



QS. Ihr Prüfsystem für Lebensmittel.

# QS-REPORT Fruit, Vegetables, Potatoes 01/2016

## Sustainability in the Supply Chain Study identifies relevant Hotspots

The results of the QS-commissioned study on sustainability during the production, processing and marketing of fruit, vegetables and potatoes, conducted by Prof. Dr. Heike Mempel and Prof. Dr. Thomas Hannus from the Weihenstephan-Triesdorf University of Applied Sciences, are now available. The goal of the study was to identify sustainability hotspots in the supply chain and determine their importance for the industry.

the following page shows the aggregate hotspot matrix summarising the findings across all production systems. The parameters in the upper lefthand quadrant (highlighted in red) must be seen as being particularly critical: they are not only of high relevance but also difficult to achieve. The following table shows that assessments of the problem areas sometimes differ considerably between the various production systems.



One of the central questions at the start of the study was how to create a meaningful study design with adequate penetration depth given the wide variety of products and the differences that exist in the production of fruit and vegetables. As a product-based analysis on the production stage seemed too complex, four representative production systems were defined (see diagram 1, page 2) to which products can be allocated. The stages wholesale/logistics and distribution/food retail were observed as the process steps that follow the production stage.

### Results

The results of a wide-ranging online survey and expert interviews with industry representatives and stakeholders show that the overwhelming percentage of identified ecological, economic and social sustainability parameters along the entire value added chain show a high to very high relevance. Diagram 2 on

At enterprises that perform processing and washing the topic of water is of primary importance. Further topics in the wholesale and logistics sectors are climate, CO<sub>2</sub> and material resources. The food retail was assessed on the basis of expert interviews. Here, as in the upstream stages, the topic of material resources

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## Editorial Dear Readers,

The „Workgroup Sustainability“ we wrote about in the last QS-Report has been closely involved in the study on the identification of sustainability hotspots in the supply chain. The preliminary outcome of the consultations was the forwarding of a recommendation to the Advisory Board. This issue contains an exclusive overview of the initial results of the study. You will also find an exciting company profile of QS-certified mushroom producer Pilzland, a detailed report on the Fruit Logistica 2016 and much more.

The editorial team would be pleased to receive questions and suggestions on the QS-Report to [presse@q-s.de](mailto:presse@q-s.de).



Picture source: Pilzland Vertriebs GmbH

# Sustainability in the Supply Chain

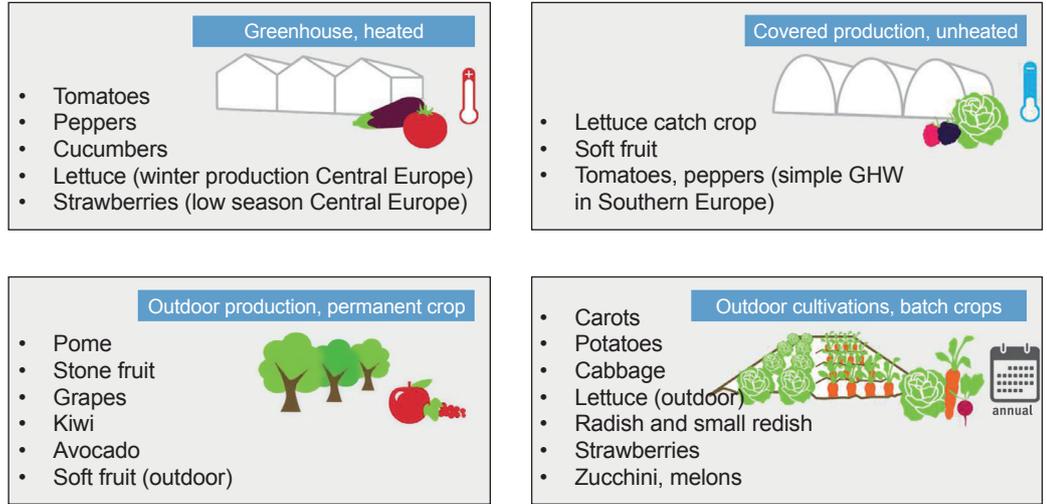
## Study identifies relevant Hotspots – continued from page 1

