BEST PRACTICES IMPLEMENTING FSSC 22000

Experiences of Dutch food companies of implementing FSSC 22000

Bachelor Thesis

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Preface and Acknowledgements

Before you lies my bachelor thesis report 'Best Practices Implementing FSSC 22000: Experiences of Dutch food companies implementing FSSC 22000'. It was written as a graduation paper for the program International Food Business at Aeres University of Applied Sciences in Dronten.

During my last internship, I was tasked to research FSSC 22000 and rewrite the quality manual as well as make other changes necessary as the company was planning to switch from Dutch HACCP to FSSC 22000. Finding this information proved difficult as I was not able to find much information on how to implement FSSC 22000. Eventually, the owner called in the help of an advisory bureau. The troubles I went through to implement FSSC 22000 may happen to other companies looking to switch as well. This inspired me to write a 'best practices' guide based on the experiences food companies had when they went through the process of implementation. This guide is meant for food safety professionals looking to switch to FSSC 22000.

First, the topic is introduced with a literature review, in which the developments of food safety management, the relevant law, rules and regulations, the different food safety management systems, a broad description of the certification process is given, and the knowledge gap is introduced. Next, the materials and methods used to research the topic are discussed. The results of the coding of the conducted interviews are shown in chapter 3 and discussed in chapter 4. Finally, the research is concluded, and recommendations are given for companies who want to switch to FSSC 22000.

After feedback on the Research Proposal, the following aspects were changed: the first paragraph of 1.1 Developments in food safety was clarified to reflect the direction the report would go; shortened parts of 1.2 Law, Rules and Regulations, and added to Dutch Law; switched the ISO 22000 paragraph, as it was wrongly placed below GFSI benchmarked certificates; clarified parts of the knowledge paragraph 1.5 Implementation of FSSC 22000: Motivations, Benefits & Difficulties; clarified methodology to reflect criteria for interviewees; general grammar, spelling and references mistakes. Also while writing the Results and Discussion, a few sources were added, as the information available was lacking.

I would like to thank everyone that helped and contributed, while I was writing my thesis research. I would like to thank the following people in particular:

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Glossary

ALV	Algemene Levensmiddelen Verordening (General Food products Regulation)
BRC	British Retail Consortium
CAC	Codex Alimentarius Commission
CCP	Critical Control Point
EFSA	European Food Safety Authority
FAO	Food and Agriculture Organization
FSMS	Food Safety Management System
FSSC	Food Safety System Certification
GFL	General Food Law
GFSI	Global Food Safety Initiative
GMP	Good Manufacturing Practices
HACCP	Hazard Analysis of Critical Control Points
IFS	International Featured Standard
ISO	International Organization for Standardization
NVWA	Nederlandse Voedsel- en Waren Autoriteit (Dutch Food and Consumer Product Safety Authority)
oPRP	Operational Prerequisite Program
PAS	Publicly Available Specification
PRP	Prerequisite Program
WaW	Warenwet
WHO	World Health Organization
WTO	World Trade Organization
QA	Quality Assurance
QC	Quality Control
QESH	Quality, Environment, Safety, Health

Summary

In recent years there have been several developments in the field of food safety. As a food producer, it is vital to ensure the production of safe food products. Producers can achieve this by implementing food safety management systems. There are several FSMSs food producers can implement, such as BRC, IFS, ISO 22000 or FSSC 22000. This report focuses on FSSC 22000.

The main question of this research was **'How was the process of implementing FSSC 22000 handled in food production companies?'**. It was answered with the motivations of food producers for choosing FSSC 22000, how the producers implemented the scheme, the expectations before implementation, the advantages and disadvantages of implementing FSSC 22000 and whether they would change anything. These questions were researched by conducting interviews with eight food producers, three certification bodies and three advisory bureaus.

The results of this research show the following:
The motivations for implementation can be grouped into intrinsic and extrinsic motivation. Intrinsic motivations were the freedom to interpret the scheme; the scheme fits better with the company; the scheme is set up in an ISO manner; improvement of product quality; and lower costs. Extrinsic motivations were complying with customer requirements; complying with management requests; the scheme is internationally recognized.

Most food producers followed the following steps: read through the standard; made a gap analysis; filling in of missing documents; followed a course and/or hired an advisory bureau. Most food producers hired an advisory bureau to help with implementation, either for a gap analysis or to help write the quality handbook/act as their interim manager. The implementation took on average six to nine months.

There were few expectations as it was often a customer requirement. However some expected improvement of the food safety management system or improvement of the organization.

The advantages of FSSC 22000 were: the producers liked the freedom to interpret the standard, it is a GFSI scheme, it keeps the company focused on food safety, it boosts customers' confidence, it is internationally recognized, it fits better with the company, the operational prerequisite programs, the unannounced audits and the competitive advantage.

The disadvantages of FSSC 22000 included the legibility of the scheme, the effort and time it takes, the cost of investments and audits, the freedom of interpretation, the unannounced audits.

The recommendations companies had for food producers were to get to know the scheme, hire an advisory bureau, invest time in implementing, keep it simple, involve management and employees, and continuously maintain the system.

Chapter 1: Introduction

1.1. Developments in food safety management

The typical Dutch consumer eats and drinks on average three kilograms of food and drinks in one day. These products are produced or distributed by 250 000 Dutch companies operating in the food supply chain. It is a matter of public health that these food products are safe. When is food considered safe? According to the Dutch Food and Consumer Products Authority (NVWA, 2018): *'Food is considered safe if no unacceptable microbiological, chemical or physical hazards for humans arise.'* However, this is not always the case. Foodborne illnesses and outbreaks continue to occur with some resulting in fatalities. In 2017, there were 2 995 cases of food poisoning in the Netherlands (Friesema, Sleger-Fitz-James, Wit & Franz, 2018). This large number of foodborne diseases is the main reason why food safety management systems (FSMS) are essential: to prevent illness and death by consuming contaminated food. FSMSs also help boost consumer confidence; it shows that the company is committed to producing high quality and safe food products. One of such FSMSs is FSSC 22000; this report discusses the motivations food companies had to implement the scheme, the benefits they experienced and the difficulties they faced. Recommendations are given for companies who are considering FSSC 22000 implementation.

In recent years, there have been instances when the safety of food products could not be guaranteed and endangered, sickened and even killed consumers. A few of these so-called food scandals are discussed:

Fipronil

The most recent food scandal in the Netherlands has been the Fipronil scandal: In the summer of 2017, it became apparent that the insecticide Fipronil had been found in Dutch eggs. Fipronil is banned from use in the food or feed sector. The company Chickfriend from Barneveld had illegally used the substance to eradicate blood mite on chickens (Verhaar, 2018). It was first discovered on a farm in Belgium, which triggered a series of inspections throughout the Netherlands and Belgium. The NVWA blocked 180 chicken farms on suspicion of the use of fipronil and took samples of the eggs, as well as manure and meat of the chickens (NVWA, 2017a). The discovery led to panic within the sector and among consumers. A million chickens were culled, and hundreds of millions of eggs had to be destroyed (Verhaar, 2018). Some of the eggs had been processed into products, such as mayonnaise, cake and pasta. However, the NVWA had deemed the products safe for consumption and did not recall the contaminated products (EPA, 2017). The loss of consumer trust surrounding the fipronil scandal mostly hit the primary producers of eggs, but it also made the consumer question the safety of processed products.

E.coli outbreak

In 2011, Germany reported to the EFSA (European Food Safety Authority) an ongoing outbreak of Shiga-toxin producing E.coli (STEC) type 0104:H4. At first glance, the outbreak was traced back to the consumption of fresh salad vegetables. However, investigations showed that the contaminant could be associated with fresh sprouted seeds for decoration on the salads. Further investigations found the source of the outbreak to be seeds for sprout production, which were imported to Germany from Egypt. A total of just below 4 000 cases was reported from Germany, France, EU and outside of EU in Canada, USA and Switzerland, which lead to 34 deaths in total. In the Netherlands, there were a total of six cases reported (EFSA, 2011).

Recalls

Apart from big scandals that are often reported heavily in the news, there are small incidents as well. In September of 2018, eleven food products were recalled, due to food safety hazards. Five products were recalled, due to mislabelling of the products concerning allergens. Four products were recalled to chemical hazards, specifically aflatoxins, which is a natural toxin made by fungi that can occur on corn or peanuts. Consumption of large amounts of aflatoxin may cause long-term health damage. One product was recalled due to a physical hazard. Soft pieces of rubber were found in a few packages of Zuivelhoeve Boer'n Yoghurt Appel Kaneel. One product was recalled due to a biological hazard. There

was suspicion of Salmonella in a few packages of pine nuts (Product-waarschuwing, 2018). These products could have posed a severe danger to the public health, but due to a quick response from the food producing companies, the products were recalled before they could harm consumers.

The Netherlands is second only to the United States in exporting food by dollar value, with only a fraction of the land available to other countries (Viviano, 2017). Next to export, the Dutch import large quantities of food as well (Ministry of Agriculture, Nature and Food Quality, 2017). The large scale of the operation of foods that either pass through, leave or remain in the Netherlands requires a high level of food safety. This level finds its foundation in the General Food Law, as well as Dutch legislation, as explained in the next paragraph.

1.2. Law, Rules and Regulations

The legal system of food safety in the Netherlands has a strong foundation in national and European legislation. The starting point of the system is that the responsibility for safe food lies with the business community.

1.2.1. Public and Private regulation of food safety in the Netherlands

The control and management of food safety in the Netherlands have been realized through partnerships of both the public and private sector. Parties from both the public and private sector put pressure on food safety management systems, as figure 1 on the next page shows. National governments departments and intergovernmental organizations, such as WTO (World Trade Organization), Dutch governments departments and EFSA, influence the FSMSs through national and international law, rules and regulations. Intergovernmental sector regulators, such as the CAC (Codex Alimentarius Commission) and Non-governmental private sector regulators influence the structure and background the FSMS's are based upon. Special interest groups and Value chain actors influence what kind of products are produced and how they are produced by the company (Mensah & Julien, 2011).

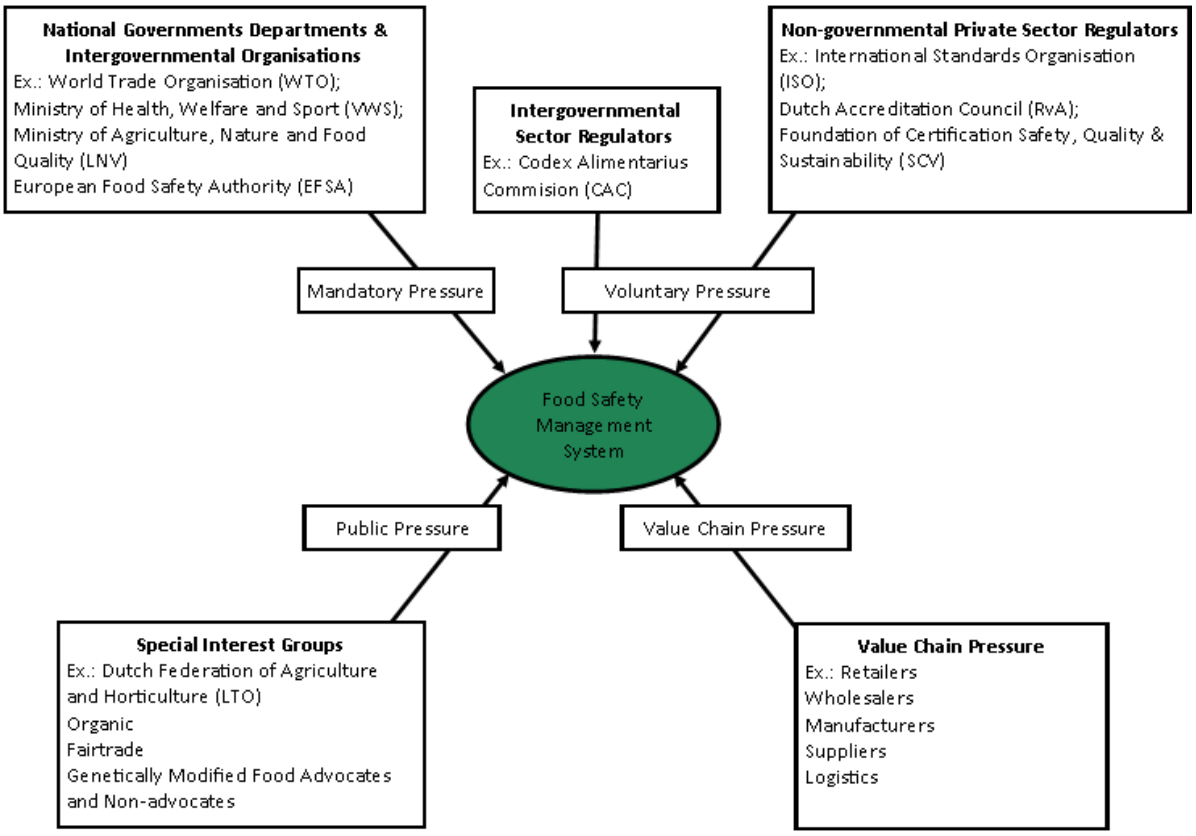

Figure 1: Major Stakeholders FSMS (Mensah & Julien, 2011)

The policy for food safety is formulated on national and international level. At international level, EU policy and legislation are particularly relevant: this is the starting point for the formulation of policy and interpretation of legislation on national level. The policy goals of the EU and the Dutch government are aimed at a high quality, sustainable, healthy and safe food supply in both Europe and the Netherlands (NVWA, 2018).

1.2.2. Dutch Food Law

The legal responsibility for safe food is established in the General Food products Regulation (ALV), which forms the basis for the food safety regulations in the European Union. The ALV instructs companies to adhere to food safety regulations (NVWA, 2018). The ALV is based on the Warenwet of 1935 (Consumer products Law), which stipulates which requirements food products must obey. It also describes rules for hygienic preparation and labelling of food products (Warenwet 1935).

On behalf of the Dutch government, the NVWA supervises safe food production and sales. Companies are responsible for the production of safe and reliable food products. The food sector has its own control systems and therefore receive fewer checks from the NVWA (Rijksoverheid, 2018).

The supervision of the NVWA has three layers (NVWA, 2018):

- Examination and sampling/analysis: Statement on one product, animal, batch or company;
- Inspection: Statement on the current state of affairs of an activity, process or factory;
- Audit (System supervision): Statement on the functioning of a (food safety) system over an extended period.

The NVWA published 'Criteria for monitoring support by private quality systems' in September of 2017. The purpose of the document is to ease the monitoring of NVWA and to increase the responsibility of the private quality systems to comply with law and regulations. Systems, who comply with the prescribed criteria, will be interpreted as supporting the NVWA tasks in the context of compliance monitoring. Participants will receive a lower priority, which means that monitoring will be carried out in an adapted manner, such as a reduced monitoring intensity (duration and/or frequency) or allocation of facilities (NVWA, 2017b). Participants are standards, such as BRC (version 7), IFS (version 6), FSSC 22000 (version 4), Feed Chain Alliance (2017), GMP+ Feed (2018), Riskplaza (version 4.1)(Ketenborging, 2018). A few noteworthy criteria are requirements concerning Product integrity and Food fraud; Performance and improvement plans of companies, Announced and unannounced audits; and Information exchange between NVWA, participant, RVA, certification body and company (NVWA, 2017b).

1.2.3. European Food Law

All members of the European Union must comply with the General Food Law (GFL) Regulation (EC) No 178/2002. The GFL is the foundation of food and feed law. It sets out a universal and comprehensible outline for the development of food and feed legislation both at the EU level and national level. The law describes the general principles and requirements of food law and shows an integrated approach to food safety 'from farm to table' (General Food Law, 2002).

This approach was first described in the EU's White Paper on Food Safety, which was published in 2000. The paper described the establishment of an independent European Food Authority, which was established in 2002 under the name of European Food Safety Authority (EFSA), as well as a wide range of measures to improve food safety standards. The paper covers all sectors of the food chain, including feed production, primary production, food processing, storage, transport and retail sale (White Paper, 2000).

The GFL lays down general principles, requirements and procedures that support decision making in matters of food and feed safety. The GFL also describes that the EFSA should take on the role of an independent scientific point of reference in risk assessment and in doing so should assist in ensuring the smooth functioning of the internal market. The EFSA should be an independent scientific source of advice, information and risk communication in order to improve consumer confidence (General Food law, 2002).

The Regulation (EC) No 852/2004 on the hygiene of foodstuffs mandates food and feed companies, whether they produce, process or distribute, to have a food safety system in place based on the seven principles of HACCP. Besides HACCP (Hazard Analysis of Critical Control Points), the companies should also have a system in place that tracks and traces all products, to prevent unsafe food from entering the market and harming consumers (Regulation on the hygiene of foodstuffs, 2004).
The EU food safety policy includes the following:

- Comprehensive legislation on the safety of food and feed, and on food hygiene;
- Decision-making based on sound scientific advice;
- Enforcement and controls

1.2.4. Codex Alimentarius

The Codex Alimentarius is a collection of internationally recognized standards, codes of practice, guidelines, and other recommendations relating to foods, food production and food safety. The Codex is developed and maintained by the Codex Alimentarius Commission (CAC), which was established by the FAO (Food and Agriculture Organization) and the WHO (World Health Organization) in 1962. The primary goals of the CAC are to protect the health of consumers and ensure fair practices in the international food trade. The Codex covers all foods, whether processed, semi-processed, or raw. The Codex contains specific standards for foods such as meat products, milk products, and general standards, covering matters such as labelling, hygiene, additives, etcetera (Ghonkrokta, 2017). The Codex currently includes 189 Member countries, representing 97% of the world's population (Codex Alimentarius, 2018). The Codex's standards have become the benchmarks against which national food measures and regulations are evaluated (Trienekens & Zuurbier, 2008). All schemes have the CAC's HACCP principles as their foundation. The major difference between the food safety management systems is that they are owned by different stakeholders in different geographical regions (Mensah & Julien, 2011). The different FSMSs are explained in the following paragraph.

1.3. Food Safety Management Systems (FSMS)

1.3.1. Global Food Safety Initiative (GFSI)

Global food trade is expanding and providing consumers with access to a broader variety of foods all year round. Expanding trade means different food safety regulations and FSMS's in different countries. Differences in food safety regulations and standards between importing and exporting can cause friction. Therefore, a common ground for food safety regulation through both public and private initiative is needed (GFSI, 2011).

Following a number of food safety scares, the GFSI was launched in 2000. Their mission is to provide continuous improvement in food safety management systems that will increase consumers' confidence in the delivery of safe food worldwide (Crandall et al., 2012). The GFSI Board includes representatives from major global retailers, manufacturers and foodservice operators who oversee basic management and direction.

The initiative was not created to set up a single standard regulating all food safety, but a guide that defines the requirements that must be met by the food safety management standards that are recognized by the GFSI. Food businesses cannot be audited or certified based on GFSI principles (GFSI,

2011). The GFSI provides real-time information to manage food safety, minimize risks from foodborne pathogens, manage costs associated with establishing a dynamic and effective food safety culture, and maintain consumer confidence in food and retail industries (Crandall et al., 2012).

The schemes recognized by the GFSI are from different backgrounds and all written differently, but in their nature, they are all based on the requirements laid down in the Codex Alimentarius, HACCP principles and prerequisite programs.

1.3.2. HACCP

HACCP stands for Hazard Analysis of Critical Control Points and is a systemic approach to identify, evaluate and control those steps in food production that are critical to product safety. The principles form the basis of most food quality/safety management systems, such as the Codex Alimentarius, private schemes and EU food legislation (Trienekens & Zuurbier, 2008).

The seven HACCP principles are:

1. Conduct a hazard analysis
2. Determine critical control points (CCP's)
3. Establish critical limit(s)
4. Monitor critical control points
5. Establish corrective actions
6. Establish verification procedures
7. Establish a record system

HACCP aims to ensure efficient monitoring through critical control points where the hazards for consumer health can be controlled. However, even with HACCP plans in place, food safety failures sometimes occurred because of inadequate cleaning and sanitation procedures, for example. To be successful, HACCP must be supported by a number of prerequisite programmes (PRPs), such as GMP, sanitary design principles, personal hygiene requirements. This lack of prerequisites led to the launch of several national food safety schemes, such as Danish and Dutch HACCP (Silva, Fonseca & Sousa, 2016; Wallace, Sperber & Mortimore, 2011).

Dutch HACCP

Dutch HACCP refers to the scheme developed by and maintained by the National Board of Experts – HACCP and is based on the HACCP principles. All parties involved in the food chain are represented in the Board, and together they came up with a list of requirements to accompany the HACCP principles in the scheme (National Board of Experts – HACCP, 2006). In June of 2017, the board of the Foundation of Certification Safety, Quality and Sustainability (SCV) has decided to phase out the Dutch HACCP certification. In 2012, Dutch HACCP was removed from the GFSI benchmarked schemes list and that lead to a decline in the number of HACCP certificates. The decision to phase the scheme out was made to stay ahead of the moment when Dutch HACCP does not form a base for food safety any longer. The SCV recommends the companies to switch over to FSSC 22000 as the basis of the two certificates is very similar (foodsafetymanagement, 2017).

1.3.3. ISO 22000

ISO 22000 is a standard of ISO, the International Organization for Standardization. ISO holds more than 22000 standards as of 2018 and aims to achieve uniformity and prevent technical barriers to trade throughout the world. ISO 22000 was last revised in 2018 (ISO, 2018b). ISO 22000 is a quality management system with food safety requirements and can be applied to all types of companies in the food chain. The standard does not provide a checklist, as procedures may differ from company to company. ISO 22000 is not recognized by GFSI, due to the lack of prerequisite programs. In

combination with ISO 22002-1, prerequisite programs for food companies (formerly PAS 220), ISO 22000 is called FSSC 22000 and is recognized by GFSI (Trienekens & Zuurbier, 2008).

1.3.4. GFSI Benchmarked schemes

The GFSI approved schemes, such as BRC, IFS and FSSC 22000, all have the HACCP principles as their basis and are used by food companies in the Netherlands.

BRC and IFS schemes

The BRC and the IFS schemes are both retailer-driven certifications and very similar in their format. The BRC scheme covers food safety and product quality management of food processing and packaging companies. The scheme is a checklist for the companies supplying retailer branded food products. BRC was developed to assist British retailers in fulfilling legal obligations, protect the consumer and reduce audit duplication (Ghonkrokta, 2017). However, it grew to be used around the world and is used by over 26 000 certified suppliers in 130 countries. The BRC scheme is currently on version 8 (BRC, 2018)

The IFS scheme was initially developed by German retailers to serve as an alternative to the BRC scheme. Later French and Italian retailers joined the board to decide over the specifics and operation of IFS. IFS aims to provide a uniform quality assurance and food safety scheme for retailer branded food products. It covers all product ranges, except primary agricultural production (Sansawat & Muliyil, 2011). The IFS scheme is currently on version 6.1 and has over 16 000 certified suppliers in 90 countries (IFS, 2018).

