, and by comparing the results of control samples to the data in this database, it can be deduced whether the sampled strawberries originate from Finland or abroad. In summer 2019, samples related to the origin of strawberry were again taken by food supervisory authorities in Lahti and Helsinki. The samples were analysed in Germany, but analytics are being set up at the Finnish Food

Authority. A water extraction line was set up for this purpose, and at the end of the year, a procurement decision was made on the isotope equipment.

In the summer, the "national salt and nutrition control project 2019" was launched together with ELKO to analyse the salt content and composition of 120 samples (60 bread/ sausage samples, 60 ready-made food samples) (dry materials, protein, ash, fat, fatty acids, sugars, starch). The EKE Division for Inorganic Chemistry analysed 120 samples to determine salt content of salinity, while the Composition and Origin Division KAPA carried out analyses on the composition of prepared foods. Relatively few samples have been submitted, but the project is considered so important that a decision has been made to continue sampling until the end of 2021.

A joint project between the Nordic countries "Are gluten-free products a healthier alternative? A pilot study on nutrients and heavy metals" analysed the nutritional make up of 40 products with the exception of vitamins. The project team analysed some samples themselves and outsourced the rest. Based on these results, a statistical comparison of conventional products containing gluten will be carried out during 2020.



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