and the theme complex of product losses were identified as the areas that are simultaneously highly relevant yet difficult to address. The topic of food loss along the entire supply chain, as well as the more effective closing of material cycles through recycling and efficient use of resources, structural change in the sector and the shortage of qualified young professionals were further themes named by experts as important aspects in the discussion concerning sustainability. All experts predict growing requirements in the area of social themes but also with regard to the overall subject of sustainability. The experts also agree that information needs on the issue of sustainability will also continue to grow.

### Outlook

One of the key tasks of the sector is now to determine potential courses of action for

Fig. 1: Production systems



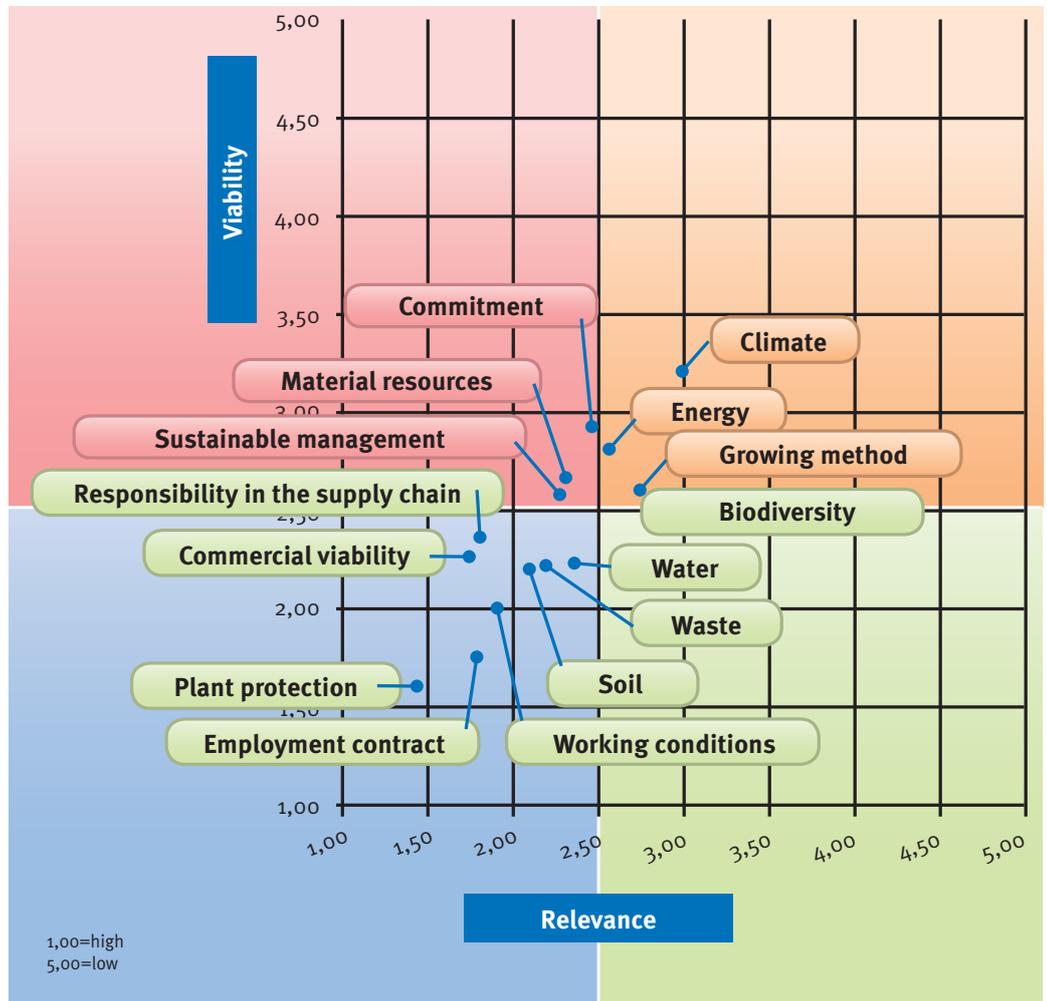
hotspots of high relevance and above all also to identify potential solutions for areas that are difficult to address. One important precondition for the success of future activities in the area of sustainability is the incorporation of as many stakeholders as possible along the entire value added chain. (Guest author: Prof. Dr. Heike Mempel, Department Horticulture and Food Technology, Weihenstephan-Triesdorf University of Applied Sciences)