1.3.5. FSSC 22000

FSSC 22000, or Food Safety System Certification is an ISO-based, internationally accepted certification scheme for the certification of food management systems in the whole supply chain. It is designed for food producers who supply their products to major food retailers or plan to do so. FSSC 22000 uses the existing standard ISO 22000 and the technical specifications for sector PRPS and additional FSSC 22000 requirements. FSSC 22000 also has a voluntarily Quality Module, which is based on all requirements of ISO 9001. The Foundation for Food Safety Certification owns the certification and grants license agreements to certification bodies. FSSC 22000 is currently on version 4.1:2017 and has 18 000 certified food suppliers in over 140 countries (FSSC 22000, 2018b). The scheme can be applied to a wide range of food producing companies, irrelevant of their size or processes. There are many benefits to the FSSC 22000 certificate, as researched by SGS (Sansawat & Muliyil, 2011):

- It provides a useful framework against which an organization can develop its food safety management system; it is not too descriptive and has the flexibility to allow the organization to choose the best way to control its own system and ensure food safety policy and objectives are being met.
- It includes comprehensive requirements detailing how the organization can conduct effective HACCP studies and HACCP plan.
- It promotes continuous improvements in food safety.
- It easily integrates into an organization's existing management system.
- It allows small, less structured organizations to implement an externally developed system.
- Many major brands have adopted this system, so it is beneficial for ingredients suppliers to be aligned with these customers.

These are the experiences from the view of a certification body. In paragraph 1.5 the motivations, key benefits and difficulties of implementing an FSMS as studied by others are discussed.

FSSC 22000 published a new version (4.1) in December of 2017. The new version has new additions, such as Food Fraud and Food Defense and the required unannounced audits. Food producers are now

obligated to implement a so-called VACCP analysis (vulnerability assessment) as well as a TACCP analysis (threat assessment). FSSC 22000 has published interpretation documents on their website with information regarding these two analyses (People in Food group, 2018).

Another aspect that is new is the unannounced audit. Participation of an unannounced audit is mandatory as FSSC 22000 certified company. The purpose of these unannounced audits is to establish that the company is FSSC 22000 audit ready at all times, even when unannounced. After the initial certification or recertification (once every three years), one of the two scheduled surveillance audits will be replaced by an unannounced audit. The date of the audit shall be determined by the certification body and can take place 4 to 12 months after a previous audit. The audit would take place similar to an announced audit. If the company refuses to participate in the audit, the certificate will be immediately suspended for a period of 6 months (Smedley, K., 2016).

FSSC 22000 is different than other GFSI recognized schemes, because of several reasons (FSSC 22000, 2016):

- The scheme is not owned by a specific stakeholder organization, such as with BRC or IFS. The scheme is developed and maintained by Food Safety experts from different sectors of the food supply chain;
- Schemes like BRC or IFS are process/product certification schemes. This is a different approach than FSSC 22000, which is a management system certification scheme. The scheme has a stronger focus on management commitment, effectiveness and continuous improvement;
- FSSC 22000 is a fully transparent scheme. All information, such as scheme requirements, names of licensed certification bodies and accreditation bodies, can be found on their website and there are no costs to obtain this information.

The steps required to implement an FSMS are discussed in the next paragraph.

1.4. The Food Certification Process

In this section, the steps to implement these FSMSs are discussed. The type of FSMS will be specific to the type of product(s), location(s), activities, processes and production sites of the company. Before any certification process is started, there are preparatory conditions that need to be fulfilled. If the preparation phase is handled well, it becomes easier to implement the FSMS and achieve a certificate. The steps to obtain a certificate are as follows:

1. **Select the right scheme:** All schemes have an auditable set of requirements, which is applied to the food business. The first step is to select a scheme that fits the products and processes as well as customer requirements. Next step is to start implementation by selecting the food safety team. When the scheme is implemented, the next step is to train the employees. Finally, ensure that the scheme was implemented well with an internal audit (GFSI, 2011).
    a. **Identify the right fit for the company:** The company should identify the product categories for which certification is required and select the scheme that best fits with the products and processes of the business, and helps meet customer requirements. It may be a requirement by a retailer, food service business or a manufacturing customer.
    b. **Identify a team for implementation**: The key individuals who will be involved in implementing must be given training and resources. There should be individuals from several departments of the company, as the certification will be applicable to the entire company. Their roles and responsibilities must be well defined.
    c. **Train the employees:** Not only should the implementation team be trained well, but the rest of the employees should also be educated on the scheme, the requirements and what they mean for the employees.

   d. **Preaudit the company:** A complete drill of all departments shows the company whether the company is ready for an official audit. When the company is not ready yet, they can still change the processes or procedures involved (Ghonkrokta, 2017)
2. **Apply for certification:** The company selects a certification body from the list of accredited certification bodies that are licensed to certify their scheme. It is important for the company to consider a number of aspects, including the scope of accreditation, qualified auditors, costs. The company applies for certification and signs the contract, which details the scope of the audit, audit duration and assignment of an auditor with expertise in the appropriate food sector category. The audit is then scheduled on a mutually agreed upon date and during production as the auditor is required to see processes in action (GFSI, 2011; Ghonkrokta, 2017).
3. **Prepare for the audit:** The company needs to prepare documentation for document review. Documentation includes the scope of the food safety system, the food safety hazard analyses, the PRPs, the management structure, the policy of the company, etcetera. The purpose of an audit is to verify that the company has developed, documented and implemented the food safety management system and whether it complies with the requirements of the applicable standard (GFSI, 2011; Ghonkrokta, 2017).
4. **Correct non-conformities:** At the end of the audit, the auditor provides a list of any areas that need improvement to gain certification. To achieve certification the company is required to take actions necessary to address the non-conformances. The certification body reviews the evidence submitted, and if necessary visits the site to check if the corrective action is sufficient. If the non-conformity is not solved, the certificate will not be granted, and the company needs to schedule a new audit (GFSI, 2011; Ghonkrokta, 2017).
5. **Certificate granted:** When all non-conformities are resolved, the certification body grants the certificate. Each year the certified food company is required to undertake a recertification audit to maintain certification (GFSI, 2011; Ghonkrokta, 2017).

These steps are general steps of implementation. The different food safety management systems may have different or extra steps to obtain the relevant certificate.

1.5. Implementation of FSSC 22000: Motivations, Benefits & Difficulties

This report focused on the implementation of FSSC 22000 and the experiences Dutch food companies had during implementation. Several articles have been published (Păunescu, Argatu & Lungu, 2017; Escanciano & Santos-Vijande, 2013; Mensah & Julien, 2011; Teixeira & Sampaio, 2012; Zhang, 2001; Löfgren, 2012; Nordenskjöld, 2012) that describe the benefits and difficulties of implementing different food standards, such as ISO 22000 or HACCP, as well as experiences from companies who implemented such food standards.

The motivations identified for implementing a food safety management system by the articles (Păunescu, Argatu & Lungu, 2017; Escanciano & Santos-Vijande, 2013; Mensah & Julien, 2011; Nordenskjöld, 2012) are often internal, specifically to improve efficiency, productivity and quality, but can also be external, to comply with customer requirements or legal requirements. The motivations often mentioned are (i) to strengthen the competitive advantage, (ii) to improve food safety, (iii) to strengthen the consumers' confidence in the company, (iv) to add value to the organization, (v) to improve efficiency and productivity, (vi) to gain access to new markets or (vii) to comply with legal or customer requirements.

The key benefits of implementing a food safety management system identified by the articles (Păunescu, Argatu & Lungu, 2017; Mensah & Julien, 2011; Teixeira & Sampaio, 2012; Zhang, 2001; Nordenskjöld, 2012) are often related to a company's performance in terms of (i) product quality/ safety enhancement and production process enhancement, as well as (ii) an improved market position, (iii) improved efficiency of cost and time, (iv) improved consumers' confidence, (v) better

adaption to legal or customer requirements, and (vi) improvement of communication between company and stakeholders.

The difficulties reported by the articles (Păunescu, Argatu & Lungu, 2017; Mensah & Julien, 2011; Teixeira & Sampaio, 2012; Löfgren, 2012; Nordenskjöld, 2012) include (i) companies do not have the time or resources to implement a food safety management system, (ii) companies do not understand or are not able to read the requirement set by the FSMS, (ii) management or employees of the company are not involved enough in the process of implementation.

However, no such articles were published on FSSC 22000.

The purpose of this thesis is to identify the motivations that drive Dutch food producers to adopt FSSC 22000 as their food safety management system, as well as identify the advantages and disadvantages that come with FSSC 22000 and provide points of advice for food producers who want to implement FSSC 22000 in the future.

The following research question, as well as sub-questions, were used to provide information to fill the knowledge gap:

'How was the process of implementing FSSC 22000 handled in food production companies?'

1. What are the motivations for food companies to implement FSSC 22000?
2. How do Dutch food companies typically implement FSSC 220000?
3. What are the expectations food companies have of FSSC 22000?
4. What are the advantages of implementing FSSC 22000?
5. What are the disadvantages of implementing FSSC 22000?
6. What would the companies have done differently?

These questions were answered using interviews with food companies, certification bodies and advisory bureaus. This way, the questions were answered with experiences from three different angles. The experiences were useful for businesses looking to implement FSSC 22000.
This research provides a guideline for food safety professionals that want to know the do's and don'ts of implementing FSSC 22000.

Chapter 2: Materials and Methods

In this chapter, the materials and methods used to research the topic are discussed. The research is based on the interviews with Dutch food producers who implemented FSSC 22000, certification bodies who audit the scheme and advisory bureaus who assist with implementing FSSC 22000. The research is qualitative, as the information needed are feelings and thoughts, instead of quantitative data. The interviews focused on the experiences the food producers had with implementing FSSC 22000, as well as advice and experiences the certification bodies and advisory bureaus had concerning the scheme.

2.1. Interview design

The answer to the main question 'How was the process of implementing FSSC 22000 handled in food production companies?' described the experiences the selected producers had while implementing FSSC 22000. The sub-questions each answered an aspect of the experiences of the producers: the motivations, the expectations, the perceived advantages and disadvantages, and the regrets and/or advice they would have for other producers.

The interviews were different depending on the company the interviewee represents. The certification bodies and advisory bureaus were asked broader questions than the food producers, as they would have more experience with multiple companies. All interviews were semi-structured, meaning that the interview will follow the questions the student made beforehand, but some discussion was possible. The questions were based on the sub-questions, as well as literature mentioned in the theoretical framework. The first few questions were to get better acquainted with the interviewee and company they represent.

The interview questions per type of company can be found in Appendix I in English and Appendix II in Dutch. Most companies were interviewed in Dutch, and while transcribing the English questions were used. The interviews were conducted by phone. The phone calls were recorded, with verbal permission of the companies. In a few cases, the interview was (partly) conducted through e-mail, for the convenience of the interviewee. In one case, the person did not permit recording. Thus the phone call was transcribed immediately. The person also wished to remain anonymous.
Afterwards, the recordings were transcribed. The transcriptions were coded in three phases: open coding, axial coding, and selective coding. The selective code phrases were processed to look for trends. These trends will be discussed in the Results chapter.

2.2. Research group

The information was gathered from interviews with Dutch food producers, who have FSSC 22000 implemented as their food safety management system; advisory bureaus, who advise on implementing FSSC 22000; and certification bodies, who audit food producers with FSSC 22000 implemented. These companies each brought their unique view on implementing FSSC 22000. The food producers gave their experiences on FSSC 22000, the advisory bureaus gave experiences with a broad range of companies, and the certification bodies gave experience with mistakes that many companies have made in the past while implementing FSSC 22000.

For this research, a minimum of five food producers, three certification bodies and three advisory bureaus was set in order to receive enough information for processing. The food producers had to be active in different sectors to get a good overview of different experiences in different sectors. Three certification bodies were a good representation of the certification bodies in the Netherlands, as there are only seven certification bodies who audit FSSC 22000. Three advisory bureaus were a good representation of the advisory bureaus.

A total of 14 companies were interviewed, of which eight food producers, three certification bodies, and three advisory bureaus. The information on the food companies was collected from the FSSC 22000 website. The website has an overview of all FSSC 22000 certified companies in the world. The producers were selected on the scope of the certificate as mentioned in the overview (FSSC 22000, 2018d). Different scopes were chosen to create a range of different food producers. In this way, when a food producer, who wishes to implement FSSC 22000, reads this research, might find similarities in one of the interviewed food producers. The information of the certification bodies is collected from the FSSC 22000 website as well. Similar as with the food companies, the website has an overview of certification bodies and their licenses (FSSC 22000, 2018a). The advisory bureaus' information was gathered from their respective websites.

The producers that were interviewed are:

Table 1: Interviewed food producers

Food producer	Name interviewee	Function	Products
VNK Herbs	Jolanda Roozendaal	QA manager	Herbs
Vocking	Paul Vocking	Director	Liver sausages
Henri Willig	Anneke de Valk	Manager KAM and R&D	Cheese
Anonymous Meat processor	X	QA manager and R&D	Raw or prepared meat from game or poultry
Marfo	Jef Nikkelen	Head Quality Service	(Frozen) meals
Vreugdenhil Dairy Foods	Richard Berends	Plant Director	Milk powders
Henningsen Nederland	Michiel van der Broek	QA manager	Dehydrated meat products
Royal Bel Leerdammer	Eva van Galen	QA specialist	Cheese

The certification bodies that were interviewed are:

Table 2: Interviewed Certification bodies

Certification body	Name interviewee	Function
SGS Nederland	Adalsino da Cruz Ramos	Account Coordinator Food
DNV GL	Desiree Kampman	Food auditor and technical manager schemes
Vinçotte ISACert	René Voermans	Scheme manager and auditor

The advisory bureaus that were interviewed are:

Table 3: Interviewed Advisory Bureaus

Advisory bureau	Name interviewee	Function
Eurofins	Helen Peeters	Senior Quality Consultant
Van Voorst Consult	Lambert Scherrenburg	Advisor
Bureau de Wit	Marten Visser	Advisor and Head of Quality service

Chapter 3: Results

This chapter will show the results from the interviews. The interviewees were eight representatives from food producers of meat products, dairy products, meals or herbs, three representatives from certification bodies, and three representatives from advisory bureaus. The questions shown in Appendices I (English) and II (Dutch) were used in the interviews. The fully transcribed interviews can be found in Appendix III and the coding form in Appendix IV. The selective coding is shown in the following paragraphs in tables, and further explained per sub-question.

3.1. Motivations to implement FSSC 22000

The food producers were asked what their motivations were to implement FSSC 22000, how they decided on the certificate and who had taken the initiative. Most food producers gave their process of decision making when asked what their motivations were. All of them explained which scheme they first had implemented, as table 4 shows. Three companies had Dutch HACCP implemented, and three companies had BRC implemented before switching to FSSC 22000. One company still had BRC implemented. Two companies had Dutch HACCP with ISO 9001 implemented before switching to FSSC 22000.

Table 4: Overview of FSMSs food producers had before FSSC 22000

	HACCP	BRC	HACCP with ISO 9001
Food producers	3	3	2

Table 5 shows the motivations food producers had to implement FSSC 22000, according to food producers, certification bodies and advisory bureaus. Often interviewees gave multiple reasons for implementation of FSSC 22000 by food producers.

Two food producers and one certification body said that FSSC 22000 was chosen because it approaches food safety in an ISO manner. Another reason why FSSC 22000 is often chosen, is because it is internationally recognized, this was mentioned by an interviewee from a certification body. The food producers often mentioned the flexibility of FSSC 22000 as a reason for implementation, saying that the decisions made are often risk-based, contrary to BRC. Three companies said FSSC 22000 was a better fit for the company as some procedures of other schemes were not relevant for the food safety of the product, and it fitted better with the vision of the company. One company mentioned that management had requested the QA (Quality Assurance) department to implement FSSC 22000. The same company wanted to implement FSSC 22000 to elevate the quality of their products. One company was advised by an advisory bureau to choose FSSC 22000 after evaluation of their previous system and their products. The reason most often mentioned was that it was a customer requirement. The customer often required the food producer to have a GFSI benchmarked scheme. Two interviewees of the certification bodies and advisory bureaus said that food producers also choose FSSC 22000 because of the lower costs.

Table 5: Overview of motivations food producers had to implement FSSC 22000, according to Food producers, Certification bodies, Advisory bureaus (multiple answers possible)

	Food producers	Certification bodies	Advisory bureaus
ISO standard	2	1	-
Internationally recognized	-	1	-
Flexibility	6	1	2
Better fit with the company	3	-	-
Management request	1	-	-
Product quality	1	-	-
Customer requirement	6	3	2
Lower cost	-	1	1

In five food producing companies, the QA manager took the initiative. In other companies, the director, Production Manager or Plant Director took the initiative. The initiative was often in consultation with management and two cases in consultation with an advisory bureau.

3.2. The process of implementation of FSSC 22000

The food producers were asked about their process of implementation, the duration, the start and end date of implementation, whether they used an advisory bureau and whether they thought if there was enough information available on FSSC 22000.

Table 6: Overview of steps food producers took to implement FSSC 22000 (multiple answers possible)

	Food producers
Read through the standard	2
Made a gap analysis	2
Filled in missing documents	3
Followed a course	2
Hired advisory bureau	6

Table 6 shows the steps food producers took to implement FSSC 22000. Two interviewees mentioned that they had read through the standard: the basic requirements of ISO 22000, the sector-specific prerequisite programs and specific FSSC 22000 additions. Two interviewees mentioned that they had made a gap analysis, comparing the previous food safety management system with the requirements of FSSC 22000. A gap analysis is a process by which the food safety management guidelines/procedures are reviewed and examined for any gaps before implementing the system. Gap analyses can be performed internally, but there are many organizations, such as an advisory bureau, that offer the analysis as a third party service (Bedard, 2016).
Three interviewees mentioned that they had filled in missing documents, such as procedures and registrations. However, this number would be seven, as only one interviewee had used an advisory bureau to help write the quality handbook. Two interviewees mentioned that they had followed a course to get more acquainted with the FSMS.

The majority of the interviewees used an advisory bureau to help with the implementation of FSSC 22000 for various reasons. Six of the eight food producers used an advisory bureau; five of them had used them for a gap analysis or zero audit, as some called it, and filled in the missing documents and procedures themselves; and one of them used them to help write the quality handbook, as well as act as interim QA manager.

The certification bodies and advisory bureaus all had different approaches on how a food producer should implement FSSC 22000. The steps they mentioned, in general, were as follows:

- Work on the quality handbook
- Make a gap analysis
- Start with prerequisite programs or flowcharts
- Perform HACCP analysis
- Implement additional requirements
- Train employees
- Perform internal audits
- Hire an advisory bureau

On average the time it took the food producers to implement the scheme ranged from six to nine months, with a few deviations from 1 month to a year.

The interviewees were also asked whether they thought if there was enough information available about FSSC 22000. All of them said there was enough information available. Most of them, however, said that the information is difficult to find on the website of FSSC 22000. An interviewee of a

certification body mentioned that a few companies forget to implement the additional requirements, such as Food Fraud/Defense. Another point most companies mentioned was the legibility of the scheme. For some, the language was quite difficult to understand, whether it was English or concerning food safety terms.
One company took a different route. In this case the Plant director took the initiative. They used to work in the chemical industry, where they use ISO standards to guarantee safety. In their opinion, HACCP was not sufficient enough as a management system; the organization was not organized as it should be. They started with mapping the processes into flow charts and describing every step, what it does, how it works and where to make decisions. Then the food safety team evaluated the processes based on the flow charts and came up with improvements that could be done. Only after they had discussed that did they start with writing procedures, etcetera.

3.3. Expectations of food producers of FSSC 22000

The food producers were asked whether they had any expectations of the scheme before implementation and whether the expectations had come true. The certification bodies and advisory bureaus were asked what kind of expectations food producers often have before they implement FSSC 22000. Table 7 shows that there often aren't any expectations necessarily, as it often was a requirement of a customer to implement FSSC 22000 in particular or a GFSI benchmarked scheme. A few food producers responded that they expected to have an improved system and/or an improved organization after implementing FSSC 22000. Certification bodies and advisory bureaus affirmed these points, and two of the certification bodies added that food producers see it as a competitive advantage. The expectations mentioned are similar to the motivations for implementation given.

Table 7: Overview of expectations food producers had of FSSC 22000, according to Food producers, Certification bodies, and Advisory bureaus (multiple answers possible)

	Food producers	Certification bodies	Advisory bureaus
Requirement	4	3	2
Improvement FSMS	3	1	1
Improvement organisation	1	-	1
Competitive advantage	-	2	-

3.4. Advantages of FSSC 22000

The companies were asked what they thought were advantages of FSSC 22000. Sometimes multiple advantages were given. Table 8 on the next page shows the responses companies have given.
Two food producers thought that FSSC 22000 had boosted customers confidence in the company. Three food producers thought that the fact that FSSC 22000 is recognized by GFSI is an advantage. Four food producers found the freedom that the scheme gives to interpret the requirements to be beneficial. One food producer thought FSSC 22000 fit better with their company than other schemes; this was also mentioned by an interviewee from a certification body. One food producer found the Operational Prerequisite Programs (oPRPs) useful, as they cover aspects otherwise not covered by the CCPs. The food producer said that oPRPs are not used in schemes, such as BRC. A food producer and two advisory bureaus said that FSSC 22000 keeps the food producer focused on the food safety of the products, instead of focused on the amount of effort and time it takes to maintain the system. Two food producers mentioned that FSSC 22000 was useful as it is internationally recognized, which is useful when exporting products. Two certification bodies said that the unannounced audits are an advantage, as it checks companies on an irregular basis, which means companies must be prepared 365 days a year for an audit. One of the certification bodies also mentioned that it is a competitive advantage for food producers to implement FSSC 22000.

Table 8: Overview of advantages of FSSC 22000, according to Food producers, Certification bodies, and Advisory bureaus (multiple answers possible)

	Food producers	Certification bodies	Advisory bureaus
Customer confidence	2	-	-
GFSI scheme	3	-	-
Freedom to interpret scheme	4	1	2
Better fit with the company	1	1	-
Operational Prerequisite Programs	1	-	-
Focus on food safety	1	-	2
Internationally recognized	2	-	-
Unannounced audits	-	2	-
Competitive advantage	-	1	-

3.5. Disadvantages of FSSC 22000

The food producers were asked what barriers they encountered when implementing FSSC 22000. Table 9 shows the responses the companies gave. Few food producers had barriers they had run into, except for one. The food producer had a long list with oPRPs and had to spend some time removing the unnecessary oPRPs. Other food producers included disadvantages, such as the legibility of the standard: the English to Dutch interpretation could complicate interpretation of the requirements, or in the case of the oPRPs, the definition of oPRPs was misunderstood.

Two food producers mentioned that the standard takes some effort and time to be implemented. Two companies mentioned the unannounced audits as a disadvantage for some companies who are not prepared for the audits. Two advisory bureaus thought the freedom to interpret the standard could be a disadvantage, as it can lead to disagreements between the auditor and the food producer, where the food producer has interpreted the requirements differently than the auditor would. One food producer said the cost of implementing and maintaining the scheme, as well as audits, can be costly. One of the certification bodies said that certain parts of the supply chain are not able to be certified yet, such as traders and logistics companies.

Table 9: Overview of disadvantages of FSSC 22000, according to Food producers, Certification bodies, and Advisory bureaus (multiple answers possible)

	Food producers	Certification bodies	Advisory bureaus
Legibility	2	1	1
Takes effort and time	2	1	-
Unannounced audits	-	1	1
Freedom to interpret standard	-	-	2
Costs	1	-	-
Parts not certified yet	-	1	-

3.6. Advice for food producers

The companies were asked what they would have done differently and what advice they would give to companies who want to implement FSSC 22000 in the future. Table 10 shows what advice the companies would give.

Most of the interviewees said to get to know the scheme, read it through thoroughly, follow courses on the subject and start with the basics, such as HACCP and flowcharts.

Also, most of them said to hire an advisory bureau, especially if the QA manager is inexperienced with the scheme or simply does not have the time to implement it.

Advice, given by a few certification bodies and advisory bureaus, was to invest time in implementing the scheme. Other suggestions were to keep it simple and do not do too much; to involve management and employees and to continuously maintain the system.

Table 10: Overview of advice from Food producers, Certification bodies, and Advisory bureaus for food producers who want to implement FSSC 22000 (multiple answers possible)

	Food producers	Certification bodies	Advisory bureaus
Know the scheme	4	3	1
Hire an advisory bureau	5	2	1
Invest time	-	1	2
Keep it simple	1	1	-
Involve management & employees	1	-	1
Continuously maintain FSMS	-	1	1

Chapter 4: Discussion

The previous chapter described the results of the interviews. In this chapter, these results are discussed and compared to the literature review. The results are discussed per sub-question. The objectives of this research were to identify the motivations that drive Dutch food producers to adopt FSSC 22000 as their food safety management system, as well as identify the advantages and disadvantages that come with FSSC 22000. The results of this research show the motivations food producers had to implement FSSC 22000, the steps they took to implement FSSC 22000, the expectations food producers had of FSSC 22000, the advantages and disadvantages of FSSC 22000 and the recommendations to food producers that want to implement FSSC 22000. This chapter also reflects on the methodology and the process of researching the topic.

4.1. Discussion of results

4.1.1. Motivations of food producers to implement FSSC 22000

According to food producers, certification bodies and advisory bureaus, the motivations of food producers to implement FSSC 22000 were (in order of number of responses): customer requirement, flexibility, better fit with the company, ISO standard, management request, product quality, lower costs, and internationally recognized. These results correspond with the literature that addressed the motivations of food producers to implement food safety management systems (Păunescu, Argatu & Lungu, 2017; Escanciano & Santos-Vijande, 2013; Mensah & Julien, 2011; Nordenskjöld, 2012).
The motivations described in the articles were both internal (company driven) and external (customer driven), and focused on improving efficiency, productivity and quality, as well as complying with customer and legal requirements.

Customer requirement can be related to the motivations 'to strengthen the competitive advantage', 'to strengthen the consumers' confidence in the company' and 'to comply with legal and customer requirements'. The food producers often have to comply with the customers' requirements to be able to produce products for them, but the drive to gain a competitive advantage in a competitive market can come from intrinsic motivations as well. The food producers said that the customers request a GFSI benchmarked scheme, and this was affirmed by the certification bodies and advisory bureaus.
This was an expected result, as food producers produce for customers in retail or other branches of food production, who have requirements to which their suppliers have to comply. It can be a positive trend that food producers want to comply with customer requirements and see their food safety management system as a competitive advantage. However, it can also be a negative trend, when food producers are not committed to food safety and see the FSMS as a hindrance that makes producing more complicated.

Flexibility, or the freedom to interpret the standard, can be related to the motivation 'to improve efficiency and productivity'. Several interviewees indicated that FSSC 22000 gives food producers room to make decisions, as long as they are based on a risk assessment. This makes it easier for food producers to design their processes as efficiently as possible. FSSC 22000 was often compared to BRC, as BRC was 'too rigid and not flexible at all' and 'a complicated and detailed guideline'. One advisory bureau said BRC and IFS are more prescriptive of the procedures a company should have, which is not relevant for some producers. This was not expected to be a result. The flexibility of the scheme was also mentioned as both an advantage and a disadvantage. It can be a positive trend, as food producers may not have to invest as much as they might with a BRC or IFS scheme. Food producers also know their processes best, and might know the best way to ensure the safety of their food products. However, it is important to note that the decisions should always be substantiated. The flexibility of the scheme was seen as a disadvantage, because when food producers lack the substantiation of a decision, or the substantiation is lacking, the auditor might count it as a non-conformity. The food producer will have to fix the substantiation or write a substantiation in that case.

Better fit with the company can be related to the motivation 'to add value to the organization'. One food producer stated that FSSC 22000 fit better with the vision of their company. Two other food producers said that it fits better with the processes, as it requires less effort, time and investments of the producers than BRC or IFS. This motivation can be linked to many of the other motivations, as all of the motivations are to add value to the organization or products.

ISO standard can be related to the motivation 'to improve efficiency and productivity'. Two food producers mentioned that they had picked FSSC 22000 because it was based on the ISO 22000 standard. They both had ISO 9001 implemented and thus were already used to the ISO manner of managing processes. The reason why the food producers were partial to ISO is that it is based on the Plan-Do-Check-Act principle (PDCA). Edward Deming developed the PDCA principle. The principle is a circle for implementing change, which would lead to continuous improvements to the process it was applied to. The Plan phase is where a goal is set, the Do phase is where the plan is executed, the Check phase is where the execution is monitored, and data is collected, and the Act phase is where a decision is made what to do with the data. The PDCA principle is integrated deep in the ISO standards (Hammar, 2018). This motivation was an expected result, as several food producers who had ISO 22000 switched to FSSC 22000, when FSSC 22000 was accepted as a GFSI benchmarked scheme. This is a positive trend, as the food producers are already accustomed to the mentality of an ISO standard, and would have less trouble with implementing the scheme.

Management request can be related to 'to strengthen the competitive advantage' and 'to add value to the organization'. According to the food producer, who mentioned this motivation, the request was mainly made because of commercial reasons. Management wishes to expand their customer base with bringing the products and processes up to a higher level, to show customers that they are committed to food safety. This was expected as a result. One of the interview questions for the food producers was: 'Who took the initiative?'. The expected result of this question was that management had requested the QA manager to implement FSSC 22000. However, instead it was often the QA manager, who proposed FSSC 22000 as the scheme to implement as FSMS. This would be a positive trend, as it would mean that general management is involved with producing safe food products. One of the points of advice that was given, was to involve management and employees. With general management involved, the QA manager can count on their support and cooperation. The entire company stands for food safety with this motivation to implement FSSC 22000.

Product quality can be related to 'to improve efficiency and productivity'. For the interviewee, who mentioned this motivation, this was the main reason why they changed to FSSC 22000. The safety and quality of the food products have priority over all other elements. This was an expected result. One of the benefits mentioned by the articles in the literature review, was that the respondents thought that the scheme had enhanced the quality/safety of their product and processes. It is a positive trend, because it shows that the QA manager is involved with producing high quality and safe food products. They are not implementing FSSC 22000, just because it was requested by a customer.

Internationally recognized can be related to the motivations 'to strengthen the competitive advantage' and 'to gain access to new markets'. One of the certification bodies mentioned that food producers often choose for FSSC 22000 because it is internationally recognized, which means obtaining FSSC 22000 certification can open doors to new markets and with that strengthen the competitive advantage. BRC and IFS are often requested by British and German/French/Italian retailers respectively. However FSSC 22000 is accepted by both certificates as an acceptable certificate. This was an expected result. It was also mentioned as an advantage of FSSC 22000. BRC and IFS schemes often are required of food producers, who supply to retailers or supply to the next food producer in the chain. These are often located in or supply products to the United Kingdom, Germany, France and Italy. FSSC 22000, however, can be used to supply products all over the world, as it has a module

to comply with the GFSI Global Markets Program, and can be used by countries with less developed food safety systems (FSSC 22000, 2018c).

Lower costs can be related to the motivation 'to improve efficiency and productivity'. The motivation lower costs was mentioned by a certification body and an advisory bureau but was more directed towards the lower costs of the audits. FSSC 22000 has two surveillance audits in the two years after an initial certification or recertification. These audits cost less than the more elaborate audits, as the auditors would spend less time at the company going through documents and processes. However, BRC and IFS both have a recertification audit every year, which means that every year the auditors do a thorough walkthrough of the system. This costs more time and hence more money. This result was not expected. The assumption was that the schemes would not differ much in costs, however in this research it was discovered that this was not the case. It can be a positive trend, because food producers may chose FSSC 22000 over BRC/IFS, because the audits are less evasive and cost less.

While conducting the interviews, food producers also mentioned the FSMS where they came from. Although this does not necessarily answer the sub-question, it is still discussed, because it can provide insight into how the food producers chose FSSC 22000. Three food producers had the Dutch HACCP system, three had BRC, of which one still has BRC, and two food producers had Dutch HACCP with ISO 9001. ISO 9001 is a quality management system, which is focused on improving the organization. ISO 9001 is based on quality management principles including a strong customer focus, the motivation and implication of management, the process approach and continuous improvement. The scheme is not only meant for food producers but all sectors that want consistent, good quality products or services (ISO, 2018a). In 2017, the decision was made to phase out Dutch HACCP certificates. It was recommended by the owner of the certificate to switch over to FSSC 22000, as the basis of the two schemes is similar. This was mentioned by a few food producers as well. Also, the food producers with Dutch HACCP and ISO 9001 were used to the ISO way of looking at management decisions and with that in mind, made the decision to switch over to FSSC 22000.

4.1.2. Process of implementation of FSSC 22000

The previous chapter describes the general steps food producers took to implement FSSC 22000. The steps the food producers took to implement FSSC 22000 are:

- Read through the standard;
- Made a gap analysis;
- Filled in missing documents;
- Followed a course; or
- Hired an advisory bureau

The literature that can be linked to the process steps that companies had to take, is described in paragraph 1.4 The Food Certification Process (GFSI, 2011; Ghonkrokta, 2017). The paragraph explains the steps food producers have to take to implement a FSMS and get certified.
Two food producers mentioned that they had *read through the standard*. The standard consists out of basic requirements, sector-specific prerequisite programs and additional requirements, such as Food Fraud and Food Defense. This is explained in the literature review. Before implementation, a scheme has to be selected on whether it fits the products, processes and customer requirements. What the literature does not mention is that *the gap analysis*. Two food producers had compared the requirements of FSSC 22000 with their previous food safety management system and prepared a list of the documents and procedures that were missing. The literature does mention a pre-audit of the company. However it refers to a complete drill of all departments to show whether the company is ready for an official audit. This is different from a gap analysis.
Several food producers *hired an advisory bureau* to help especially with the gap analysis, after which they *filled in the missing documents* themselves. Food producers had different reasons to use an

advisory bureau: one food producer had no QA manager and did not have enough food safety experience to implement the system themselves. They hired an advisory bureau to help write the quality handbook, and act as interim QA manager. One food producer had time constraints, as she went on maternity leave and another food producer needed specific information on what was relevant for their company. The two food producers who did not use an advisory bureau both had experience with implementing ISO standards.

Two of the food producers mentioned that they had *followed a course* to get to know the standard better and get more specific information for their specific sector. According to the literature, not only the implementation team should be trained, as well as employees. This is something an advisory bureau could help with as well.

The certification bodies and advisory bureaus all discussed different approaches on how a food producer should implement FSSC 22000. The steps are similar to the steps described by the food producers. However they added a few steps: start with prerequisite programs or flowcharts, perform HACCP analysis, train employees and perform internal audits.
One of the food producers had followed these steps. They had started with mapping the processes into *flowcharts*. This gives a quick and clear overview of the processes. It makes the *HACCP analysis* much easier, and CCPs and oPRPs can be identified at critical points in the flow charts.
Train employees is mentioned in the literature review. It is important that employees of a company are qualified to operate in the company and are aware of the requirements the company has to comply with and the hazards they should prevent.
The internal audits are similar to the pre-audit mentioned before. An internal audit is checking whether the processes are still operating effectively. It is an audit often performed by the company itself or an advisory bureau. It is an essential part of FSSC 22000 and is based on the PDCA principle.

The implementation of FSSC 22000 took on average six to nine months, with a few deviations from one month to a year. The time spent on implementation was not mentioned in any of the articles but was considered an important aspect to study in this research. The certification bodies explained that it depends on the size of the company, the number of employees, the number of site locations, the scope, as well as the previous food safety management system. They mentioned that it could take from six months to a year, but if the previous food safety management system was BRC or IFS, it could take less: three to six months, as the system would not have to be change as much. The procedures that are needed are often already in place. This result was not expected. The researcher had discussed implementation with other sources (teachers & food safety professionals) and the time period often mentioned was around a year. The expectation was therefore that food producers would spend on average a year on implementation. The deviation between food producers in time was discussed with the interviewed certification bodies and advisory bureaus. The deviation of a month is a rare occurrence, as the waiting period to get audited by a certification body is often around three months or more.

4.1.3. Expectations of food producers of FSSC 22000

The questions on the expectations of food producers of FSSC 22000 were often answered with the response that the food producers did not have specific expectations. In 4.1.1. Motivations of food producers to implement, the motivation that is mentioned most is that was a customer requirement to have a GFSI benchmarked standard implemented. This was repeated in this question and affirmed by certifications bodies and advisory bureaus. Some of the food producers responded that they expected some kind of improvement to the food safety management system. They expected an upgrade to their current system (HACCP) and continued improvement of the FSMS. One of the certification bodies mentioned that often smaller companies misjudge the switch from BRC or IFS to FSSC 22000, as they think it would be easier. Others expected an improvement to the organization in that it would lift their organization to a higher level. Two certification bodies mentioned that food

producers often see it as a competitive advantage. One of the motivations should be mentioned here as well, Product quality. It was the expectation of increased product quality that made the food producer switch to FSSC 22000.

These results only correspond slightly to one of the articles mentioned in the literature review. The only article that had asked respondents what their expectations of the food safety management systems were was a student researcher (Nordenskjold, 2012). The companies they had interviewed responded that they expected increased sales, a larger customer base, an increased level of structure, introduction of better routines in the production, and a higher level of control in the production. The increased level of structure, the introduction of better routines and the higher level of control on the production floor correspond with the improvement to the food safety management system and organization some of the respondents expected, as well as the product quality motivation one of the food producers mentioned. This was not an expected result. This question was asked with the expectation that all of the food producers had various expectations of FSSC 22000. The expectations expected were similar to the expectations mentioned in the article: improvements of sales, better relations with customers, improvements of the FSMS and improved quality of products. Even though a few of the food producers mentioned an improvement of the FSMS and an improvement of the organization as an expectation, the number of responses was less than expected.

4.1.4. Advantages of FSSC 22000

The advantages listed in the chapter of Results were freedom to interpret scheme, GFSI scheme, focus on food safety, customer confidence, internationally recognized, better fit with the company, operational Prerequisite Programs, unannounced audits, and competitive advantage. This corresponds with the benefits mentioned in the literature review (Păunescu, Argatu & Lungu, 2017; Mensah & Julien, 2011; Teixeira & Sampaio, 2012; Zhang, 2001; Nordenskjöld, 2012). The advantages also had a strong connection with the motivations of food producers to implement FSSC 22000.

Freedom to interpret scheme can be related to 'product quality/safety enhancement and production process enhancement', 'improved efficiency of cost and time', and 'better adaption to legal or customer requirements'. One of the motivations to implement FSSC 22000 was the flexibility of the scheme. Food producers also see it as an advantage as the company does not have to comply with strict procedures or assurance methods that do not fit their company. FSSC 22000 offers guidelines to set up the food safety management system but does not dictate how it should be done. This result was expected. Even though it was not expected as a motivation, it was expected as an advantage of FSSC 22000. The assumption was made that FSSC 22000 would be easier to implement instead of BRC/IFS. This assumption was dismissed by the food producers, as they did not think the scheme was easier, but less restrictive to implement.

GFSI scheme can be related to 'improved market position', 'improved consumers' confidence' and 'better adaption to legal or customer requirements'. An aspect of FSSC 22000 is the supplier assessment, whether or not the supplier is suitable to supply raw materials or ingredients to the food producer. One of the requirements of the supplier assessment is that the supplier is certified with a GFSI benchmarked certificate. That is why many customers request a GFSI benchmarked certificate because it is a requirement of their own food safety management system. Also, ISO 22000, the scheme on which FSSC 22000 is based, is not a GFSI benchmarked scheme. So if food producers want an ISO standard which is GFSI benchmarked, they have to go with FSSC 22000. This was not expected as a result. The motivation Customer requirement can be linked to this advantage. Even though, customer requirement was expected as a motivation, it was not expected to be an advantage. Advantages, that were expected were similar to the advantages mentioned below.

Focus on food safety & *Unannounced audits* can be related to 'product quality/safety enhancement and production process enhancement'. Both of these advantages keep the QA manager sharp and

focused on food safety. The unannounced audits test how sustainable the system is when the auditor suddenly arrives to audit the company. When a company fully commits itself into implementing FSSC 22000 successfully, the company will have more efficient processes, less waste and less loss of products, thus financial benefits. This can be achieved with for example key performance indicators. The unannounced audits also ensure that the food producers rely less on the advisor as the company has to be able to produce safe food products even in the absence of an advisor. The advantage Focus on food safety was expected, but because the researcher was not aware of the unannounced audits before this research, it was not an expected result. As mentioned in the paragraph 4.1.1. Motivations of the food producers, the entire company should be focused on the safety of their food products. In reality, there are food producers, who are less committed to food safety and also act like it. Examples of acts of such producers, as discussed with the certification bodies, the advisory bureaus, but also some of the food producers, are filling in the registration forms a few days before the audit; cleaning the production line thoroughly before the audit; and in general, assuming that the food products are, because the company is certified.

Customer confidence & *Competitive advantage* can be related to 'improved market position', 'improved consumers' confidence' and 'better adaption to legal or customer requirements'. Food producers mentioned customer confidence as an advantage of FSSC 22000. They did it specifically to get a certain image in the market. They wanted to show that the food producer thinks about their hazards and how to control them. It appeals to many customers. A certification body mentioned that some food producers see FSSC 22000 as a competitive advantage. It can supply to both BRC and IFS companies without necessarily having a BRC or IFS certificate. These results were expected. Customer confidence and competitive advantage both can be related to the motivation to comply with customer requirements. As a certification body said: 'No food producer is in the business of just producing, they are always producing for a customer'. Another certification body mentioned that some customers have more faith in FSSC 22000, because it is an ISO standard. This is because it is based more on risk, as well as the PDCA principle.

Internationally recognized can be related to 'improved market position'. FSSC 22000 is a standard that is recognized all over the world. It is useful for export, which means a better market position in other countries as well as in the Netherlands. This advantage was also named as a motivation. It was expected that it would be an advantage. As mentioned in the literature review, the Netherlands is worldwide second when it comes to the export of food. Many of the food producers operating in the Netherlands export their food products and often have to comply with the food safety requirements of the country of origin. FSSC 22000 can be a competitive advantage when exporting, because it is accepted worldwide.

Better fit with company & *Operational Prerequisite Programs (oPRPs)* can be related to 'product quality/ safety enhancement and production process enhancement', 'improved efficiency of cost and time', and 'improvement of communication between company and stakeholders. The oPRPs were mentioned by a food producer, who at first had trouble with the oPRPs. However, when they learned the correct terminology, they were quite happy with the oPRPs as it covers aspects that need to be controlled but are not CCPs. This improves efficiency as well as improved product quality and safety and production processes. A food producer also mentioned that FSSC 22000 fit better with the company and its vision. This means that the communication between the company and its stakeholders will be improved.

4.1.5. Disadvantages of FSSC 22000

The disadvantages of FSSC 22000 according to food producers are legibility, takes effort and time, costs, freedom to interpret, unannounced audits, parts not certified yet. These aspects correspond with the difficulties reported by the articles (Păunescu, Argatu & Lungu, 2017; Mensah & Julien, 2011; Teixeira & Sampaio, 2012; Löfgren, 2012; Nordenskjöld, 2012). Several food producers thought FSSC 22000 has few disadvantages and did not answer the question.

Legibility can be related to the difficulty of 'Companies do not understand or are not able to read the requirement set by the FSMS'. This was the disadvantage that was named the most by food producers, certification bodies and advisory bureaus. The scheme is completely written in English, and the requirements can be misinterpreted when translated to Dutch. For smaller companies, without a quality employee, it can be hard to understand the 'food safety language'. The terminology can be confusing for people who are not used to working with food safety management systems. Some of the certification bodies mentioned that food producers also forget to implement the additional requirements, as they are hard to find on the FSSC 22000 website. This disadvantage was expected, as this was a reason why the researcher started this research. A surprising aspect to this disadvantage was that the certification bodies and advisory bureaus mentioned it as well. This might mean that FSSC 22000 will have to improve its legibility in future versions as multiple organizations had trouble navigating it or interpreting it. The legibility of the scheme is a negative trend as it impacts the way food producers implement FSSC 22000.

Takes effort and time, can be related to the difficulty of 'Companies do not have the time or resources to implement a food safety management system'. Two food producers mentioned that it took some time and effort to implement procedures and adjust the previous food safety management system to FSSC 22000. Also, several food producers, as well as certification bodies and advisory bureaus mentioned that it could take some effort and time to find every aspect of the FSSC 22000 certification. The basic requirements and sector-specific prerequisite programs are easy to find, but the additional requirements, such as Food Fraud and Food Defense can be quite hard to find on the website of FSSC 22000. This disadvantage was expected, as this was another reason why the researcher started this research. QA managers are often busy with other QA related tasks to implement FSSC 22000. This is often because the QA managers only get a few months to implement the system, which was mentioned by food producers, certification bodies and advisory bureaus. This can be a negative trend as the QA manager might skip over certain aspects in order to get the system implemented faster.

Costs can be related to the difficulty of 'Companies do not have the time or resources to implement a food safety management system'. One food producer thought the costs related to audits as well as other requirements, such as camera's for the Food Fraud, were quite high. Investments to conform with the requirements could be quite expensive. This disadvantage was not expected, as the assumption was that the costs would be similar between the three schemes. It would not negatively impact the number of food producers implementing FSSC 22000, as investments are also often required with BRC and IFS.

Freedom to interpret the standard can be related to the difficulty of 'Companies do not understand or are not able to read the requirement set by the FSMS'. The flexibility or freedom to interpret the standard is also mentioned as an advantage, but two advisory bureaus also stated it could be a disadvantage. The food producer could misunderstand the requirements or forget to substantiate the decision. When an auditor performs an audit they will receive a non-conformity. This could mean that the food producer might not be able to get certified or recertified. This disadvantage was expected. FSSC 22000 differs from BRC/IFS in that it is not a guidebook on what to do. The advisory bureaus, that mentioned the disadvantage, thought that some food producers would like a guidebook better to help them in the process of implementation.