14 expert interviews on the different topics were conducted. 185 companies participated in the online survey.

### Problem areas with high relevance but difficult to achieve

Topic/ Production system	Greenhouse	Batch culture	Permanent culture	Covered
Energy	X			
Climate	X			
Material resources	X		X	X
Responsibility in the supply chain	X			
Commitment		X	X	
Sustainable management		X	X	X
Growing method				X

Fig. 2: Agregate hotspot matrix across all production systems



# Commitment to Freshness and Quality

## Pilzland Vertriebs GmbH

Pilzland Vertriebs GmbH is one of Germany's biggest suppliers of mushrooms. It is a one-stop supplier, handling everything from substrate production and growing through packaging and logistics. The producer organisation produces mushrooms at a total of eight locations in Germany and can therefore guarantee short transport runs and fresh produce.

Thanks to its targeted marketing activities, Pilzland has been able to offer its customers in the food retail sector a full range of fresh mushroom specialities since the company was founded in 1985. The diverse product portfolio includes not only white and brown mushrooms but also shiitake and oyster mushrooms as well as many other edible varieties. More than 300 tonnes of fresh edible mushrooms are produced every week. The successful activities of Pilzland are driven by around 700 experienced employees who work to ensure freshness and quality every day.



### Quality and safety are a must

„Food safety and responsible operating are extremely important to us!“, explains **Christian Nacke** (photo), Managing Director at Pilzland Vertriebs GmbH. „This is why our work is based on the guidelines of QS, EU-BIO and Biopark, Regionalfenster and GQB, as well as the IFS standards“, adds Nacke. Traceability, origin control and compliance with residue specifications are part and parcel of quality policy. Nacke is convinced that „the use of the QS certificate proves to our customers that we fully meet the requirements. Because one thing is certain: Quality prevails.“

### 24 hours from harvest to refrigerated shelf

A further mission of Pilzland is to ensure the freshness of their mushrooms. With production locations throughout Germany, the company is never far away from the customer, and this keeps transport distances to a minimum. „Our goods are often on the customer's refrigerated shelf just 24 hours after being harvested“, Nacke confirms.

Even the production of the substrate on which the mushrooms grow is handled by experienced employees. As the mushrooms are very sensitive to pressure or vibrations, harvesting at Pilzland is by hand only – after the mushrooms have been grown using innovative and unique methods. Experience pickers harvest the mushrooms directly into the retail box and check quality and packaging before the goods are dispatched to the customer. „Everything is from a single source – ensuring that we have maximum influence on supplying great mushrooms of the best quality and freshness“, is how the Managing Director summarises the company's operations.



# Fruit Logistica 2016 – a Retrospective

## QS in international Dialogue



The **Fruit Logistica**, the most important event in the national and international fruit and vegetable industry, attracted over 70,000 trade visitors from 130 countries for the first time this year.

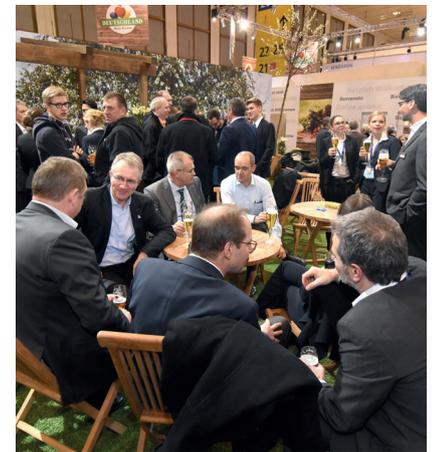
The QS presence at the joint stand of the German Association of Producer Organisations of Fruit and Vegetables (BVEO) was extremely popular. „We succeeded in expanding international contacts and further consolidating our cooperation with the food retail sector“, was the resume of **Wilfried Kamphausen**, responsible at QS for the supply chain fruit, vegetables and potatoes. „Our almost traditional „*Blau*e Stunde“ staged by the BVEO and QS on Thursday evening provided an excellent opportunity for interaction with other exhibitors and business partners“, added Kamphausen.

During the fair, there was also a meeting of the „A-Net“ (photo), a European platform for national standards in the area of fruit, vegetables and potatoes. At the meeting, scheme participants from Austria, the Netherlands, the UK, Belgium, Switzerland and QS discussed new aspects of the standards as well as topical and future issues.



Back row, v.l.n.r.: S. Kunze (AMA-Marketing GesmbH), J. Wielemaker (Brancheorganisatie Akker-bouw), R. Cools (Belgapom), M. Rosiers (Vegaplan), W. Kamphausen, H.-J. Nienhoff (both QS)

Front row, v.l.n.r.: S. Pohl-Stadlhofer (AMA-Marketing GesmbH), G. Centeno (QS), P. Sieghart (SwissGAP), B. Wolf (Vegaplan), A. Förschler (QS) Absent: E. Kerrigan (Red Tractor) and M. Werme-linger (SwissGAP)



Our annual meeting of laboratories managers on residue monitoring was held on the opening day and was attended by over 60 laboratory managers. The most important topic was the presentation and discussion of the findings of the two QS laboratory performance assessments in 2015. Dr. Gustav Offenbächer, laboratory expert for residue analysis and quality assurance, also talked about requirements for the reporting analytical results in test reports. Dr. Britta Michalski from the Federal Institute for Risk Assessment (BfR) reported on the assessment of the health risk of residues of plant protection products in food.

# QS Science Fund supports further Research Projects

## Focus on Microbiology and integrated Production

This year, the QS Science Fund for Fruit, Vegetables and Potatoes is financing research projects of the Max Rubner Institute in Kiel into microbiology in salad and of Osnabrück University of Applied Sciences on the topic of the integrated production of fruit.

The aim of the study by the Max Rubner Institute is to identify and close knowledge gaps concerning the entry paths and the occurrence of human pathogens in the salad food chain. In the words of Institute Director **PD Dr. Charles Franz**: „In order to gain a better idea of entry paths and burdens, this project depicts the entire production chain for the first time. At the same time, we are investigating whether decontamination using bacteriophages is a suitable method to reduce pathogenic bacteria in the washing water for mixed salad and lettuce.“ The study by Osnabrück University of Applied Sciences focuses on the critical assessment of the guideline for the controlled integrated production of fruit in Germany. The study examines whether current requirements in terms of sustainability and food safety are adequately taken into account in the guideline and, if applicable, how these requirements need to be adapted.



**i** The QS Science Fund for Fruit, Vegetables and Potatoes exclusively pursues directly non-profit objectives. The fund is financed by the sanction fines that scheme participants have to pay when they fail to comply with the QS requirements. You can find more information (only in German) at [www.q-s.de/qs-system/wissenschaftsfonds](http://www.q-s.de/qs-system/wissenschaftsfonds).