Unannounced audits can be related to the difficulty of 'management or employees of the company are not involved enough in the process of implementation'. Even though it was also named as an advantage, a certification body and an advisory bureau mentioned it also as a disadvantage. They meant it not necessarily as a disadvantage of the scheme, but more as a disadvantage for food producers, where the management is not involved enough or does not care about food safety as much. In several of the interviews with the certification bodies as well as the advisory bureaus, it became clear that there are still food producers who create a fake sense of food safety. They either tamper with registrations or do not follow the procedures they had set out in their Quality Handbooks. The unannounced audits would count as a disadvantage since missing registrations or tampered registrations would count as a non-conformity. This disadvantage was not expected, because the researcher was not aware of the unannounced audits as a new addition to the scheme. In reality, this could definitely be a disadvantage, as there are many food producers who either rely on an advisor for their food safety management system, or where general management is not involved, according to the certification bodies and advisory bureaus.

Parts not certified yet cannot be related to the articles. The certification body that mentioned this disadvantage was not sure whether the scope of transport and storage services was covered by FSSC 22000. After review of the scopes certified under FSSC 22000 (FSSC 22000, 2018e), it was determined that this is not the case. The FSSC 22000 scheme covers several scopes, such as Farming (of animals for animal products), Food manufacturing, Food packaging, Animal feed, Catering, Retail, and Transport & Storage.

4.1.6. Advice for food producers

There was no literature review done on specific advice for food producers who want to implement FSSC 22000. The results cannot be compared with the literature available.

Many of the food producers would not change anything, except for one food producer. During implementation, the QA team had written a long list of oPRPs, which are prerequisite programs that control a significant hazard. It is a crucial control measure, but not considered a CCP as it has no absolute limit. They are often identified through risk assessments (Slowinski, 2015). In this case, the interviewee was not working at the company at the time of implementation of FSSC 22000. When they started, they found a long list with oPRPs, and with no clear risk assessment as to why the oPRPs were implemented. On the advice of an auditor, they did a thorough walkthrough of the company's processes and removed a lot of the oPRPs. The oPRPs came up during another interview with a representative of a certification body. They stated that it often happens that food producers misunderstand certain aspects and implement the wrong procedures. Other than this, there were no regrets of implementing FSSC 22000.

The companies were also asked what advice they would give to companies who want to implement FSSC 22000 in the future. The answers to this question were similar to the steps described in 4.1.2. (Process of implementation of FSSC 22000), because the food producers had little they wanted to change and were satisfied with their process of implementation. The advice that was given:

- Get to know the scheme
- Hire an advisory bureau
- Invest time in implementing
- Keep it simple
- Involve management and employees
- Continuously maintain the system

The advice that was given the most was *to get to know the scheme*: to read it through thoroughly, to follow courses on the subject and to start with the basics. Several food producers recommended to read through the requirements and determine what is needed to comply with FSSC 22000.

Another suggestion that was mentioned often was *to hire an advisory bureau* to help implement the scheme. Especially when the company is lacking sufficient knowledge to implement the food safety management system, an advisory bureau could be a 'wingman' as one of the food producers said. Not only do the advisory bureaus have guidelines on how to implement a scheme, but they also have specific knowledge. They often have plenty of experience with implementing the scheme in different sectors, and what might help in one company could work in another. Sometimes QA managers become blind to the faults in their system, and an advisory bureau could bring a different perspective. They can also act as interim QA manager when the company has no manager of its own.

Another recommendation of food producers was *to keep it simple*: only implement the parts that are necessary for the product/processes. The oPRPs are an example of this. The QA team wanted to do too much; they wanted to monitor several oPRPs which did not need to be an oPRP. The team misunderstood the terminology of the scheme.

Involve management and employees is an important piece of advice. During the interviews, the certification bodies and advisory bureaus spoke a lot about food producers where management or employees were not involved with producing safe food products. This led to registrations being tampered with to comply with an audit or procedures not executed as they should.

Continuously maintain the system was mentioned by a certification body and an advisory bureau. The advisor advised the food producer to think of where the company wants to be in two or three years and how the food safety management system can support that. This can be achieved with for example key performance indicators, with which tangible improvements can be tracked, such as a decreased loss of raw materials.

4.2. Reflection on the research process & methodology

In this paragraph, the process and methodology of the research are evaluated: the progress of the research, whether everything went according to plan, the similarities between the research and the literature review and aspects of the methodology the student would have differently, will be discussed.

In general, the research went according to the planning that was made before starting this research. The minimum of interviews required was achieved, as there was a total of 14 companies interviewed. Circa 30 companies were approached. However several of them had no time or interest to cooperate with the research or did not reply to requests for contact. Interviews were conducted with eight food producers, which is more than the set minimum of five food producers, and with three certification bodies and three advisory bureaus, which was the set minimum. The number of companies was right, as enough information was gathered to offer a conclusion that is based on multiple experiences.

The data collected can be considered reliable, as the responses were similar to each other and the responses will not change over time. If the same companies would be interviewed again, they would probably give the same answers, as the implementation was an event in the past. Their motivations, expectations, and perceived advantages and disadvantages would not change drastically. Also, the information gathered is not expected to change drastically, when the number of interviewees would be increased with for example 10 people. The outcome would most likely change when the number of responses would increase to 50 or more, because with a larger sample of food producers, it is

possible to make it a quantitative research. A quantitative research might give a different range of answers, similar to the answers presented in the articles from the literature review.

Some of the questions could have been formulated better. A few questions were answered with a different answer than was requested. This means that either the interviewee misunderstood the question or did not know enough on the topic. An example of this is the question 'What is typically the process of implementation of FSSC 22000?'. The question should have been changed for the certification bodies as some misunderstood the question and described the audit process. The description of the audit process can be found in Appendix V, as it did not answer any of the sub-questions. Another aspect that came up during processing of the interviews would be that especially the representatives of the certification bodies mentioned important factors for a successful implementation of FSSC 22000, such as 'establish a food safety culture within the company'.
Also, the control question about annual sales was not used in the final discussion, because only a few companies answered the question and it was not particularly relevant to the research.

While conducting the interviews, the question 'What did you expect from FSSC 22000?' was often answered similarly to the question about motivations. The food producers often had no or few expectations of the scheme before implementation. This was reflected by the articles from the literature review, as few had asked a similar question.

Next time the researcher would have to take a closer look at the questions for the different types of companies, taking into account that the auditors would not be involved with the implementation of the food safety management system, and look at the expected responses and whether the responses are useful for the research.

One of the sub-questions was not answered as was intended: 'What would the companies have done differently?' The questions in the interview that answered this sub-question were: 'What would you do differently next time?' and 'Do you have any advice for companies looking into implementing FSSC 22000?' The food producers did not have things they would have done differently. They did have advice for other food producers. The sub-question was answered with the pieces of advice the companies had given.

The interviews were conducted on a tiny scale compared to the articles reviewed in the literature review. Most of the articles mentioned in the literature review (Păunescu, Argatu & Lungu, 2017; Escanciano & Santos-Vijande, 2013; Mensah & Julien, 2011; Teixeira & Sampaio, 2012; Zhang, 2001; Crandall et al., 2012) had more than 100 responses, with a few exceptions of the student researchers (Löfgren, 2012; Nordenskjöld, 2012) who had six and three responses respectively. The articles were often based on quantitative research: the respondents were sent a questionnaire and had to choose from more elaborate answers. This research was qualitative, and the respondents were able to give their own interpretations of the questions. A smaller sample size of eight food producers means that there is not much diversity in the sectors in which the food producers operate and that some answers that were given in the articles are not given in this research. This means it has less depth than the articles.
The food producers interviewed are meat processors, dairy processors, convenience producers and vegetable processors. This might mean that when a food producer from a different sector, who wants to implement FSSC 22000, might not be able to relate to the problems or advice the interviewed food producers of other sectors had.

A non-influential factor in this research was time. The research was restricted with a limited time frame, and this meant that the interviews could only be conducted within two weeks. These weeks happened to fall in the autumn break. Several companies that were contacted were unavailable for interviews, as the person who had the information on FSSC 22000 was on leave.

Chapter 5: Conclusions & Recommendations

5.1. Conclusions

Food safety has become more and more important over the years, as there have been several developments in recent years, such as food scandals and new food safety management systems. As a food producer, it is vital to ensure the production of safe food products. Producers are required by law to have control measures in place or are required by customers to have a food safety management system in place to prevent causing harm to the consumer.

This research focused on the implementation of FSSC 22000 and the experiences Dutch food companies had during implementation. The objectives of this research were to identify the motivations that drive Dutch food producers to adopt FSSC 22000 as their food safety management system, as well as identify the advantages and disadvantages that come with FSSC 22000 and provide points of advice for food producers who want to implement FSSC 22000 in the future.

In this paragraph, conclusions are made based on the findings from the literature review and the results from the interview. First, the sub-questions will be answered, and with those answers, the main question can be answered.

Sub-question 1: What are the motivations for food companies to implement FSSC 22000?

The motivations of food producers were customer requirements; the flexibility of the scheme; a better fit with the company; an ISO standard; a management request; product quality; internationally recognized; the lower costs.

Sub-question 2: How do Dutch food companies typically implement FSSC 22000?

To implement FSSC 22000, the food producers followed at least one of the following steps: read through the standard; make a gap analysis; fill in missing documents; follow a course; or hire an advisory bureau. These steps can be taken with or without an advisory bureau. The reasons that food producers hired an advisory bureau were often because the QA manager did not have the expertise or the time to implement the scheme. The implementation took on average six to nine months, but this time period depends on the system food producers previously had implemented and the size of the company.

Sub-question 3: What are the expectations food companies have of FSSC 22000?

The food producers had few expectations, as the scheme was to comply with customer requirements. A few food producers mentioned that they did expect an improvement to their food safety management system or organization. The food producers did think that FSSC 22000 had improved their FSMS or organization.

Sub-question 4: What are the advantages of implementing FSSC 22000?

The advantages mentioned were the freedom of interpretation; a GFSI benchmarked scheme; it keeps the food producer focused on food safety; a boost in customer confidence; a competitive advantage; internationally recognized; better fit with the company; and the oPRPs.

Sub-question 5: What are the disadvantages of implementing FSSC 22000?

The disadvantages that were mentioned were the legibility; the effort & time; the cost of investments; the freedom to interpret the standard; and the unannounced audits. However, this was only mentioned by a few companies, as most food producers think FSSC 22000 does not have any disadvantages.

Sub-question 6: What would companies have done differently?

The food producers had few things they would do differently. One food producer would have implemented less oPRPs, but besides that would not change anything. The companies were also asked what advice they would give to food producers who want to implement FSSC 22000. They recommended the following: know the scheme; hire an advisory bureau; invest time; keep it simple; involve management & employees; and continuously maintain the system.

Now that the sub-questions are answered, the main question can be answered:

How was the process of implementing FSSC 22000 handled in food production companies?

Overall the process went well at most food producers. The scheme was often implemented because a customer requested it or because the food producers liked the flexibility of the scheme. The advantages were similar to the motivations: next to the flexibility of the scheme and that it is GFSI benchmarked, the food producers also noticed a boost in customer confidence and liked that the scheme is internationally recognized. The main disadvantage of the scheme is its legibility. The advice given for food producers who want to implement FSSC 22000 are discussed in the next paragraph.

5.2. Recommendations

5.2.1. Short term recommendations

This research can be used by food producers, who want to implement FSSC 22000. They could relate to the motivations mentioned, follow the steps of the process of implementation and they could consider expectations, advantages and disadvantages of the scheme.
When food producers start with the implementation of FSSC 22000, they should consider following these steps:

- Get to know the standard

Be properly prepared. Read the basic requirements of FSSC 22000, the sector-specific prerequisite programs and the additional requirements thoroughly through. Make sure the terminology is understood. Otherwise it can become confusing. If there is no basis of food safety yet, start with mapping the flowcharts and perform a HACCP analysis. When the company already has a food safety management system implemented, make a gap analysis comparing the current system with the requirements for FSSC 22000. Follow a course to get to know the standard better and apply it to the company.

- Keep it simple

Don't make it too complicated by implementing too many aspects. However, the decisions made have to be substantiated. Keep an eye on the structure of FSSC 22000. First define the prerequisite programs, so that the HACCP analysis is less complex and the company can focus more on the processes instead of the prerequisite programs.

- Involve management and employees

Make sure that general management remains involved, as well as employees. It is important that the entire company realizes the food safety management system contributes to safer food products. Certificates are not a guarantee that the company produces safe food, it is just proof that it produces safe food at the moment of the audit. The company has to stand for food safety. Try to get the support of general management, because processes or procedures might have to be changed.

- Hire an advisory bureau

If the company does not have the expertise to implement the systems themselves, they should hire an advisory bureau. An advisory bureau can help with a gap analysis, with training, with writing the quality handbook and act as an interim manager during audits, etcetera. The advisory bureaus also have a frame of reference and the expertise from other companies to help implement FSSC 22000. However, it is also important that the company does not rely too much on the advisory bureau. After all, the company has to be able to produce safe food products 365 days of the year.

5.2.2. Long-term recommendations

- Continuous maintenance of system

When FSSC 22000 is implemented, it is important to keep maintaining the system continuously. This can be done following the PDCA principle. Plan the activities, Execute them, Check whether the activities are producing the effect expected and Act on them if they are not. Another way to continuously maintain the system is to set key performance indicators, which are goals set to reach tangible improvements.

- Stay up-to-date with the developments of FSSC 22000

Try to stay informed of the developments of FSSC 22000, such as new additional requirements. Also keep updated by following courses.

- Establish a food safety culture within the company

While general management and employees being involved during implementation is important, it is just as important to keep the company involved after implementation. A food safety culture should be established in the company. With a strong food safety culture in the company, employees will do the right thing, even when no one is watching or when it is not convenient. The food safety management system is supported by the food safety culture, and in time procedures should become the normal thing to do.

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Appendix I: Interview English

Food companies:

1. What is your function in the company?
2. What tasks do you have
3. What does the company produce?
4. How many employees does the company have?
5. What are the annual sales of the company?
6. Who are your customers?

7. What were your motivations to implement FSSC 22000?
8. What was the process of the company to choose to implement FSSC 22000?
9. Who took the initiative?
10. What was the process of implementation of FSSC 22000?
11. How long was the process?
12. When did you start and when did you get the certificate?
13. Did you use an advisory bureau to implement FSSC 22000?
14. Do you think there is enough information available on FSSC 22000?
15. What did you expect from FSSC 22000?
16. Did your expectations come true?
17. What benefits do you think implementing FSSC 22000 has had for your company?
18. What were the barriers you ran into when implementing FSSC 22000?
19. What would you do differently next time?
20. Do you have any advice for companies looking into implementing FSSC 22000?

Certification bodies/Advisory bureaus:

1. What is your function in the company?
2. What tasks do you have?
3. Who are your customers?

4. Why do companies typically choose FSSC 22000?
5. What is typically the process of implementation of FSSC 22000?
6. How long does the process take often?
7. Do you think there is enough information available on FSSC 22000?
8. What are the expectations food companies have of FSSC 22000?
9. What are in your opinion the advantages of implementing FSSC 22000?
10. What are in your opinion the disadvantages of implementing FSSC 22000?
11. What are mistakes companies often make when implementing FSSC22000?
12. Do you have any advice for companies looking into implementing FSSC 22000?

Appendix II: Interview Dutch

Voedselproductie bedrijven:

1. Wat is uw functie in het bedrijf?
2. Wat zijn uw taken?
3. Wat voor producten produceert het bedrijf?
4. Hoeveel medewerkers heeft het bedrijf?
5. Wat zijn de jaarlijkse verkoopcijfers van het bedrijf?
6. Wie zijn jullie klanten?

7. Wat waren jullie redenen om FSSC 22000 te implementeren?
8. Hoe kwamen jullie bij de keuze om FSSC 22000 te implementeren?
9. Wie nam het initiatief?
10. Wat was het proces om FSSC 22000 te implementeren?
11. Hoe lang duurde het proces?
12. Wanneer begonnen jullie en wanneer kregen jullie het certificaat?
13. Hebben jullie gebruik gemaakt van een advies bureau om FSSC 22000 te implementeren?
14. Is er volgens u genoeg informatie beschikbaar over FSSC 22000?
15. Wat verwachtten jullie van FSSC 22000?
16. Kwamen jullie verwachtingen uit?
17. Wat voor voordelen denkt u dat FSSC 22000 implementeren het bedrijf heeft opgeleverd?
18. Wat voor obstakels kwamen jullie tegen toen jullie FSSC 22000 aan het implementeren waren?
19. Wat zouden jullie anders doen volgende keer?
20. Heeft u advies voor bedrijven die FSSC 22000 zouden willen implementeren?

Certificatie instellingen/Adviesbureau's:

1. Wat is uw functie in het bedrijf?
2. Wat zijn uw taken?
3. Wie zijn jullie klanten?

4. Waarom kiezen bedrijven voor FSSC 22000?
5. Wat is het proces om FSSC 22000 te implementeren?
6. Hoe lang duurt het proces vaak?
7. Is er volgens u genoeg informatie beschikbaar over FSSC 22000?
8. Wat zijn de verwachtingen die bedrijven hebben van FSSC 22000?
9. Wat zijn de voordelen van FSSC 22000 volgens u?
10. Wat zijn de nadelen van FSSC 22000 volgens u?
11. Wat zijn fouten die bedrijven vaak maken wanneer ze FSSC 22000 implementeren?
12. Heeft u advies voor bedrijven die FSSC 22000 zouden willen implementeren?

Appendix III: Processed interviews

1. VNK Herbs: Jolanda van Roozendaal

1. **What is your function in the company?**

QA manager

2. **What tasks do you have?**

I am responsible, as QA manager, for the food safety system, audits, supplier assessments, customer complaints, recalls. So all theory related things associated with a quality system. Next to that, we have a Quality Control employee, who handles the actual quality checks of the food products.

3. **What does the company produce?**

We dry parsley in the summer months from June till October and valerian root from October till June. The valerian root is for medical purposes only. The parsley is grown by farmers who have a contract with us. We deliver the seeds, we assist in the cultivation process, we let the farmers harvest the parsley, which we then dry at our facility.

4. **How many employees does the company have?**

25 employees.

5. **What are the annual sales of the company?**

10 million euro

6. **Who are your customers?**

We are the first link between farmer and processor. The parsley is for the herb processing industry. We only dry and package herbs and deliver it to food processors. One of our customers makes a melange, which has parsley in it, to spray it over chips from Lays or Pringles. Another customer of ours is Euroma, which make herbs melanges for food producing companies, so the next step in the chain. We also have customers that package the parsley into consumer packaging for the retail.

7. **What were your motivations to implement FSSC 22000 / What was the process of the company to choose to implement FSSC 22000?**

Before FSSC 22000, we had Dutch HACCP and ISO 9001 certificates, and when ISO 22000 was introduced, we switched to that certificate as ISO 22000 is a certificate that looks at food safety in an ISO manner. It was a lot easier. So we first had ISO 22000, and later we switched to FSSC 22000 by implementing the prerequisite programs. The reason for that is to have a GFSI benchmarked certificate. Many customers request that. FSSC 22000 was the easiest option for us. BRC/IFS requires a lot of a company, and for our company, it is too much. It is too rigid and not flexible at all. BRC/IFS is specifically made for food producers who deliver to retail. For now is FSSC 22000 sufficient for customers who request BRC/IFS.

8. **Who took the initiative?**

I took the initiative in consultation with management.

9. **What was the process of implementation of FSSC 22000?**

I first studied the ISO 22000 standard. I first looked at what we should add to comply with the ISO 22000 standard. I followed a one day course for the ISO 22000 standard. An external bureau helped us by looking at which documents we needed. This was mostly because during this period of the switch I was going on maternity leave. I implemented the FSSC 22000 prerequisites myself.

10. **When did you start and when did you get the certificate?**

In January 2011 we started with the process for the ISO22000 certificate, and we obtained the certificate in September 2011. We implemented the prerequisite programs needed for FSSC 22000 in 2014.

11. **Did you use an advisory bureau to implement FSSC 22000?**

We used an independent advisory bureau.

12. Do you think there is enough information available on FSSC 22000?
ISO 22000 is quite simple. You order the standard and read through it, and you check with what points you have to comply. It is quite simple and clear. I was familiar with the ISO norm, and it was not complicated. The FSSC 22000 website was quite difficult to find the correct information. It also describes what requirements an auditor, an audit or a certification body should comply with. It is quite hard to distinguish the standard for food producers. I think it could be more simplified by for example separating the different parts. Also, the standard is in English, the requirements can be interpreted differently in Dutch.

13. What did you expect from FSSC 22000?
We did not really have expectations in the sense that when we are certified the customers will come to us.

14. Did your expectations come true?
No answer.

15. What benefits do you think implementing FSSC 22000 has had for your company?
We did it specifically to get a certain image in the market. We wanted to show that we think about our hazards and we are certified for controlling those hazards. We did it to gain customer confidence. The large multinationals demand you have a GFSI benchmarked certificate.
It is standard that you have a GFSI benchmarked certificate and customers expect it as well. It is not a surprise to them.

16. What were the barriers you ran into when implementing FSSC 22000?
It was nothing new for us. We came from the HACCP and ISO 9001 norms. The only thing was the verification and validation procedures you have to do annually. That was something we had to think about how we were going to do it. And certain procedures you had to have. No, we did not have any crazy things, which surprised us particularly. The additions to the standard, such as Food Fraud or Food Defense, are something that we had to think about how are we going to handle this. We get many customer audits, like 5 or 6 a year. As well as the certification audits annually. We notice that you get a lot of direction what to do. Especially with the customer audits, they say 'Oh we will just send you this document, and you can go ahead with that.' The first audit was quite tensive, like did we implement everything correctly and did we execute everything correctly. Because we already had an ISO standard implemented, the step to switch was not that big.

17. What would you do differently next time?
No, it went well.

18. Do you have any advice for companies looking into implementing FSSC 22000?
Every company is different as in where do you come from, what do you produce.
Start with the HACCP part and read the standard thoroughly through. Look at what you need.
Don't try to do too much and keep it simple.

2. Vocking Leverworst: Paul Vocking

1. What is your function in the company?

Director

2. What tasks do you have?

Almost everything that has to be done. Managing the company. So I am responsible for food quality and safety, invoices, purchasing, administration, production.

3. What does the company produce?

Liver sausages, under the own brand or private label. As well as other products, such as beef burgers, meatballs and ox sausage.

4. How many employees does the company have?

Five employees.

5. Who are your customers?

Retail, food service professionals and institutions.

6. What are the annual sales of the company?

Did not want to share financial info.

7. What were your motivations to implement FSSC 22000/ What was the process of the company to choose to implement FSSC 22000?