## News in brief

### Unannounced audits for producers and wholesalers

From 2016, unannounced audits will also be conducted at wholesale and production businesses certified in line with the standard „Production Fruit, Vegetables, Potatoes“. The first unannounced audits will be carried out from 1 July 2016. This means that, when it comes to spot audits, producers certified in line with the Guideline „Production Fruit, Vegetables, Potatoes“ will now be subject to the same provisions that already apply for QS-GAP-certified producers. As a result, an additional audit will take place at ten percent of the businesses each year. Wholesale businesses can choose whether this takes the form of an unannounced audit or an announced audit with an additional spot audit between the announced audits. All audits carried out in food retail stores are unannounced.



### Tips for producers regarding the approval and safe use of plant protection products

When using plant protection products, producers of fruit and vegetables have to comply with important rules to ensure the safety of consumers and in order not to harm the environment. During the approval process, the Federal Office of Consumer Protection and Food Safety (BVL) defines separate requirements and application provisions for each plant protection product, also stipulating minimum waiting times between the last application and the harvest. In a guest article in the QS-Blog ([www.qs-blog.de](http://www.qs-blog.de), only in German), plant protection expert **Dr. Stefan Lamprecht** (Lower Saxony Chamber of Agriculture) explains exactly what should be taken into account with regard to the approval, application rules and legal requirements of plant protection products.

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### Auditor training in Madrid

In March, attendees from Spain and Italy (photo) followed the invitation of QS

to take part in foreign-language auditor trainings for the production and wholesale stages in Madrid. It was the positive feedback from the previous year that prompted QS to once again organise these courses outside Germany this year. **Paula Ruiz García** from Spanish certification body ECCO INGENIEROS S.L. confirmed the favourable response: „We are particularly happy with the training held in English and taken place in central Madrid. We have been active as a certification body for the QS scheme since 2006 and we attend the auditor trainings every year. Regular further training plays a key role in ensuring the professional work of the auditors and therefore in underpinning the trustworthiness of the entire QS scheme.“

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Imprint

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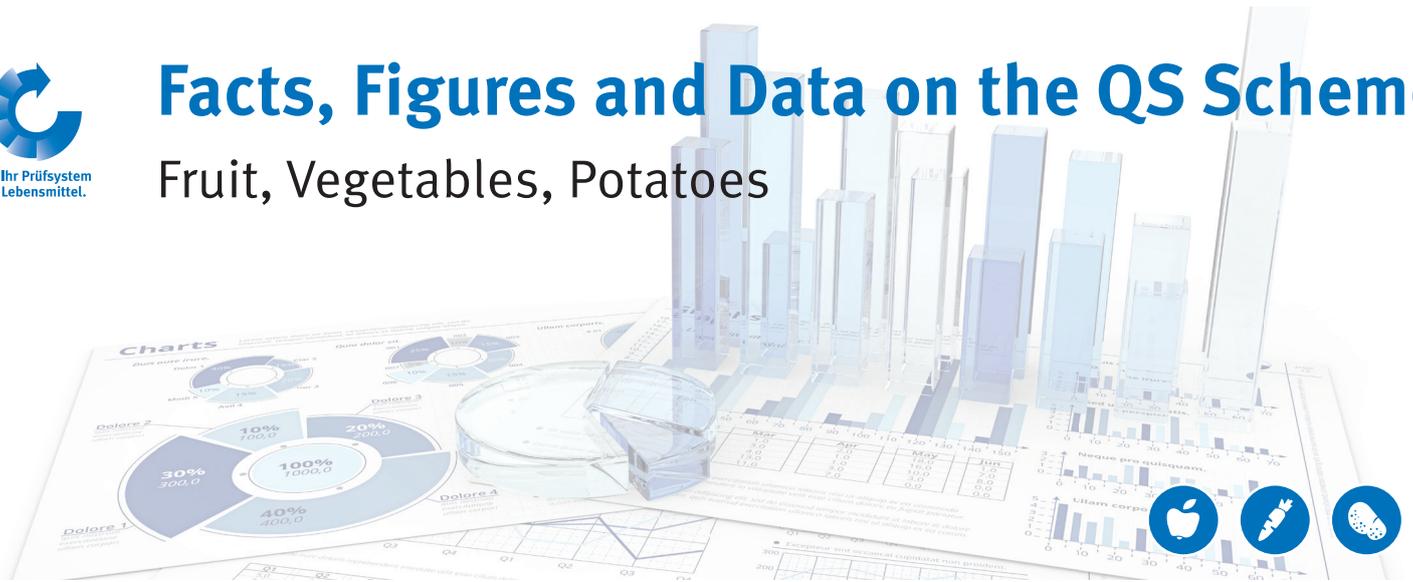
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# Facts, Figures and Data on the QS Scheme