We had to have a GFSI benchmarked certificate. We came first from Dutch HACCP and when that stopped we switched to the BRC certificate. However, BRC became too complicated and better suited for large companies, unlike ours. It had too many rules, regulations and such for us. It simply was not possible for us to maintain the system, as in the BRC system you have to have teams for many aspects. We do not have the employees for those teams. It is not necessarily easier than BRC, but it is better suited for small companies, such as ours.

8. Who took the initiative?

I did.

9. When did you start and when did you get the certificate?

We got our certificate in July 2015. We grew from HACCP to BRC to FSSC 22000. We renewed our certificate three weeks ago. It is not something you can say that it took only an hour or a week. The quality system is always changing. It should be woven into the company; it cannot be done by one person.

10. Did you use an advisory bureau to implement FSSC 22000?

We used the N&S consultancy bureau for the implementation. They act as our interim quality manager. We are a team, they have their responsibilities, and I have mine. They keep me on my toes when it comes to knowledge and know-how. We have an external lab that checks our products for microbiological criteria. N&S wrote the quality handbook.

11. Do you think there is enough information available on FSSC 22000?

Yes, the standard is available through the certification bodies. We were informed enough on the standard.

12. What did you expect from FSSC 22000?

I think it is something you need to do to be able to supply products to certain parties. That you are allowed to do business. The companies are not surprised that you have a GFSI benchmarked certificate implemented.

13. Did your expectations come true?

No answer.

14. What benefits do you think implementing FSSC 22000 has had for your company?

No answer.

15. What were the barriers you ran into when implementing FSSC 22000?
We are a smaller company, and we do not really speak the language needed to be able to implement FSSC 22000. That is why we needed the advisory bureau. No, since we already had the BRC certificate we had an easy transition to FSSC. The new additions to the standards, such as Food Fraud and Defense are especially relevant for us, due to the horse meat scandal of a few years ago. An issue we had was thinking about whether we wanted to implement cameras in our process. The costs of audits, analyses, internal audits and the advisory bureau are quite high. This is a necessary cost for the company, but it is a large portion of our expenses.

16. What would you do differently next time?
Nothing.

17. Do you have any advice for companies looking into implementing FSSC 22000?
If you do not have the knowledge of the systems yourself, hire an advisory bureau. However, it is costly. It is not something that you can just implement; you do not have that knowledge. You need a wingman that advises your company.

3. Henri Willig: Anneke de Valk

1. **What is your function in the company?**

Manager KAM and R&D

2. **What tasks do you have?**

I am responsible for Quality, Employee Safety and Environment, R&D for the entire company.

3. **What does the company produce?**

Cheese, nature ripened.

4. **How many employees does the company have?**

400 employees, that is including the shops.
Location Heerenveen: 75.
Location Katwoude: 45.

5. **Who are your customers?**

We have our own shops, and we supply to business to business customers all over the world.

6. **What were your motivations to implement FSSC 22000/ What was the process of the company to choose to implement FSSC 22000?**

We only had Dutch HACCP certificate before at the location Katwoude and customers requested a GFSI benchmarked standard. The FSSC standard is more flexible in its requirements. You can give your own interpretations to the requirements and risk analysis. The location Heerenveen supplies to customers all over the world, and those customers requested BRC or IFS certificates. The location Katwoude supplies more to the Dutch market, and that is why FSSC was more suited for that location.

7. **Who took the initiative?**

I took the initiative.

8. **What was the process of implementation of FSSC 22000?**

We read through the standard. We already had a food safety management system implemented, which is similar for both locations. So it was only a matter of do we comply with the standard in every regard.

9. **How long was the process?**

It took us three quarters of a year.

10. **When did you start and when did you get the certificate?**

We started in 2015 and in January 2016 we received our certificate.

11. **Did you use an advisory bureau to implement FSSC 22000?**

No.

12. **Do you think there is enough information available on FSSC 22000?**

Yes, we just used the standard, and we had enough experience with implementing a system.

13. **What did you expect from FSSC 22000?**

Many customers request a GFSI benchmarked standard.

14. **Did your expectations come true?**

No answer.

15. **What benefits do you think implementing FSSC 22000 has had for your company?**

That we are now certified to a GFSI standard. This appeals to many customers that we make products with a certain level of food safety.

16. **What were the barriers you ran into when implementing FSSC 22000?**

Nothing.

17. What would you do differently next time?
We would not change anything.

18. Do you have any advice for companies looking into implementing FSSC 22000?
If you have no experience with implementing a system, I would recommend using an advisory bureau. We used a zero-audit, which is an audit that shows you where you stand at that moment and what should you change to comply with the standard. This was helpful for us to check what we should do.

4. Anonymous meat processor

1. **What is your function in the company?**

I am QA manager and I do R&D as well.

2. **What tasks do you have?**

My tasks involve everything surrounding the QA system, so writing documents for production processes, allergen management, customer complaints, etc.

3. **What does the company produce?**

We produce almost 2000 products from game and poultry, such as stews, smoked products, roasted products and marinated products.

4. **How many employees does the company have?**

50 employees at the production location and 40 working at Sligro locations.

5. **Who are your customers?**

We are a partner of Sligro, which means we have a shop in the stores.
Next to that, we have food service customers and institutions.

6. **What were your motivations to implement FSSC 22000/ What was the process of the company to choose to implement FSSC 22000?**

We come from BRC, and that was very prescriptive, so this is a requirement, and this is how you have to implement it. At FSSC we have the freedom. FSSC says this is what the result should be; it does not matter how you achieve that result. That is why I choose for FSSC. I think this is what it should be like. BRC is more for large companies with only a few products and large process lines. We have a lot of small processes, and we cannot achieve the same result in the same way.

7. **Who took the initiative?**

I took the initiative together with our advisor bureau.

8. **What was the process of implementation of FSSC 22000?**

They did a zero-audit, and I worked out the procedures. They did the generic side of the system, and I filled in the more company-specific gaps.

9. **Did you use an advisory bureau?**

Yes, we used an advisory bureau, where someone worked who was in the FSSC board or something like that.

10. **How long was the process?**

Actually a week. Because we had a BRC certificate, it was easy to switch. We only had to write a list of oPRPs. We made sure that our quality system complied with BRC, IFS and FSSC 22000. We had spoken with an auditor, and we were able to quickly schedule an audit within a month.

11. **When did you start and when did you get the certificate?**

This was in 2016.

12. **Do you think there is enough information available on FSSC 22000?**

Yes, you can just download the ISO 22000 standard and some additional requirements. It was some work to find everything. BRC just had a guidebook and you could easily read through it.

13. **What did you expect from FSSC 22000?**

We heard stories from the industry that it was a better system to work with than BRC. Moreover, that was true.

14. **Did your expectations come true?**

Yes.

15. **What benefits do you think implementing FSSC 22000 has had for your company?**

We do not have to use strict procedures or assurance methods, which do not fit our company. For example, BRC requires a company to set up everything a process line requires, such as raw materials, packaging, labels, etc., before you can release the line. Because we have so many different small process lines, this is just not possible.

16. What were the barriers you ran into when implementing FSSC 22000?
Nothing

17. What would you do differently next time?
Nothing.

18. Do you have any advice for companies looking into implementing FSSC 22000?
I would advise hiring an advisory bureau.

5. Marfo: Jef Nikkelen

1. What is your function in the company?
Head Quality service, or QA manager

2. What tasks do you have?
I manage the daily quality tasks, such as the quality check of the products, as well as customer complaints, managing the food safety system. I also manage the ISO 14001 standard.

3. What does the company produce?
Meals, mostly frozen meals.

4. How many employees does the company have?
300 employees

5. Who are your customers?
We produce for airline services and food services, such as hospitals, prisons and the Dutch army. One of our larger customers is KLM. Most of the airline services are international.

6. What were your motivations to implement FSSC 22000?
FSSC 22000 leaves the decision of controlling processes in the hands of the company, unlike BRC. We do have BRC as well because customers request a BRC certificate. Most of the time a customer wants a GFSI recognized standard.

7. Who took the initiative?
The previous Production manager, who had much experience in quality. He took the initiative and requested the quality department to implement the certificate.

8. What was the process of implementation of FSSC 22000?
I was not there when the certificate was implemented.

9. How long was the process?
More than six months.

10. When did you start and when did you get the certificate?
No answer.

11. Did you use an advisory bureau to implement FSSC 22000?
Yes, we used an advisory bureau. The advisory bureau gave us a guideline of what we had to implement, and the quality department implemented the system themselves.

12. Do you think there is enough information available on FSSC 22000?
For someone who does not have much experience with implementing a food safety system, it can be quite difficult. A more experienced QA manager and someone who is experienced with the structure of a food safety system should be able to handle it. When you are inexperienced, I advise you to get help from an advisory bureau.

13. What did you expect from FSSC 22000?
No answer.

14. Did your expectations come true?
No answer.

15. What benefits do you think implementing FSSC 22000 has had for your company?
It is the same as our reasons to implement FSSC. Another advantage for us is that certain aspects, which would not be a CCP in BRC, are easier to control with FSSC as an oPRP.

16. What were the barriers you ran into when implementing FSSC 22000?
I was not the one who implemented FSSC, but when I started here, I found a long list with oPRPs. I could not find a reasoning why they made certain aspects an oPRP. The list was too long and checking

every one of them lost its value of being an oPRP. We did not know why we were checking things. A few years later, we had an auditor, who was the scheme manager of the Certification Body, who helped us to take a closer look at the oPRPs. We took a lot of the oPRPs from the list. We redefined certain oPRP's as they were still essential. We had to show employees why they were necessary for the process. I am still learning with training courses and such what an oPRP is, and I keep updating them.

17. What would you do differently next time?
We would definitely implement less oPRPS.

18. Do you have any advice for companies looking into implementing FSSC 22000?
Make sure that you know what the terms mean so that you do not get confused.
I can recommend an introductory training course or any course related to a quality system. If you do not have time for such courses, I would advise to hire an advisory bureau.

6. Vreugdenhil: Richard Berends

1. **What is your function in the company?**

Plant director of the location Vreugdenhil Barneveld

2. **What tasks do you have?**

I manage the production location, so from finance to quality.

3. **What does the company produce?**

We mix milk powders; we do not spray dry the powders. We mix whole milk powders, skim milk powders, milk powder preparations with for example added ingredients, such as cacao or vitamins.

4. **How many employees does the company have?**

56 employees

5. **What are the annual sales of the company?**

We produce 60 000 tonnes of milk powder a year

6. **Who are your customers?**

We only do business to business all over the world, but especially within Europe. The customers in Europe are mostly ice cream producers, bakeries, chocolate producers, cookies producers and even customers such as McCain. We produce for products that used to have milk ingredients in them, but nowadays milk powders are used.

7. **What were your motivations to implement FSSC 22000 /What was the process of the company to choose to implement FSSC 22000?**

That is two reasons. We had the Dutch HACCP system implemented. I came from the chemical industry and in my opinion was HACCP not sufficient enough as a management system. What I mean is that the organization was not organized as it should be in my opinion. I missed the Plan-Do-Check-Act principle, which is a principle that I knew from the ISO 9001 standard, the quality management system for the organization. This is why we switched to FSSC 22000, the combination of HACCP and ISO standard. Another reason was that management wanted us to switch. They wanted to send the signal that our products would be elevated to a higher quality standard, that had a more commercial undertone. For me the commercial reason was less important than the food safety reason.

8. **Who took the initiative?**

I was the one who took the initiative. I hired a quality manager specifically to switch to FSSC 22000 as I did not have the knowledge to make the switch.

9. **What was the process of implementation of FSSC 22000?**

I had experience with implementing ISO standards. A quality system fails or succeeds depending on where you start. I started with the flow charts of the processes, what do we do, how does it work and where do we make decisions. We evaluated the processes based on the flowcharts and thought about improvements we could make to the system. Only after we had done that, we started writing procedures, etc. A food safety management system should be a continuously improving system, so you should have meetings and discussions on what has been done, you should determine key performance indicators to see what goes well and what could be improved.
My motto is Good can always be improved, and Quality is the organization, Organisation is quality. Every organization has a total quality system; even chaos is a form of organization. In my opinion, you should organize your organization in such a way that every step in the process lead to the fulfillment of the requirements of the standard and the customers. A food safety management system should be a tool for you to efficiently manage your processes. You have to have the support from management. Otherwise you are not able to successfully implement a food safety management system.

10. **How long was the process?**

No answer.

11. **When did you start and when did you get the certificate?**

We first received the certificate in October 2013. For us, it didn't take too long to implement FSSC 22000, because I already had adjusted our HACCP system to incorporate ISO 9001, etc. A year later,

however, we had a lot of Minors and Majors, which were not found during the initial audit. We were still certified, but I was not happy, because we had to improve a lot before the audit of 2015.

12. Did you use an advisory bureau to implement FSSC 22000?
No.

13. Do you think there is enough information available on FSSC 22000?
You can find enough information online or in books. If you do not understand the standard, you should hire an advisory bureau. If you do not know where to start, start with ISO 9001.

14. What did you expect from FSSC 22000?
I expected to get a better system. I want to continuously improve the food safety of our products.

15. Did your expectations come true?
Yes.

16. What benefits do you think implementing FSSC 22000 has had for your company?
FSSC 22000 offers guidelines to set up your quality system and how you control your hazards. FSSC 22000 keeps you sharp and focused on the food safety system.

17. What were the barriers you ran into when implementing FSSC 22000?
My quality manager had the advantage that I was involved with managing the quality system. I think that is the biggest barrier; when your management team is not involved in the process and just wants the certificate to show that they can produce. When management is not involved the employees are hard to convince why a certain process has to happen. I do not think FSSC 22000 has any disadvantages.

18. What would you do differently next time?
Nothing.

19. Do you have any advice for companies looking into implementing FSSC 22000?
Before you begin with implementing FSSC 22000, you have to immerse yourself in the materials, for example, follow a course about FSSC 22000. You have to have an involved management team.
Another advice I have is for the employees on the production floor. They should not be scared to answer questions from the auditor about their work. When they should have done a certain task but didn't do it, they should be allowed to tell the auditor this, because that gives room for improvement.

7. Henningsen: Michiel van der Broek

1. What is your function in the company?
QA manager

2. What tasks do you have?
Managing the quality system, keeping an eye on law and regulations, managing the quality handbook, managing employees of the laboratory. The laboratory is for the preparation of samples for the external laboratory.

3. What does the company produce?
Dehydrated meat products, powders and granules.

4. How many employees does the company have?
45

5. What are the annual sales of the company?
€14 million

6. Who are your customers?
We deliver business to business. We have customers, such as Nestlé, Honig and Maggi.

7. What were your motivations to implement FSSC 22000 What was the process of the company to choose to implement FSSC 22000?
We had a HACCP system, and the large multinationals started to demand a third party certification. We hired an advisory bureau, which advised to implement FSSC 22000.

8. Who took the initiative?
It was a mutual decision with management that we had to switch to FSSC 22000.

9. What was the process of implementation of FSSC 22000?
We already had a lot described in our quality handbook, but not specifically according to the standard. We hired an advisory bureau, who gave us a guideline what we had to change after they had taken a look at our system. Any additions, such as Food Fraud and Defense, we did ourselves.

10. How long was the process?
Six months.

11. When did you start and when did you get the certificate?
2013

12. Did you use an advisory bureau to implement FSSC 22000?
Yes.

13. Do you think there is enough information available on FSSC 22000?
Yes, I do think it is somewhat of a messy standard. When you compare it to BRC and IFS, those standards are much clearer in their description, so this is what you have to do, and this is what you shouldn't do. You have to search on the website for the different elements, for example, the ISO 22000 is not on the FSSC website.

14. What did you expect from FSSC 22000?
Nothing specifically. It was basically an upgrade of the system we had. We did it to improve ourselves, to comply with customer expectations and to have certain aspects written down.

15. Did your expectations come true?
No answer.

16. What benefits do you think implementing FSSC 22000 has had for your company?
FSSC gives more space to make your own decisions when it comes to control measures.
It is a standard that is recognized all over the world.

17. What were the barriers you ran into when implementing FSSC 22000?
No, we had most of it already implemented.

18. What would you do differently next time?
Nothing.

19. Do you have any advice for companies looking into implementing FSSC 22000?
Before you start, hire an advisory bureau. The standard is not easy to read. The advisory bureaus have a gap list to fill in what you have to identify what you are missing. They also have a frame of reference of what to do.

8. Royal Bel Leerdammer: Eva van Galen

1. What is your function in the company?
QA specialist

2. What tasks do you have?
Monitoring of food safety and quality using improvement programs.

3. What does the company produce?
Cheese.

4. How many employees does the company have?
In the Netherlands, circa 500 employees.

5. What are the annual sales of the company?
You can find them on the internet; I am not sure of them.

6. Who are your customers?
Business units, wholesalers, cheese traders, B2B, subcontractors.
Our Leerdammer cheese does not go directly to the consumer, but first goes to a business unit, these can be whole cheeses, but also cut cheeses (in slices, pieces, cubes etc).
We also sell many types of cheese business to business, and these are then sold, traded and/or cut by another company.
We also supply other BEL (the parent company) locations, for example, they use our cheese as a raw material for other products.

7. What were your motivations to implement FSSC 22000?
It fits with the vision of Royal Bel Leerdammer.
Better HACCP structure
More freedom for own interpretation (compared to BRC)

8. What was the process of the company to choose to implement FSSC 22000?
The choice was made together with the QESH/QA team and a consultant. FSSC is growing in popularity, and we have to take the customer requirements into account. This probably led to the choice to switch to FSSC22000.

9. Who took the initiative?
This was together with the QESH/QA team and the consultant.

10. What was the process of implementation of FSSC 22000?
A gap analysis was executed, and many training courses were given.

11. When did you start and when did you get the certificate?
I think we worked between 2014 and 2015 on the implementation and in 2016 we received the first certificate.

12. Did you use an advisory bureau to implement FSSC 22000?
A consultant, she has her own company and a lot of knowledge and experience with FSSC.

13. Do you think there is enough information available on FSSC 22000?
There is enough information available, but because it consists of different ISO standards, it is sometimes difficult to understand the whole picture and the whole process.
Also, components within the standard change quite often, which is rather difficult to keep up to date and implement within the organization.

14. What did you expect of FSSC 22000?
That it would lift our organization to a higher level.

15. Did your expectations come true?

I think so. But I was not employed at the company when BRC was implemented. However, generally, we are satisfied with the certification, and we noticed that customers keep FSSC in high regard.

16. What benefits do you think implementing FSSC 22000 has had for your company?
No big advantages compared to BRC. However, it is a globally recognized certification, and this is very useful for export.

17. What were the barriers you ran into when implementing FSSC 22000?
It mainly was a lot of work and adjustments within the current quality system.

18. What would you have done differently next time?
I would not know

19. Do you have any advice for companies looking into implementing FSSC 22000?
I would definitely recommend it! Be sure to let yourself be informed of the contents of the certificate.

9. SGS: Adalsino da Cruz Ramos

1. **What is your function in the company?**

Sales employee.

2. **What tasks do you have?**

I am responsible for the entire route from the application of the company till contract while in contact with a company.

3. **Who are your customers?**

Companies that are active in the food industry; food producers, transport companies, food processors, packaging companies.

4. **Why do companies typically choose FSSC 22000?**

Often it is a requirement from their customer or stakeholders. Companies would not certify themselves unless it means they can attract customers or something similar. Customers often request a GFSI benchmarked certificate.

5. **What is typically the process of implementation of FSSC 22000?**

I am not sure; I will ask an auditor:
First give the prerequisite programs with the ISO / TS, in which especially the management of utilities (steam, water, air, ...) and the control of services demand attention.
Every company has had to have a HACCP system since 1995, but that is just a bit different in the ISO22000 standard (which is the core of FSSC). So after the prerequisite program with the HACCP team perform the hazard analysis and come up with (new) prerequisites, OPRPs and/or CCPs.
Next, to that, carry out the analyzes for Food Defense and Food Fraud.
Write down the control measures of all of the above in procedures and work instructions and train employees to implement these.
Subsequently define and elaborate all mandatory parts of ISO222000 (policy & objectives, recall/emergencies, etc.).
Finally, there are also the requirements for environmental research and allergen management - check whether these are sufficiently covered and if not, do so.
If everything runs for approx. 2 months, perform internal audits on all parts and, if sufficient results, also a management review (including verification).

6. **How long does the process take often?**

No answer

7. **Do you think there is enough information available on FSSC 22000?**

I do think there is enough information available. You can download the standard from the website. You do have to search a bit more to find all the documents.

8. **What are the expectations food companies have of FSSC 22000?**

On the application form, they have to fill in, is one of the questions, what do you expect from FSSC. It is often seen as a competitive advantage. You can also not avoid it. There will always be one company in the chain who demands a certain certificate.

9. **What are in your opinion the advantages of implementing FSSC 22000?**

They are not as strict as BRC and IFS. BRC and IFS both are divided into different subcategories, so for IFS, you have IFS Food, IFS Broker and IFS Logistics. Moreover, FSSC does not have that; it is all under one standard. So for BRC, you have to have for example a certificate for the production location and a certificate for the storage facility. When I make a draft of the quotation, I don't have to mention company processes, such as trade, storage, etc.. FSSC assumes that no company operate to produce, so the products that are stored will not be stored there forever.

10. **What are in your opinion the disadvantages of implementing FSSC 22000?**

You have to search a bit before you can find the information you need for your company.
Also, not everything is certified under FSSC yet. So you have the ISO 22000 with additional modules and not every module is FSSC certified yet. So for example, you cannot be certified as FSSC for trade or logistics separately. However, this may just be our certification body that does not offer it yet.

11. What are mistakes companies often make when implementing FSSC22000?
Auditor: No clear distinction between OPRPs and CCPs; probability and effect of dangers far too high to estimate and thus get stuck in the decision tree; utilities not sufficiently defined/managed; unclear monitoring of relevant points.

12. Do you have any advice for companies looking into implementing FSSC 22000?
Auditor: Keep an eye on the structure of ISO22000: first define the prerequisite programs completely so that you only look at the processes in the hazard analysis and do not have to think at every step about not clean, flies, hand contact, etc.

10. DNV – GL: Desiree Kampman

1. **What is your function in the company?**

Food auditor of BRC, ISO 22000 and FSSC 22000 as well as technical manager of the food schemes.

2. **What tasks do you have?**

I audit companies certified with the schemes I mentioned and I am responsible for the process after the audit. I manage the schemes and accreditation on behalf of DNV GL. When FSSC changes something, I have to make sure that those changes are implemented throughout the company.

3. **Who are your customers?**

Large and smaller companies, such as vegetable processors, bakeries.

4. **Why do companies typically choose FSSC 22000?**

One of the requirements of customers is that the food safety system is GFSI benchmarked, so that is BRC, IFS and FSSC 22000. The advantage of FSSC is that it is based on ISO standards, so ISO 22000 and ISO 9001, this makes that it approaches food safety with a pragmatic approach. BRC is very strict; you have to follow every guideline. You can with FSSC rely on the Plan-Do-Check-Act principle. It makes you think about your corrective measures and whether they were effective or not. This is especially for the auditor more interesting to audit FSSC instead of BRC, which is just a checklist. That is what companies see as well. We see many companies switching from BRC or IFS to FSSC 22000.
The difference in audits between BRC and FSSC 22000 is different as well, as BRC does a recertification audit every year and FSSC only once every three years, with other years surveillance audits. This makes it easier for companies because it costs less time and money. The surveillance audits focus on the prerequisite programs and the processes, and with a recertification audit, you have to go through the entire system again.

5. **What is typically the process of implementation of FSSC 22000?**

An auditor tests the system and the implemented procedures, registrations, work instructions according to the requirements the standard sets.

6. **How long does the process take often?**

That depends on the size of the company. The owner of the FSSC standard also dictates the budget we can spend on a company. That is based on the risk category, scope and size of the company.
The quality handbook is one thing to work on, but you also have to implement it, and your employees also have to understand it. That can sometimes take up to a year. As management, you can set up a system, but if you do not have that level of food safety culture in your company, it will not succeed.

7. **Do you think there is enough information available on FSSC 22000?**

I think so, yes. You do have to be able to find it. We, as scheme managers, indicated to FSSC that the standard does not excel in legibility. You have three different parts and then a few additional requirements. When you have an ISO standard, then you only have one document to read through. Now you have to read through 3. Some customers are not aware that there are 3. They do get the prerequisite programs, and the ISO standard as well. However, the additions, such as Food Fraud and Defense, are not clearly defined. Our experience is that new customers do not have the additional requirements implemented.

8. **What are the expectations food companies have of FSSC 22000?**

It is often a commercial choice. If they want to supply to a third party, such as institutions or retail, it will be a requirement.

9. **What are in your opinion the advantages of implementing FSSC 22000?**

We are happy with the unannounced audits, as there are some companies, which have the morale of filling in registrations a few days before the audit, instead of daily during production. The unannounced audits test how sustainable the system is when we suddenly arrive to audit the company. We, as a certification body, also have to comply with ISO requirements, we continuously have to test the improvement processes. ISO 17021 is an accreditation requirement, which we have to comply with. We have to show how our customers continuously improve themselves. For us it is a tool, that when a company does not improve year after year, you can see that they use the same tricks just to

pass the audits, then it is time to say goodbye. The companies that have been filling in registrations, etc. are starting to worry now as they can not escape the unannounced audits.
FSSC 22000 is build up from modules. At the base, you have the ISO 22000 standard, and the prerequisite programs depend on the sector the company operates in. You have Food, Packaging, Retail, Transport and Storage.
That certification often a commercial choice is, is also the problem. The company is like 'I do not really want to implement it, but I will because it is a requirement.' Companies that are a bit further and immersive themselves more into the standard have a better competitive advantage in that they have less waste and less loss of products. They often have more efficient processes and with that financial benefits. This is however not something that the customer realizes beforehand.

10. What are in your opinion the disadvantages of implementing FSSC 22000?
No, in my opinion, there are no big disadvantages to the FSSC standard, apart from maybe its legibility. Do you know the term Purple Crocodile? It is from an ad from about ten years ago. It means that there is much bureaucracy and a lot of paperwork, which may create a disadvantage for food safety. That is what the current industry is heading towards. However, that is the entire food industry, not just FSSC.

11. What are mistakes companies often make when implementing FSSC22000?
We sometimes say a little jokingly: You will not get the certificate with a full savings card, you really have to do something for it. The industry is going through a rough time now, as retailers, such as Jumbo and Albert Heijn put a lot of pressure on the producers to produce low-cost products. Often there is not enough money to properly take the time to implement the system. The QA manager is often the caller in the desert, as general management is not involved with the implementation. They implement it and carry most of the pressure.
They sometimes say the devil is in the details. Certain details, especially in the prerequisite programs, are misunderstood or misread, which leads to minors or majors during the audit.
Also the lack of management responsibility. Sometimes there is a need for investment, in for example building construction, it can be quite difficult as QA manager to convince the management team.
Another mistake is that the company thinks Now that we are certified we do not have to work on the food safety system anymore because we passed the audit. No, you have to maintain the system continuously.

12. Do you have any advice for companies looking into implementing FSSC 22000?
Get help to guide you towards an FSSC 22000 certification. It is vital that companies prepare themselves properly. Try to get the added value out of it. That means you have to be prepared to do everything needed for the certification. Don't rely too much on the advisory bureau though. With the unannounced audits will it be hard for the advisors to be at ten places at once. I have customers where I only see the management of the company during the opening and closing meeting and the rest of the audit the consultant takes over. In my opinion, it means that food safety does not live in the company. You have a difference between assisting with the implementation and maintenance of the certificate and taking over for the company. The system is supposed to be self-sufficient for 365 days of the year. We can definitely see when a company spend a few days before the audit cleaning everything. It is something we can see immediately. Companies that do this, create a false sense of food safety. I often compare it to a drivers license. Even though you may have your license, it does not say anything about the quality of you as a driver. That is the same with certificates; it does not say anything if you produce safe food. It just says that you produced safe food at the moment of auditing. What happens the other 363 days of the year? There should be a turning point that a company is not only certified because it was a requirement, but because they stand for food safety.

11. Vinçotte ISACERT: René Voermans

1. **What is your function in the company?**

I am Scheme manager for BRC and IFS and since a couple of months also FSSC 22000 and ISO 22001.

2. **What tasks do you have?**

Scheme manager means that I am responsible for complying to the requirements of the standard owner. When they are changes in the standard, I have to implement those into our audits and reports. I ensure that our auditors receive the latest courses and keep updating their competencies. So in all complying with the standard. I am also the contact person when auditors need advice on their decisions on for example a major or a critical fault in a company's food safety system. When in doubt or when there is a discussion, I am the one that makes the final decision. Next to that I communicate with the standard owner and make sure that everything runs smoothly.

3. **Who are your customers?**

Food producers, a few packaging companies, but always food or feed related. In food, we certify all sectors, so meat, vegetables, fruit, dairy throughout the Netherlands with a few companies in Germany or Belgium. That is when the head office is located in the Netherlands with locations abroad.

4. **Why do companies typically choose FSSC 22000?**

At first, you only had BRC and IFS as GFSI recognized certificates and then there was FSSC 22000, which was supposed to be an internationally recognized standard. So in UK BRC is often required and in Germany, France and Italy it is IFS. FSSC 22000 was supposed to be accepted all over the world. However, BRC and IFS are still much requested by food producers.
FSSC 22000 is also becoming more and more a quality management system instead of a food safety management system. For example with the latest addition of the Food Fraud and Food Defense requirements, that is more focused on managing the company than the food safety.

5. **What is typically the process of implementation of FSSC 22000?**

The process of auditing is as follows:
A company requests a quotation, and the certification body makes a contract with that company. This contract discusses the scope, so processes, products, locations, how many employees, etc., as this has an influence on the time an audit would take, which auditor fits with the company and which auditor is available in the allotted time.
A date is set for the audit. During the audit, the auditor reports the deviations, and at the end of the audit, the company gets a list with the minor, major and critical deviations. Minor and Major mean that you are still certified, but the company has to fix Minors for the next audit and Majors within a few weeks. Critical means that you have a major flaw in the process and are not allowed to produce under the certificate. The company responds with an action plan how they will fix the deviations within the time period that is set by the auditor depending on the number and kind of deviations. Major does not necessarily require a follow-up audit. That is what we decide: when it concerns documents, it is not necessary for example. Every time an auditor suspects an Critical, they have to call me, because it has such a major impact on the company, we want to be sure that it is definitely an Critical. When the company has fixed the deviations, they send in proof, and the auditor checks whether he/she is content with the solution. If he agrees with the solution, he makes the end report with his recommendation for certification. Then a second auditor, a so-called file reviewer, reads through the report to check if they agree with the deviations and solutions and check for mistakes. We call that the Four Eyes principle. After that the report is checked randomly by a third auditor, so certain chapters are rechecked for mistakes, etc. and that is the person that decides whether the company will be certified or not.

An initial audit is different from a recertification audit. An initial audit has 2 phases, between phase 1 and phase 2, there should be at minimum four weeks: Phase 1 is a document check and a quick walk through the process to get familiar with the company and the process, as well check whether the company is structurally sound to enter phase 2. When an auditor notices aspects that might cause a minor or major during phase 1, the company still has the opportunity to change these in the four weeks between phase 1 and 2. Phase 2 is the rest of the audit, so the auditor checks the process more thoroughly.
An FSSC 22000 certificate is for three years. Year 1 is the initial audit, year 2 and 3 are surveillance audits and year 4 the company gets a full audit again, like the initial audit. One of the two surveillance

audits is unannounced, which is planned for a period of 5 months. So the certification body knows when the audit will take place, but the company only knows the period.

6. How long does the process take often?

There are requirements for how long this process should take. If a company only has Minors, so no Majors or Criticals, the set time period is 28 days. That is for both audits, for an initial audit and a recertification audit.

7. Do you think there is enough information available on FSSC 22000?

Yes, there is a lot of information available on FSSC 22000. It is sometimes not clear though; there are several documents. I think that is a disadvantage of FSSC 22000. BRC and IFS are easier in that view as they have more guidelines in one document. It is hard to keep up with all additions. You have to put in the time to find where can I find what and how do I interpret it.

8. What are the expectations food companies have of FSSC 22000?

You have different types of companies. Small companies often have the attitude of 'I have to do this. I am going to hire a consultant, and I'll leave it all up to him'. Moreover, others who have a large quality assurance team are more committed to it. The smaller companies often misjudge the systems, they switch over from BRC or IFS to FSSC 22000, because they think it is easier. FSSC 22000 has fewer guidelines as BRC has, but you still have to substantiate your decisions. Often smaller companies fall short in that aspect.

9. What are in your opinion the advantages of implementing FSSC 22000?

It may be an advantage or disadvantage, depending on what some may think of it: the unannounced audits. With the announced audits, the smaller companies often hired a consultant to make sure they comply with the certificate a few months in advance. However, now you have to be able to pass an audit without knowing when we come. A lot of the companies do not know that the unannounced audits are a new thing since the FSSC 22000 version 4.1.

10. What are in your opinion the disadvantages of implementing FSSC 22000?

No answer.

11. What are mistakes companies often make when implementing FSSC22000?

One of the biggest mistakes companies make is the substantiation. So when they make a decision, they do not describe how and why they made that decision.
Another one is that companies forget to tell us about any changes they made to the product or process. Moreover, then when we come to audit, the scope is wrong. We then have to return to review the new scope.

12. Do you have any advice for companies looking into implementing FSSC 22000?

Make sure that you have the information to implement the certificate, albeit through an advisory bureau. Make it your own. Don't put the responsibility at the advisor. Especially with the unannounced audits, you cannot rely on an advisor. Make it not too complicated, but substantiate your decisions.

12. Eurofins: Helen Peeters

1. **What is your function in the company?**

Quality Consultant

2. **What tasks do you have?**

I advise companies, I help companies in setting up their food safety and quality system, I do internal audits for small companies and bigger companies. Not only in food safety and quality but employee safety as well. I also act as an interim manager sometimes.

3. **Who are your customers?**

Companies in various sectors, such as fish, meat, meals, coffee, vegetables and fruits.

4. **Why do companies typically choose FSSC 22000?**

Often is it market-driven, what does the customer want. If you supply to retail or if you supply to such companies, you often choose for BRC and IFS. B2B companies, who want to set up their own systems and who are not driven by a customer, often choose FSSC 22000. FSSC22000 is more based on risk analysis. You can choose your own measures to cover the hazards. BRC and IFS are more descriptive of the procedures a company should have, which is not relevant for some products or companies. For large companies, it is easier to implement, but for smaller companies, it is often too expensive. For example, BRC demands the use of a metal detector or a company should have a good reason not to implement a metal detector. There is no leeway; you have to invest in a metal detector, even though there are different ways to prevent metal in a product.

5. **What is typically the process of implementation of FSSC 22000?**

You can approach it from two sides. You can approach it from the standard, and you can approach it in your way. I give preference to approach it from within yourself. So, not because someone asked you to implement the certificate, but you take a critical look why you should take certain procedures. Take a look at what is already there, because there always is a basis for food safety. You would not just start producing. You have to comply with law and regulations. You always start with a gap analysis. So what is already there and what does the standard say the company should have. So first you start with your HACCP analysis, which includes monitoring programs, risk analysis, etc. Next to that, you have the prerequisite programs, such as management responsibility, supplier assessment. Together with our client, we take a look at this is what should be there, this is the minimum you should do, and this is what we propose how you should implement the system.
Then the question is what does the client want to do themselves and what do they want us to do. Whichever way they go we give them an overview of how long the tasks should take. It could take up a few months, as the first thing that should be done, is writing procedures and testing them. The procedures should be feasible for the companies.
I prefer to be there as minimally as possible because that means I did a good job of helping the client implement the system. The goal is to have the client do the audit themselves, as they should be able to do it for the coming years. The system should operate well for 365 days of the year and not only the day when the advisor or auditor is at the company. For the learning process, it is good to be there during the certification audit and maybe the next audit as well. But they should be able to do the audits themselves.

6. **How long does the process take often?**

6 months to a year, depending on where they come from. When it is something like Dutch HACCP or BRC and IFS, it would probably be more like 3 to 6 months. In the first months, they set up the system and the next months they trail run the system. FSSC 22000 requires 3 months of historical data prior to the audit to even evaluate your system. So when you have everything implemented and working, then you can request the certification audit. The certification bodies are quite busy and often take a few months before they can audit your company.
In the past, you could be certified on the basis of the theory. But nowadays that is just not possible anymore. Which is a good thing? Because in reality procedures are executed differently than in theory, and that is also what you find out when you operate for a few months.

7. **Do you think there is enough information available on FSSC 22000?**

Yes. I was a quality manager myself for 18 years before this, and I never used an advisory bureau to implement a food safety system. As an advisor I often take over the task of quality manager, but you,

as a quality manager, should be able to do it yourself. For smaller companies, it is often too expensive to employ a full-time quality manager. That is when we come in to assist.

8. What are the expectations food companies have of FSSC 22000?
No answer.

9. What are in your opinion the advantages of implementing FSSC 22000?
FSSC 22000 is more based on intrinsic motivation to be certified. I stand for to approach the norm from within yourself. Thinking about why you implement procedures and thoroughly underpin it as well. You should stand behind your decisions. That is what FSSC 22000 stimulates for their certified organizations, and BRC/IFS doesn't.
Because you have a bit more freedom, you have to be able to explain your decisions. It is less prescriptive than BRC/IFS. I always try to stimulate companies to ask themselves 'what would we do.' Don't think of the certification as a goal on itself, but as a tool or a value assessment of your food safety of the products. I see it often that companies approach it as a goal. But it is a result of you producing safe food products.

10. What are in your opinion the disadvantages of implementing FSSC 22000?
What I think is difficult of FSSC 22000, is that you have several different aspects of the standard, so the ISO 22000 standard, the appendices specifically for food or transport, and specific FSSC 22000 prerequisites, which you can get from the website. So you have several documents you have to put together, and if you comply with those, you are FSSC 22000 certified. It is not straightforward, just one standard where you start from start to finish and if you comply with the standard, you are certified. It is somewhat difficult to gather and understand the information. We, as advisors, are working daily on these standards and we have several experiences with other companies. When you work at one company, you can become blind to the faults in the system and we, as outsiders, are able to see those faults and help.

11. What are mistakes companies often make when implementing FSSC22000?
They want to finish quickly; they often want to set it up within three months. Also after the initial audit, the trick is to keep the momentum going. As I said, an auditor or advisor is only there 1 or 2 days a year, but they produce 365 days a year.

12. Do you have any advice for companies looking into implementing FSSC 22000?
Take the time to implement the certificate.
Make the decisions on what you think is important.
Where do you want to be in 2 or 3 years and how can the food safety system support that.

13. Van Voorst Consult: Lambert Scherrenburg

1. **What is your function in the company?**

Advisor

2. **What tasks do you have?**

Our core business is guiding companies to a certification. I could also work as an interim manager at a company. We also advise companies on general quality systems, such as ISO9001, environment systems, employee safety, etc. Every advisor advises on ISO9001, and then you have specialists, I do Food, but you also have others.

3. **Who are your customers?**

For example, a trading company, who trades in feed as well as raw materials for food, they mostly trade proteins and starches. Another customer is a bakery, who mainly bakes for food service. Another customer is a storage and transport company of vegetables and fruits. I also have a packaging company that produces packaging for food companies, such as coffee cups, meat packaging, etc. as a customer.

4. **Why do companies typically choose FSSC 22000?**

It mostly depends on the customers they have. When companies have customers in the UK, they often choose BRC as a certificate. When companies have customers in Germany or France, they often choose IFS. Companies who choose FSSC 22000 often are not required by their customers to pick a certain certificate. Companies who deliver to retail often choose BRC and IFS, and when they deliver business to business, they often choose FSSC.

5. **What is typically the process of implementation of FSSC 22000?**

We help in two ways: we set up the quality system, so we write or help to write the quality handbook together with the customer. Moreover, the other way we help is setting up the risk analyses, so the raw materials risks and the process risks. We start with making a flowchart, in which you draw up the processes and the corresponding risks. We score them based on effect and occurrence and think of measures to control them. We have a frame for the quality system, which the customer then reviews and fills in where needed. The conversations we have with either the QA manager or manager of the company are often to explain the standard to the customer, for example, what does it mean to have a risk analysis; we explain how the prerequisite programs work, etc. It is a lot of guiding, coaching, training where necessary. Moreover, there are also customers who ask more, that we write the quality handbook or even act as interim manager. We do try to make it the company's own quality system and that they are able to implement it well into the company, but also take responsibility for the system.

6. **How long does the process take often?**

It depends on the customer. There are some that start very enthusiastically with the process but realize later on that they do not have much time. On average, you can set up a quality system within 2 or 3 months then you also have to test the system, so usually it takes around five months. You sometimes have to change the culture in a company, so you have to train employees and explain to them why it is necessary, etc. That would take more than one training.

7. **Do you think there is enough information available on FSSC 22000?**

Yes, it should be possible. Before I became an advisor, I was a quality manager as well. We did the implementation ourselves. The only time we hired an advisory bureau was when we needed more specific information on things such as allergen management, etc or for internal audits. We could have done the internal audits ourselves, but we did not have the time. An advantage of outsourcing the internal audit is also that the advisor would not be blind to the faults in our company. It happens a lot, since you are working every day on the system, so you build up blind spots. So it is possible, but you do have to have someone who knows how to work with a food safety system.

8. **What are the expectations food companies have of FSSC 22000?**

It is often a request from customers of the company that they have a certain certificate and specifically a GFSI recognized standard. There are a few that specifically want to lift their system or their culture to a higher standard.

9. **What are in your opinion the advantages of implementing FSSC 22000?**

An advantage of FSSC is that you have a little bit more freedom how you set up your system, albeit risk-based. BRC and IFS dictate more what the company has to do. FSSC is based on what the company thinks is the right way to produce safe food. Of course, you do have to substantiate your decisions.

10. What are in your opinion the disadvantages of implementing FSSC 22000?

The freedom you get can also be a disadvantage, as some companies say they would rather have a clear guideline because they do not have the knowledge to implement it.
It is less strict. So when a customer from a company expects a company to for example eradicate the number of foreign objects, which you could detect with a metal detector, then would BRC be a better certificate, because a company is almost obligated to have a metal detector.
The unannounced audits could be something that deters companies to get FSSC certified. With BRC and IFS, you have the choice to be audited unannounced, although that may change as well.

11. What are mistakes companies often make when implementing FSSC22000?

I had a customer who wanted first to set up the quality system and only then hire a quality manager. I advised him multiple times to hire someone for the implementation. He was someone from management and acted as a quality manager, even though he did not have the knowledge required to implement and also did not have the time to go through the implementation. Eventually, he followed my advice and stopped the project until they had a quality manager. So, general management may not be aware of the impact a food safety system has and the work it needs to set it up and maintain it. The task of a QA manager and the pressure they are subject to can be unclear for the general management.
What you see often, is that the standard is new for the company. They are not used to working with it. When the standard has a certain requirement, you do have to follow the requirement. So, for example, an internal audit, when you say we are going to audit these documents, etcetera, you cannot say a year later that you did not do it, because it was inconvenient. That is how you get a minor. You have to follow the requirements and report on them or substantiate why you did not do them.

12. Do you have any advice for companies looking into implementing FSSC 22000?

I advise hiring an advisory bureau to help you through the implementation. It saves you a lot of time and research. Advisors also have the knowledge and experience to help you further.
When you get the task as QA manager to implement the system, do try to get the support of general management, because you will have to change processes or other things in the company. You do not want the situation that you are directing an employee, who disagrees with you and goes to management, that management sides with the employee.

14. Bureau de Wit: Marten Visser

1. **What is your function in the company?**

Advisor and Head of Quality Service

2. **What tasks do you have?**

Giving advice on location, drawing up and maintaining manuals, maintaining contact with customers, managing the self-monitoring system, which is meant for food service professionals, etc.

3. **Who are your customers?**

Small to medium-sized production companies

4. **Why do companies typically choose FSSC 22000?**

It is often seen as an easy-to-implement food safety system, where the requirements are less compulsory.

5. **What is typically the process of implementation of FSSC 22000?**

Drafting, implementing, collecting data (registering), and meanwhile testing and adjusting the system.

6. **How long does the process take often?**

3 months to 6 months

7. **Do you think there is enough information available on FSSC 22000?**

Yes and no, the information is very fragmented. Many pieces are somewhere to be found on the website.

8. **What are the expectations food companies have of FSSC 22000?**

A GFSI standard with which they can supply to for example retailers.

9. **What are in your opinion the advantages of implementing FSSC 22000?**

Less commercial driven than other standards, many auditors are available for auditing.

10. **What are in your opinion the disadvantages of implementing FSSC 22000?**

It is very free; many things are left open. The auditor can give it his own twist, but that also happens with BRC and IFS. It is expected that more companies will switch from BRC to FSSC and IFS.

11. **What are mistakes companies often make when implementing FSSC22000?**

To certify too quickly without sufficient proof and necessity.

12. **Do you have any advice for companies looking into implementing FSSC 22000?**

Take your time, know your processes and try to stay informed of the developments of FSSC.

Appendix IV: Coding of interviews

Subquestion 1: What are the motivations for food companies to implement FSSC 22000?				
Company	Text	Open coding	Axial coding	Selective coding
VNK Herbs	Before FSSC 22000, we had Dutch HACCP and ISO 9001 certificates, and when ISO 22000 was introduced we switched to that certificate as ISO 22000 is a certificate that looks at food safety in a ISO manner. The reason for that is to have a GFSI benchmarked certificate. A lot of customers request that. BRC/IFS requires a lot of a company and for our company it is too much. It is too rigid and not flexible at all.	• We had Dutch HACCP • ISO standard • Customers request a GFSI standard • BRC/IFS were too strict	• Came from HACCP • ISO standard • GFSI standard • More flexible	• Came from HACCP and ISO 9001 • ISO standard • Customer requirement • Flexibility
Vocking	We had to have a GFSI benchmarked certificate. We came first from Dutch HACCP and when that stopped we switched to the BRC certificate. However, BRC became too complicated and better suited for large companies, unlike ours. It had too many rules, regulations and such for us. It simply was not possible for us to maintain the system, as in the BRC system you have to have teams for a lot of aspects. We do not have the employees for those teams. It is not necessarily easier than BRC, but it is better suited for small companies, such as ours.	• We had Dutch HACCP • Customers request a GFSI standard • BRC was too complicated • BRC was not suited for a small company	• Came from HACCP • GFSI standard • Simpler • Better fit	• Came from HACCP • Customer requirement • Flexibility • Better fit company
Henri Willig	We only had Dutch HACCP certificate before at the location Katwoude and customers requested a GFSI benchmarked standard. The FSSC standard is more flexible in its requirements. You can give your own interpretations to the requirements and risk analysis. The location Katwoude supplies more to the Dutch market and that's why FSSC was more suited for that location.	• We had Dutch HACCP • Customers request a GFSI standard • FSSC is more flexible • You can give your own interpretations	• Came from HACCP • GFSI standard • More flexible • Freedom to interpret	• Came from HACCP • Customer requirement • Flexibility
Meat processor	We come from BRC and that was very prescriptive, so this is a requirement and this is how you have to implement it. At FSSC we have the freedom. FSSC says this is what the result should be, it doesn't matter how you achieve that result. That is why I choose for FSSC. I think this is what it should be like. BRC is more for large companies with only a few products and large process lines. We have a lot of small processes and we cannot achieve the same result the same way.	• BRC was very prescriptive • FSSC gives freedom • BRC was not suited for a small company	• Came from BRC • Freedom to interpret • Better fit	• Came from BRC • Flexibility • Better fit company
Marfo	FSSC 22000 leaves the decision of controlling processes in the hands of the company, unlike BRC. We do have BRC as well, because customers request a BRC certificate. Most of the time a customer wants a GFSI recognized standard.	• FSSC gives freedom to decide yourself • Customers request a GFSI standard • Has BRC as well	• Freedom to interpret • GFSI standard • Has BRC as well	• Has BRC as well • Flexibility • Customer requirement
Vreugdenhil	In my opinion was HACCP not sufficient enough as a management system. What I mean is that the organisation was not organized as it should be in my opinion. I missed the Plan-Do-Check-Act principle, which is a principle that I knew from the ISO 9001 standard, the quality management system for the organisation. This is why we switched to FSSC 22000, the combination of HACCP and ISO standard. Another reason was that management wanted us to switch. They wanted to send the signal that our products would be elevated to a higher quality standard, that had a more commercial undertone. For me the commercial reason was less important than the food safety reason.	• Dutch HACCP was not sufficient enough • HACCP missed PDCA principle from ISO standard • Management wanted us to switch • Our products would have a higher quality standard	• HACCP was not sufficient • PDCA principle • Management request • Products have higher quality	• Came from HACCP and ISO 9001 • ISO standard • Management request • Products quality
Henningsen	We had a HACCP system and the large multinationals started to demand a third party certification. We hired an advisory bureau, which advised to implement FSSC 22000.	• We had Dutch HACCP • Customer demanded third party certification	• Came from HACCP • Customer requirement	• Came from HACCP • Customer requirement
Royal Bel Leerdammer	It fits with the vision of Royal Bel Leerdammer. Better HACCP structure More freedom for own interpretation (compared to BRC) FSSC is growing in popularity and we have to take the customer requirements into account. This probably led tot the choice to switch to FSSC22000.	• Came from BRC • It fits with the company • Better HACCP structure • Freedom to own interpretation • Customer requirement	• Came from BRC • Better fit • Freedom to interpret • Customer requirement	• Came from BRC • Better fit company • Flexibility • Customer requirement

SGS	Often it is a requirement from their customer or stakeholders. Companies wouldn't certify themselves unless it means they can attract customers or something similar. Customers often request a GFSI benchmarked certificate.	• Customer or stakeholder requirement • Customers requested a GFSI benchmarked standard	• Customer requirement • GFSI standard	• Customer requirement
DNV GL	One of the requirements of customers is that the food safety system is GFSI benchmarked. The advantage of FSSC is that it is based on ISO standards, so ISO 22000 and ISO 9001, this makes that it approaches food safety with a pragmatic approach. BRC is very strict, you have to follow every guideline. You can with FSSC rely on the Plan-Do-Check-Act principle. It makes you think about your corrective measures and whether they were effective or not. The difference in audits between BRC and FSSC 22000 is different as well, as BRC does a recertification audit every year and FSSC only once every 3 years, with other years surveillance audits. This makes it easier for the companies, because it costs less time and money. The surveillance audits focus on the prerequisite programs and the processes and with a recertification audit you have to go through the entire system again.	• Customers request a GFSI benchmarked standard • ISO standard • BRC is strict • FSSC has PDCA principle • Less evasive audits • Lower costs	• GFSI standard • ISO standard • More flexible • PDCA principle • Simpler • Lower costs	• Customer requirement • ISO standard • Flexibility • Lower cost
Vinçotte ISAcert	At first you only had BRC and IFS as GFSI recognized certificates and then there was FSSC 22000, which was supposed to be an internationally recognized standard. So in UK BRC is often required and in Germany, France and Italy it is IFS. FSSC 22000 was supposed to be accepted all over the world. However, BRC and IFS are still much requested by food producers.	• Internationally recognized standard • Customers request a GFSI benchmarked standard	• Internationally recognized • GFSI standard	• Internationally recognized • Customer requirement
Eurofins	Often is it market-driven, what does the customer want. FSSC22000 is more based on the risk analysis. You can choose your own measures to cover the hazards. BRC and IFS are more descriptive of the procedures a company should have, which is not relevant for some products or companies. For large companies it is easier to implement, but for smaller companies it is often too expensive. For example, BRC demands the use of a metal detector, or a company should have a good reason not to implement a metal detector. There is no leeway, you have to invest in a metal detector, even though there are different ways to prevent metal in a product.	• Market driven, customer requirements • Based on risk analysis • BRC/IFS more descriptive • Fewer investments	• Customer requirement • Freedom to interpret • Lower costs	• Customer requirement • Flexibility • Lower cost
Van Voorst	It mostly depends on the customers they have. When companies have customers in the UK, they often choose BRC as a certificate. When companies have customers in Germany or France, they often choose IFS. Companies who choose FSSC 22000 often are not required by their customers to pick a certain certificate. Companies who deliver to retail often choose BRC and IFS and when they deliver business to business they often choose FSSC.	• Customer requirements	• Customer requirement	• Customer requirement
Bureau de Wit	It is often seen as an easy-to-implement food safety system, where the requirements are less compulsory.	• Easier • Requirements are less strict	• Simpler • More flexible	• Flexiblity

Subquestion 2: How do Dutch food companies typically implement FSSC 22000?				
Company	Text	Open coding	Axial coding	Selective coding
VNK Herbs	I first studied the ISO 22000 standard. I first looked at what we should add to comply with the ISO 22000 standard. I followed a one day course for the ISO 22000 standard. An external bureau helped us by looking at which documents we needed. This was mostly because during this period of the switch I was going on maternity leave. I implemented the FSSC 22000 prerequisites myself. In January 2011 we started with the process for the ISO22000 certificate and we obtained the certificate in September 2011. We implemented the prerequisite programs needed for FSSC 22000 in 2014. We used a independent advisory bureau.	• Read through standard • Fill in documents/ procedures • Followed a course • Used an advisory bureau for identifying missing documents	• Read standard • Fill in missing documents/procedures • Follow course • Hired advisory bureau for gap analysis	• Read standard • Gap analysis • Fill in missing documents • Follow course • Hired advisory bureau for gap analysis
	ISO 22000 is quite simple. You order the standard, and read through it and you check with what points you have to comply. It is quite simple and clear. I was familiar with the ISO norm and it was not complicated. The FSSC 22000 website was quite difficult to find the correct information. It also describes what requirements an auditor, an audit or a certification body should comply with. It is quite hard to distinguish the standard for food producers. I think it could be more simplified by for example separating the different parts. Also the standard is in English, the requirements can be interpreted differently in Dutch.	• Simple and clear • Standard available at CBs • Hard to find information on website • English interpretation	• Simple • Clear • Available at CBs • Hard to navigate • English - Dutch interpretation	• Simple • Clear • Available at CBs • Legibility
Vocking	We got our certificate in July 2015. We grew from HACCP to BRC to FSSC 22000. We renewed our certificate three weeks ago. It is not something you can say that it took only an hour or a week. The quality system is always changing. It should be woven into the company, it cannot be done by one person. We used the N&S consultancy bureau for the implementation. They act as our interim quality manager. We are a team, they have their responsibilities and I have mine. They keep me on my toes when it comes to knowledge and know-how. We have an external lab that checks our products for microbiological criteria. N&S wrote the quality handbook. Yes, the standard is available through the certification bodies. We were informed enough on the standard.	• Used advisory bureau for writing quality handbook and consultant audit	• Hired advisory bureau for quality handbook & interim manager	• Hired advisory bureau for quality handbook & interim manager
		• Standard available at CBs	• Available at CBs	• Available at CBs
Henri Willig	We read through the standard. We already had a food safety management system implemented, which is similar for both locations. So it was only a matter of do we comply with the standard in every regard. It took us three quarters of a year. We started in 2015 and in January 2016 we received our certificate. No. Yes, we just used the standard and we had enough experience with implementing a system.	• Read through standard • Fill in missing documents or procedures	• Read standard • Fill in missing documents/procedures	• No advisory bureau • Read standard • Gap analysis • Fill in missing documents
		• Already had experience implementing	• Experienced	• Experienced QA manager should be able to do it
Meat processor	They did a zero-audit and I worked out the procedures. They did the generic side of the system and I filled in the more company-specific gaps. Yes we used an advisory bureau, where someone worked who was in the FSSC board or something like that. Actually a week. Because we had a BRC certificate, it was easy to switch. We only had to write a list of oPRPs. We made sure that our quality system complied with BRC, IFS and FSSC 22000. We had spoken with an auditor and we were able to quickly schedule an audit within a month. This was in 2016. Yes, you can just download the ISO 22000 standard and some additional requirements. It was some work to find everything. BRC just had a guide book and you could easily read through it.	• Used advisory bureau for zero-audit and guideline what to implement	• Hired advisory bureau for gap analysis	• Hired advisory bureau for gap analysis
		• Available online	• Available online	• Available online
Marfo	I was not there when the certificate was implemented. More than 6 months. No answer. Yes, we used an advisory bureau. The advisory bureau gave us a guideline of what we had to implement and the quality department implemented the system themselves. For someone who does not have a lot of experience with implementing a food safety system, it can be quite difficult. A more experienced QA manager and someone who is experienced with the structure of a food safety system should be able to handle it. When you're inexperienced, I advise you to get help from an advisory bureau.	• Hired advisory bureau for guideline what to implement	• Hired advisory bureau for guideline	• Hired advisory bureau for gap analysis
		• Hard to find information on website	• Hard to navigate	• Legibility

Vreugdenhil	I had experience with implementing ISO standards. A quality system fails or succeeds depending on where you start. I started with the flow charts of the processes, what do we do, how does it work and where do we make decisions. We evaluated the processes based on the flowcharts and thought about improvements we could make to the system. Only after we had done that, we started writing procedures, etc. A food safety management system should be a continuously improving system, so you should have meetings and discussions on what has been done, you should determine key performance indicators to see what goes well and what could be improved. My motto is Good can always be improved and Quality is the organisation, Organisation is quality. Every organisation has a total quality system, even chaos is a form of organisation. In my opinion you should organize your organisation in such a way that every step in the process lead to fulfillment of the requirements of the standard and the customers. A food safety management system should be a tool for you to efficiently manage your processes. You have to have the support from management, otherwise you are not able to successfully implement a food safety management system. You can find enough of information online or in books. If you don't understand the standard you should hire an advisory bureau. If you don't know where to start, start with ISO 9001.	• Experienced with ISO • Started with flowcharts and discussions • Only then writing procedures, documents • System was already adapted to ISO standards	• Started with implementing ISO 9001 • Flowcharts and discussions • Writing down procedures	• No advisory bureau • Started with ISO 9001 • Flowcharts and discussions • Fill in missing documents
		• Available online	• Available online	• Available online
Henningsen	We already had a lot described in our quality handbook, but not specifically according to the standard. We hired an advisory bureau, who gave us a guideline what we had to change after they had taken a look at our system. Any additions, such as Food Fraud and Defense, we did ourselves. 6 months, 2013, yes, Yes, I do think it is somewhat of a messy standard. When you compare it to BRC and IFS, those standards are much clearer in their description, so this is what you have to do and this is what you shouldn't do. You have to search on the website for the different elements, for example the ISO 22000 is not on the FSSC website.	• Used advisory bureau for zero-audit and guideline what to implement	• Hired advisory bureau for gap analysis	• Hired advisory bureau for gap analysis
		• Hard to interpret • Hard to find information on website	• Hard to interpret • Hard to navigate	• Hard to interpret • Legibility
Royal Bel Leerdammer	A gap analysis was executed and many training courses were given. A consultant, she has her own company and a lot of knowledge and experience with FSSC. There is enough information available, but because it consists of different ISO standards, it is sometimes difficult to understand the whole picture and the whole process. Also, components within the standard change quite often, which is rather difficult to keep up to date and implement within the organisation.	• Hired advisory for gap analysis • Followed courses	• Hired advisory for gap analysis • Followed courses	• Hired advisory for gap analysis • Follow courses
		• Available online • Hard to interpret • Standard changes often	• Available online • Hard to interpret • Hard to navigate	• Available online • Hard to interpret • Hard to navigate
SGS	I am not sure, I will ask an auditor: First give the prerequisite programs with the ISO / TS, in which especially the management of utilities (steam, water, air, ...) and the control of services demand attention. Every company has had to have a HACCP system since 1995, but that is just a bit different in the ISO22000 standard (which is the core of FSSC). So after the prerequisite program with the HACCP team perform the hazard analysis and come up with (new) prerequisites, OPRPs and / or CCPs. Next to that, carry out the analyzes for food defense and food fraud. Write down the control measures of all of the above in procedures and work instructions and train employees to implement these. Subsequently define and elaborate all mandatory parts of ISO222000 (policy & objectives, recall / emergencies, etc.). Finally, there are also the requirements for environmental research and allergen management - check whether these are sufficiently covered and if not, do so. If everything runs for approx. 2 months, perform internal audits on all parts and, if sufficient results, also a management review (including verification). No answer I do think there is enough information available. You can download the standard from the website. You do have to search a bit more to find all the documents.	• Read through standard • Fill in missing procedures and documents	• Read the standard • Fill in missing procedures and documents	• Read standard • Gap analysis
		• Available online • Hard to navigate	• Available online • Hard to navigate	• Available online • Legibility
DNV GL	An auditor tests the system and the implemented procedures, registrations, work instructions according to the requirements the standard sets. That depends on the size of the company. The owner of the FSSC standard also dictates the budget we can spend on a company. That is based on the risk category, scope and size of the company. The quality handbook is one thing to work on, but you also have to implement it and your employees also have to understand it. That can take sometimes up to a year. As management, you can set up a system, but if you do not have that level of food safety culture in your company, it will not succeed. I think so, yes. You do have to be able to find it. We, as scheme managers, indicated to FSSC that the standard does not excel in legibility. You have 3 different parts and then a few additional requirements. When you have an ISO standard, then you only have one document to read through. Now you have to read through 3. Some customers are not aware that there are 3. They do get the prerequisite programs, and the ISO standard as well. But the additions, such as Food Fraud and Defense, are not clearly defined. Our experience is that new customers do not have the additional requirements implemented.	• Work on the quality handbook • Establish food safety culture	• Work on the quality handbook • Establish food safety culture	• Work on the quality handbook • Establish food safety culture
		• Available online • Legibility issue • Hard to navigate	• Available online • Legibility issue • Hard to navigate	• Available online • Legibility

Vinçotte ISAcert	Yes, there is a lot of information available on FSSC 22000. It is sometimes not clear though, there are several documents. I think that is a disadvantage of FSSC 22000. BRC and IFS are easier in that view as they have more guidelines in one document. It is hard to keep up with all additions. You have to put in the time to find where can I find what and how do I interpret it.	• Available online • Hard to interpret	• Available online • Hard to interpret	• Available online • Hard to interpret
Eurofins	You can approach it from two sides. You can approach it from the standard and you can approach it in your way. I give preference to approach it from within yourself. So, not because someone asked you to implement the certificate, but you take a critical look why you should take certain procedures. Take a look at what is already there, because there always is a basis of food safety. You wouldn't just start producing. You have to comply with law and regulations. You always start with a gap analysis. So what is already there and what does the standard say the company should have. So first you start with your HACCP analysis, which include monitoring programs, risk analysis, etc. Next to that you have the prerequisite programs, such as management responsibility, supplier assessment. Together with our client, we take a look at this is what should be there, this is the minimum you should do and this is what we propose how you should implement the system. Then the question is what does the client want to do themselves and what do they want us to do. Which ever way they go we give them an overview how long the tasks should take. It could take up a few months, as the first thing that should be done is writing procedures and testing them. The procedures should be feasible for the companies. I prefer to be there as minimally as possible, because that means I did a good job on helping the client implement the system. The goal is to have the client do the audit themselves, as they should be able to do it for the coming years. The system should operate well for 365 days of the year and not only the day when the advisor or auditor is at the company. For the learning process it is good to be there during the certification audit and maybe the next audit as well. But they should be able to do the audits themselves. 6 months to a year, depending on where they come from. When it is something like Dutch HACCP or BRC and IFS, it would probably be more like 3 to 6 months. In the first months they set up the system and the next months they trail run the system. FSSC 22000 requires 3 months of historical data prior to the audit to even evaluate your system. So when you have everything implemented and working, then you can request the certification audit. The certification bodies are quite busy and often take a few months before they can audit your company. In the past, you could be certified on basis of the theory. But nowadays that is just not possible anymore. Which is a good thing. Because in reality procedures are executed differently than in theory and that is also what you find out when you operate for a few months.	• Start with gap analysis • Fill in missing documents/ procedures • Decide to hire advisory bureau or not • Have historical data	• Start with gap analysis • Fill in missing documents/ procedures • Decide to hire advisory bureau or not • Have historical data	• Start with gap analysis • Decide to hire advisory bureau or not • Have historical data
	Yes. I was a quality manager myself for 18 years before this and I never used an advisory bureau to implement a food safety system. As advisor I often take over the task of quality manager, but you, as a quality manager, should be able to do it yourself. For smaller companies it is often too expensive to employ a full time quality manager. That is when we come in to assist.	• QA manager should be able to manage • Hire advisory bureau when no QA manager	• QA manager should be able to manage • Hire advisory bureau when no QA manager	• Experienced QA manager should be able to manage • If not, hire advisory bureau
Van Voorst	We help in two ways: we set up the quality system, so we write or help to write the quality handbook together with the customer. And the other way we help is setting up the risk analyses, so the raw materials risks and the process risks. We start with making a flow chart, in which you draw up the processes and the corresponding risks. We score them based on effect and occurrence and think of measures to control them. We have a frame for the quality system, which the customer then reviews and fills in where needed. The conversations we have with either the QA manager or manager of the company are often to explain the standard to the customer, for example what does it mean to have a risk analysis, we explain how the prerequisite programs work, etc. It is a lot of guiding, coaching, training where necessary. And there are also customers who ask more, that we write the quality handbook or even act as interim manager. We do try to make it the company's own quality system and that they are able to implement it well into the company, but also take responsibility for the system. Yes, it should be possible. Before I became an advisor, I was a quality manager as well. We did the implementation ourselves. The only time we hired an advisory bureau was when we needed more specific information on things such as allergen management, etc or for internal audits. We could have done the internal audits ourselves, but we did not have the time. An advantage of outsourcing the internal audit is also that the advisor would not be blind to the faults in our company. It happens a lot, since you are working every day on the system, so you build up blind spots. So it is possible, but you do have to have someone who knows how to work with a food safety system.	• Write Quality Handbook • Do risk analysis • Start with flowchart • Advisory bureau has guideline • Advisory bureau: gap analysis, quality handbook, interim manager • Make it your own as company	• Write Quality Handbook • Do risk analysis • Start with flowchart • Advisory bureau has guideline • Advisory bureau: gap analysis, quality handbook, interim manager • Make it your own as company	• Write Quality Handbook • Do risk analysis • Start with flowchart • Advisory bureau has guideline • Advisory bureau: gap analysis, quality handbook, interim manager • Make it your own as company
		• QA manager should be able to manage • For specific info or internal audits, hire advisory bureau	• QA manager should be able to manage • For specific info or internal audits, hire advisory bureau	• Experienced QA manager should be able to manage • For specific info or internal audits, hire advisory bureau
Bureau de Wit	Drafting, implementing, collecting of data (registering), and meanwhile testing and adjusting the system. Yes and no, the information is very fragmented. Many pieces are somewhere to be found on the website.	• Drafting • Implementing • Collecting data • Testing and adjusting system	• Drafting • Implementing • Collecting data • Testing and adjusting system	• Drafting • Implementing • Collecting data • Testing and adjusting system
		• Available online • Hard to navigate	• Available online • Hard to navigate	• Available online • Hard to navigate

Subquestion 3: What are the expectations food companies have of FSSC 22000?				
Company	Text	Open coding	Axial coding	Selective coding
VNK Herbs	We did not really have expectations in the sense that when we are certified the customers will come to us.	No input	No input	No input
Vocking	I think it is something you need to do to be able to supply products to certain parties. That you are allowed to do business. The companies are not surprised that you have a GFSI benchmarked certificate implemented.	• Requirement customer	• Requirement	• Requirement
Henri Willig	A lot of customers request a GFSI benchmarked standard.	• Requirement customer	• Requirement	• Requirement
Meat processor	We heard stories from the industry that it was a better system to work with than BRC. And that was true. Yes	• Better system to work with than BRC	• Improvement system	• Improvement FSMS
Marfo	No answer	No input	No input	No input
Vreugdenhil	I expected to get a better system. I want to continuously improve the food safety of our products. Yes	• Better system • Improvement to system	• Improvement system	• Improvement FSMS
Henningsen	Nothing specifically. It was basically an upgrade of the system we had. We did it to improve ourselves, to comply with customer expectations and to have certain aspects written down.	• Improvement to system • Requirement customer • To have certain aspects written down	• Requirement • Improvement system	• Requirement • Improvement FSMS
Royal Bel Leerdammer	That it would lift our organisation to a higher level. We are satisfied with the certification and we noticed that customers keep FSSC in a high regard.	• Improvement to organisation • Customers are happy with FSSC	• Improvement organisation • Requirement	• Improvement organisation • Requirement
SGS	On the application form they have to fill in, is one of the questions, what do you expect from FSSC. It is often seen as a competitive advantage. You can also not avoid it. There will always be one company in the chain who demands a certain certificate.	• Competitive advantage • Requirement customer	• Requirement • Competitive advantage	• Requirement • Competitive advantage
DNV GL	It is often a commercial choice. If they want to supply to a third party, such as institutions or retail, it will be a requirement.	• Commercial choice • Requirement customer	• Requirement • Competitive advantage	• Requirement • Competitive advantage
Vinçotte ISAcert	You have different types of companies. Small companies often have the attitude of 'I have to do this. I am going to hire a consultant and I'll leave it all up to him'. And others who have a large quality assurance team are more committed to it. The smaller companies often misjudge the systems, they switch over from BRC or IFS to FSSC 22000, because they think it is easier. FSSC 22000 has less guidelines as BRC has, but you still have to substantiate your decisions. Often smaller companies fall short in that aspect.	• Requirement • Improvement system • Easier	• Requirement • Improvement system	• Requirement • Improvement FSMS
Eurofins	No answer	No input	No input	No input
Van Voorst	It is often a request from customers of the company that they have a certain certificate and specifically a GFSI recognized standard. There are a few that specifically want to lift their system or their culture to a higher standard.	• Requirement customer • Improvement to system • Improvement to culture	• Requirement • Improvement system • Improvement organisation	• Requirement • Improvement FSMS • Improvement organisation
Bureau de Wit	A GFSI standard with which they can supply to for example retailers.	• GFSI standard	• Requirement	• Requirement

Subquestion 4: What are the advantages of implementing FSSC 22000?				
Company	Text	Open coding	Axial coding	Selective coding
VNK Herbs	We did it specifically to get a certain image in the market. We wanted to show that we think about our hazards and we are certified for controlling those hazards. We did it to gain customer confidence. The large multinationals demand you have a GFSI benchmarked certificate. It is standard that you have a GFSI benchmarked certificate and customers expect it as well. It is not a surprise to them.	• Image • Gain customer confidence • GFSI standard	• Gain customer confidence • GFSI standard	• Customer confidence • GFSI scheme
Vocking	No answer	No input	No input	No input
Henri Willig	That we are now certified to a GFSI standard. This appeals to a lot of customers that we make products with a certain level of food safety.	• GFSI standard • Gain customers confidence	• Gain customer confidence • GFSI standard	• Customer confidence • GFSI scheme
Meat processor	We don't have to use strict procedures or assurance methods, which don't fit our company. For example, BRC requires a company to set up everything a process line requires, such as raw materials, packaging, labels, etc., before you can release the line. Because we have so many different small process lines, this is just not possible.	• Less strict • Better fit	• Freedom to interpret standard • Better fit	• Freedom to interpret scheme • Better fit
Marfo	It is the same as our reasons to implement FSSC. Another advantage for us is that certain aspects, which would not be a CCP in BRC, are easier to control with FSSC as an oPRP.	• GFSI standard • Freedom to interpret standard • oPRPs	• GFSI standard • Freedom to interpret standard • oPRPs	• GFSI scheme • Freedom to interpret scheme • oPRPs
Vreugdenhil	FSSC 22000 offers guidelines to set up your quality system and how you control your hazards. FSSC 22000 keeps you sharp and focused on the food safety system.	• Guideline how to set up quality system • Keeps you focused on fsms	• Freedom to interpret standard • Keeps you focused on fsms	• Freedom to interpret scheme • Focus on food safety
Henningsen	FSSC gives more space to make your own decisions when it comes to control measures. It is a standard that is recognized all over the world.	• Space to make own decisions • Globally recognized	• Freedom to interpret standard • Globally recognized	• Freedom to interpret scheme • Internationally recognized
Royal Bel Leerdammer	No big advantages compared to BRC. However it is a globally recognized certification and this is very useful for export.	• Globally recognized	• Globally recognized	• Internationally recognized
SGS	They are not as strict as BRC and IFS. BRC and IFS both are divided in different subcategories, so for IFS you have IFS Food, IFS Broker and IFS Logistics. And FSSC doesn't have that, it is all under one standard. So for BRC you have to have for example a certificate for the production location and a certificate for the storage facility. When I make a draft of the quotation, I don't have to mention company processes, such as trade, storage, etc.. FSSC assumes that no company operate to produce, so the products that are stored will not be stored there forever.	• Less strict • One standard for all sectors	• Freedom to intepret standard • Better fit	• Freedom to intepret scheme • Better fit
DNV GL	We are happy with the unannounced audits, as there are some companies, which have the morale of filling in registrations a few days before the audit, instead of daily during production. The unannounced audits test how sustainable the system is when we suddenly arrive to audit the company. We, as a certification body, also have to comply with ISO requirements, we continuously have to test the improvement processes. ISO 17021 is an accreditation requirement, which we have to comply with. We have to show how our customers continuously improve themselves. For us it is a tool, that when a company does not improve year after year, you can see that they use the same tricks to just pass the audits, then it is time to say goodbye. The companies that have been filling in registrations, etc. are starting to worry now as they can not escape the unannounced audits. FSSC 22000 is build up from modules. At the base, you have the ISO 22000 standard and the prerequisite programs depend on the sector the company operates in. You have Food, Packaging, Retail, Transport and Storage. That certification often a commercial choice is, is also the problem. The company is like 'I don't really want to implement it, but I will, because it is a requirement'. Companies that are a bit further and immersive themselves more into the standard, have a better competitive advantage in that they have less waste and less loss of products. They often have more efficient processes, and with that financial benefits. This is however not something that the customer realizes beforehand.	• Unannounced audits • Competitive advantage	• Unannounced audits • Competitive advantage	• Unannounced audits • Competitive advantage
Vinçotte ISAcert	It may be an advantage or disadvantage, depending on what some may think of it: the unannounced audits. With the announced audits, the smaller companies often hired a consultant to make sure they comply with the certificate a few months in advance. But now you have to be able to pass an audit without knowing when we come. A lot of the companies don't know that the unannounced audits are a new thing since the FSSC 22000 version 4.1.	• Unannounced audits	• Unannounced audits	• Unannounced audits

Eurofins	FSSC 22000 is more based on intrinsic motivation to be certified. I stand for approach the norm from within yourself. Thinking about why you implement procedures and thoroughly underpin it as well. You should stand behind your decisions. That is what FSSC 22000 stimulates for their certified organizations, and BRC/IFS doesn't. Because you have a bit more freedom, you have to be able to explain your decisions. It is less prescriptive than BRC/IFS. I always try to stimulate companies to ask themselves 'what would we do'. Don't think of the certification as a goal on itself, but as a tool or a value assessment of your food safety of the products. I see it often that companies approach it as a goal. But it is a result of you producing food safe products.	• Own motivation to be certified • Own decisions • More freedom • Less prescriptive	• Own motivitation to be certified • Freedom to interpret standard	• Focus on food safety • Freedom to interpret scheme
Van Voorst	An advantage of FSSC is that you have a little bit more freedom how you set up your system, albeit risk based. BRC and IFS dictate more what the company has to do. FSSC is based on what the company thinks is the right way to produce safe food. Of course, you do have to substantiate your decisions.	• More freedom • Own decisions	• Freedom to interpret standard	• Freedom to interpret scheme
Bureau de Wit	Less commercial driven than other standards.	• Less commercial	• Keeps you focused on food safety	• Focus on food safety

Subquestion 5: What are the disadvantages of implementing FSSC 22000?				
Company	Text	Open coding	Axial coding	Selective coding
VNK Herbs	It was nothing new for us, We came from the HACCP and ISO 9001 norms. The only thing was the verification and validation procedures you have to do annually. That was something we had to think about how we were going to do it. And certain procedures you had to have. No we did not have any crazy things, which surprised us particularly. The additions to the standard, such as Food Fraud or Food Defense, are something that we had to think about how are we going to handle this. We get a lot of customer audits, like 5 or 6 a year. As well as the certification audits annually. We notice that you get a lot of direction what to do. Especially with the customer audits, they say 'Oh we'll just sent you this document and you can go ahead with that.' The first audit was quite tensive, like did we implement everything correctly and did we execute everything correctly. Because we already had an ISO standard implemented, the step to switch was not that big.	• Annual verification and validation procedures	• Takes some effort	• Takes effort, time
Vocking	We are a smaller company and we do not really speak the language needed to be able to implement FSSC 22000. That's why we needed the advisory bureau. No, since we already had the BRC certificate we had an easy transition to FSSC. The new additions to the standards, such as Food Fraud and Defense are especially relevant for us, due to the horse meat scandal of a few years ago. An issue we had was thinking about whether we wanted to implement camera's in our process. The costs of audits, analyses, internal audits and the advisory bureau are quite high. This is a necessary cost for the company, but it is a large portion of our expenses.	• Not familiar with food safety language • Costs	• Legibility • Costs	• Legibility • Costs
Henri Willig	Nothing	No input	No input	No input
Meat processor	Nothing	No input	No input	No input
Marfo	I was not the one who implemented FSSC, but when I started here, I found a long list with oPRPs. I could not find a reasoning why they made certain aspects an oPRP. The list was too long and checking every one of them lost its value of being an oPRP. We didn't know why we were checking things. A few years later, we had an auditor, who was the scheme manager of the Certification Body, who helped us to take a closer look at the oPRPs. We took a lot of the oPRPs from the list. We redefined certain oPRP's as they were still very important. We had to show employees why they were important for the process. I am still learning with training courses and such what an oPRP is and I keep updating them.	• Wrong direction with oPRPs	• Misunderstood definitions oPRPs	• Legibility
Vreugdenhil	My quality manager had the advantage that I was involved with managing the quality system. I think that is the biggest barrier, when your management team is not involved in the process and just wants the certificate to show that they can produce. When management is not involved the employees are hard to convince why a certain process has to happen. I don't think FSSC 22000 has any disadvantages.	No input	No input	No input
Henningsen	No, we had most of it already implemented.	No input	No input	No input
Royal Bel Leerdammer	It mainly was a lot of work and adjustments within the current quality system.	• A lot of work and adjustments	• Takes time and work	• Takes effort, time
SGS	You have to search a bit before you can find the information you need for your company. Also, not everything is certified under FSSC yet. So you have the ISO 22000 with additional modules and not every module is FSSC certified yet. So for example, you cannot be certified as FSSC for trade or logistics separately. But this may just be our certification body that does not offer it yet.	• Information is not easy to find • Certain sectors are not certified yet, trade & logistics	• Information is hard to find • Certain aspects not certified yet	• Takes effort, time • Certain aspects not certified yet
DNV GL	No, in my opinion there are no big disadvantages to the FSSC standard, apart from maybe its legibility. Do you know the term Purple Crocodile? It is from a ad from about 10 years ago. It means that there is a lot of bureaucracy and a lot of paperwork, which may create a disadvantage for the food safety. That is what the current industry is heading towards. But that is the entire food industry not just FSSC.	• Legibility	• Legibility	• Legibility
Vinçotte ISAcert	See advantages.	• Unnanounced audits	• Unannounced audits	• Unannounced audits
Eurofins	What I think is difficult of FSSC 22000, is that you have several different aspects of the standard, so the ISO 22000 standard, the appendices specifically for food or transport, and specific FSSC 22000 prerequisites, which you can get from the website. So you have several documents you have to put together and if you comply with those, you are FSSC 22000 certified. It is not straightforward, just one standard where you start from start to finish and if you comply with the standard you are certified. It is somewhat difficult to gather and understand the information. We, as advisors, are working daily on these standards and we have several experiences with other companies. When you work at one company, you can become blind to the faults in the system and we, as outsiders, are able to see those faults and help.	• Different aspects can get confusing	• Standard is confusing	• Legibility
Van Voorst	The freedom you get can also be a disadvantage, as some companies say they would rather have a clear guideline, because they do not have the knowledge to implement it. It is less strict. So when a customer from a company expects a company to for example eradicate the number of foreign objects, which you could detect with a metal detector, then would BRC be a better certificate, because a company is almost obligated to have a metal detector. The unannounced audits could be something that deters companies to get FSSC certified. With BRC and IFS you have the choice to be audited unannounced, although that may change as well.	• No clear guideline • Not strict enough • Unannounced audits	• Freedom to interpret standard • Unannounced audits	• Freedom to interpret scheme • Unannounced audits
Bureau de Wit	It is very free, many things are left open. The auditor can give it his own twist, but that also happens with BRC and IFS. It is expected that more companies will switch from BRC to FSSC and IFS.	• No clear guideline	• Freedom to interpret standard	• Freedom to interpret scheme

Subquestion 6: What would the companies have done differently?				
Company	Text	Open coding	Axial coding	Selective coding
VNK Herbs	No it went well, Every company is different as in where do you come from, what do you produce. Start with the HACCP part and read the standard thoroughly through. Look at what you need. Don't try to do too much and keep it simple.	• Wouldn't change anything • Start with HACCP • Read through and fill in what you need • Keep it simple	• Start with Hazard analysis • Get acquainted with standard • Keep it simple	• Know the scheme • Keep it simple
Vocking	Nothing. If you don't have the knowledge of the systems yourself, hire an advisory bureau. However it is costly. It is not something that you can just implement, you don't have that knowledge. You need a wingman that advises your company.	• Wouldn't change anything • If you lack knowledge, hire advisory bureau	• Hire advisory bureau	• Hire advisory bureau
Henri Willig	We wouldn't change anything. If you have no experience with implementing a system, I would recommend using an advisory bureau. We used a zero-audit, which is an audit that shows you where you stand at that moment and what should you change to comply with the standard. This was helpful for us to check what we should do.	• Wouldn't change anything • If you lack knowledge, hire advisory bureau •Zero-audit is helpful	• Hire advisory bureau	• Hire advisory bureau
Meat processor	Nothing. I would advise to hire an advisory bureau.	• Wouldn't change anything • Hire advisory bureau	• Hire advisory bureau	• Hire advisory bureau
Marfo	We would implement less oPRPs Make sure that you know what the terms mean, so that you don't get confused. I can recommend an introduction training course or any course related to a quality system. If you don't have time for such courses, I would hire an advisory bureau.	• We would implement less oPRPs • Know your definitions • Follow courses • Hire advisory bureau	• Get acquainted with standard • Get informed • Hire advisory bureau	• Know the scheme • Hire advisory bureau
Vreugdenhil	Nothing, Before you begin with implementing FSSC 22000, you have to immerse yourself in the materials, for example follow a course about FSSC 22000. You have to have an involved management team. Another advice I have is for the employees on the production floor. They shouldn't be scared to answer questions from the auditor about their work. When they should have done a certain task, but didn't do it, they should be allowed to tell the auditor this, because that gives room for improvement.	• Wouldn't change anything • Read through standard • Follow courses • Involve management • Instruct your employees	• Get acquainted with standard • Get informed • Involve management and employees	• Know the scheme • Involve management and employees
Henningsen	Nothing, Before you start, hire an advisory bureau. The standard is not easy to read. The advisory bureaus have a gap list to fill in what you have to identify what you are missing. They also have a frame of reference of what to do.	• Hire advisory bureau	• Hire advisory bureau	• Hire advisory bureau
Royal Bel Leerdammer	I would definitely recommend it! Be sure to let yourself be informed on the contents of the certificate.	• Inform yourself on contents of standard	• Get informed	• Know the scheme
SGS	No clear distinction between OPRPs and CCPs; probability and effect of dangers far too high to estimate and thus get stuck in the decision tree; utilities not sufficiently defined / managed; unclear monitoring of relevant points. Keep an eye on the structure of ISO22000: first define the prerequisite programs completely so that you only look at the processes in the hazard analysis and do not have to think at every step about not clean, flies, hand contact, etc.	• No clear distinction between oPRPs and CCPs • Lost in the decision tree • No sufficient definition utilities • Unclear monitoring of relevant points • Keep an eye on structure ISO 22000 • Define prerequisite programs • Look at hazard analysis	• Get acquainted with standard • Start with prerequisite programs • Next hazard analysis	• Know the scheme

DNV GL	We sometimes say a little jokingly: You won't get the certificate with a full savings card, you really have to do something for it. The industry is going through a rough time now, as retailers, such as Jumbo and Albert Heijn put a lot of pressure on the producers to produce low cost products. Often there is not enough money to properly take the time to implement the system. The QA manager is often the caller in the desert, as general management is not involved with the implementation. They implement it and carry most of the pressure. They sometimes say the devil is in the details. Certain details, especially in the prerequisite programs, are misunderstood or misread, which leads to minors or majors during the audit. Also the lack of management responsibility. Sometimes there is a need for investment, in for example building construction, it can be quite difficult as QA manager to convince the management team. Another mistake is that the company thinks Now that we are certified we don't have to work on the food safety system anymore, because we passed the audit. No, you have to maintain the system continuously. Get help to guide you towards a FSSC 22000 certification. It is vital that companies prepare themselves properly. Try to get the added value out of it. That means you have to be prepared to do everything needed for the certification. Don't rely too much on the advisory bureau though. With the unannounced audits will it be hard for the advisors to be at 10 places at once. I have customers where I only see the management of the company during the opening and closing meeting and the rest of the audit the consultant takes over. In my opinion it means that food safety does not live in the company. You have a difference between assisting with the implementation and maintenance of the certificate and taking over for the company. The system is supposed to be self sufficient for 365 days of the year. We can definitely see when a company spend a few days before the audit cleaning everything. It is something we can see immediately. Companies that do this, create a false sense of food safety. I often compare it to a drivers license. Even though you may have your license, it does not say anything about the quality of you as a driver. That is the same with certificates, it does not say anything if you produce safe food. It just says that you produced safe food at the moment of auditing. What happens the other 363 days of the year? There should be a turning point that a company is not only certified because it was a requirement, but because they stand for food safety.	• Not enough money to take time to implement system • Management not involved • Misunderstood/Misread details • Continuously maintain system • Hire advisory bureau • Prepare yourself properly • Stand for food safety	• Invest time • Get managemnent involved • Get acquainted with standard • Continuously maintain system • Hire advisory bureau	• Invest time • Know the scheme • Continuously maintain system • Hire advisory bureau
Vinçotte ISAcert	One of the biggest mistakes companies make is the substantiation. So when they make a decision, they do not describe how and why they made that decision. Another one is that companies forget to tell us about any changes they made to the product or process. And then when we come to audit, the scope is wrong. We then have to return to review the new scope. Make sure that you have the information to implement the certificate, albeit through an advisory bureau. Make it your own. Don't put the responsibility at the advisor. Especially with the unannounced audits, you cannot rely on an advisor. Make it not too complicated, but substantiate your decisions.	• Substantiation missing • Did not report changes to product or process • Get informed • Hire advisory bureau • Make it your own • Keep it simple • Substantiate your decisions	• Get acquainted with standard • Get informed • Hire advisory bureau • Make it your own • Keep it simple	• Know the scheme • Hire advisory bureau • Keep it simple
Eurofins	They want to finish quickly, they often want to set it up within 3 months. Also after the initial audit the trick is to keep the momentum going. Like I said, an auditor or advisor is only there 1 or 2 days a year, but they produce 365 days a year. Take the time to implement the certificate. Make the decisions on what you think is important. Where do you want to be in 2 or 3 years and how can the food safety system support that.	• Implement too quickly • Continuously maintain system • Make it your own • Set goals	• Invest time • Continuously maintain system • Make it your own • Set goals	• Invest time • Continuously maintain system
Van Voorst	I had a customer who wanted first to set up the quality system and only then hire a quality manager. I advised him multiple times to hire someone for the implementation. He was someone from management and acted as a quality manager, even though he did not have the knowledge required to implement and also did not have the time to go through the implementation. Eventually he followed my advice and stopped the project until they had a quality manager. So, general management may not be aware of the impact a food safety system has and the work it needs to set it up and maintain it. The task of a QA manager and the pressure they are subject to can be unclear for the general management.What you see often, is that the standard is new for the company. They are not used to working with it. When the standard has a certain requirement, you do have to follow the requirement. So for example an internal audit, when you say we are going to audit these documents, etc., you cannot say a year later that you didn't do it, because it was inconvenient. That is how you get a minor. You have to follow the requirements and report on them or substantiate why you didn't do them. I advise to hire an advisory bureau to help you through the implementation. It saves you a lot of time and research. Advisors also have the knowledge and experience to help you further. When you get the task as QA manager to implement the system, do try to get the support of general management, because you will have to change processes or other things in the company. You do not want the situation that you are directing an employee, who disagrees with you and goes to management, that management sides with the employee.	• Management underestimates impact implementation • Actually do the things you say • Hire an advisory bureau •Get support from management	• Get management involved • Keep your word • Hire advisory bureau	• Involve management and employees • Hire advisory bureau
Bureau de Wit	To certify too quickly without sufficient proof and necessity. Take your time, know your processes and try to stay informed of the developments of FSSC.	• Implement too quickly • Substantiation missing • Take it slow • Know your processes • Stay informed	• Invest time • Get acquainted with standard • Get informed	• Invest time • Know the scheme

Appendix V: Audit process

The process of auditing according to René Voermans, Scheme manager FSSC 22000 Vinçotte ISAcert:

A company requests an quotation and the certification body makes a contract with that company. This contract discusses the scope, so processes, products, locations, how many employees, etc., as this has influence on the time an audit would take, which auditor fits with the company and which auditor is available in the allotted time. A date is set for the audit.
During the audit, the auditor reports the deviations and at the end of the audit the company gets a list with the minor, major and critical deviations. Minor and Major mean that you are still certified, but the company has to fix Minors for the next audit and Majors within a few weeks. Critical means that you have a major flaw in the process and are not allowed to produce under the certificate. The company responds with an action plan how they will fix the deviations within the time period that is set by the auditor depending on the number and kind of deviations. Major does not necessarily require a follow-up audit. That is what we decide: when it concerns documents, it is not necessary for example. Every time an auditor suspects an Critical, they have to call me, because it has such a major impact on the company, we want to be sure that it is definitely an Critical.
When the company has fixed the deviations, they send in proof and the auditor checks whether he/she is content with the solution. If he agrees with the solution, he makes the end report with his recommendation for certification. Then a second auditor, a so-called file reviewer, reads through the report to check if they agree with the deviations and solutions and check for mistakes. We call that the Four Eyes principle. After that the report is checked randomly by a third auditor, so certain chapters are checked again for mistakes, etc. and that is the person that makes the decision whether the company will be certified or not.

An initial audit is different from a recertification audit. An initial audit has 2 phases, between phase 1 and phase 2, there should be at minimum 4 weeks: Phase 1 is a document check and a quick walk through the process to get familiar with the company and the process, as well check whether the company is structural sound to enter phase 2. When an auditor notices aspects that might cause a minor or major during phase 1, the company still has the opportunity to change these in the 4 weeks between phase 1 and 2. Phase 2 is the rest of the audit, so the auditor checks the process more thoroughly.
A FSSC 22000 certificate is for 3 years. Year 1 is the initial audit, year 2 and 3 are surveillance audits and year 4 the company gets a full audit again, like the initial audit. One of the 2 surveillance audits is unannounced, which is planned in a period of 5 months. So the certification body knows when the audit will take place, but the company only knows the period.