## Fruit, Vegetables, Potatoes



## QS Residue Monitoring



**10,968 samples** were analysed by **77 QS-approved laboratories** in 2015.



The samples were from **143 different fruit and vegetables** from **44 countries**.



The rejection rate was just over **1.3 %** (145 samples in total).



**54 %** of the approved laboratories originate from abroad, **44 %** are from Germany.



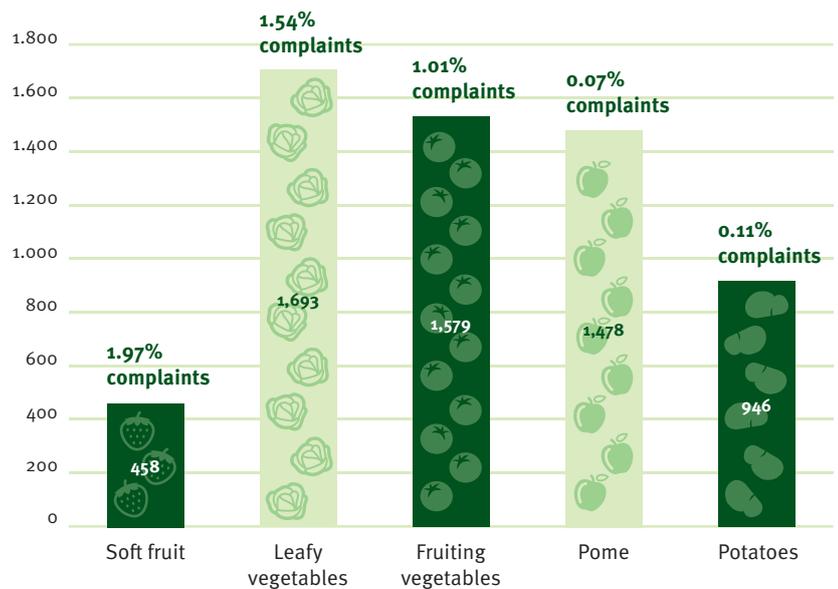
The foreign, approved labs come from Belgium, Netherlands, Italy, Spain, Switzerland, Austria, Turkey, Greece and France.



### TOP 10 of countries from which the samples originate

Country	Number of analysis
Germany	7,766
Belgium	1,012
Spain	784
Netherlands	741
Italy	228
France	80
Austria	64
Greece	42
Israel	41
Morocco	32

### Number of samplings and proportion of complaints of selected product groups



A detailed presentation of the analysis results provides the current **monitoring report fruit, vegetables, potatoes**, which can be downloaded in the media catalog on [www.q-s.de](http://www.q-s.de).

**93 % of labs approved by QS** passed the laboratory performance assessment in autumn 2015 successfully. **75 %** of them scoring the maximum number of points.

### **i** Novelty Laboratory Performance Assessment

Since 2015 within the reporting of the test results, the original test report is requested.

It is examined on the following points:

- Indication and utilisation of the ARfD of the detected active substances
- Information on the model used to calculate the ARfD
- Sample evaluation in accordance with regulation 396/2005 (Maximum Residue Level Regulation)
- Sample evaluation with regard to marketability

# Number of Scheme Participants

**31,102** scheme participants from **21** countries are participating in the QS supply chain fruit, vegetables, potatoes.

**39%** of the fruit and vegetables producers within the QS scheme came from European neighbouring countries.

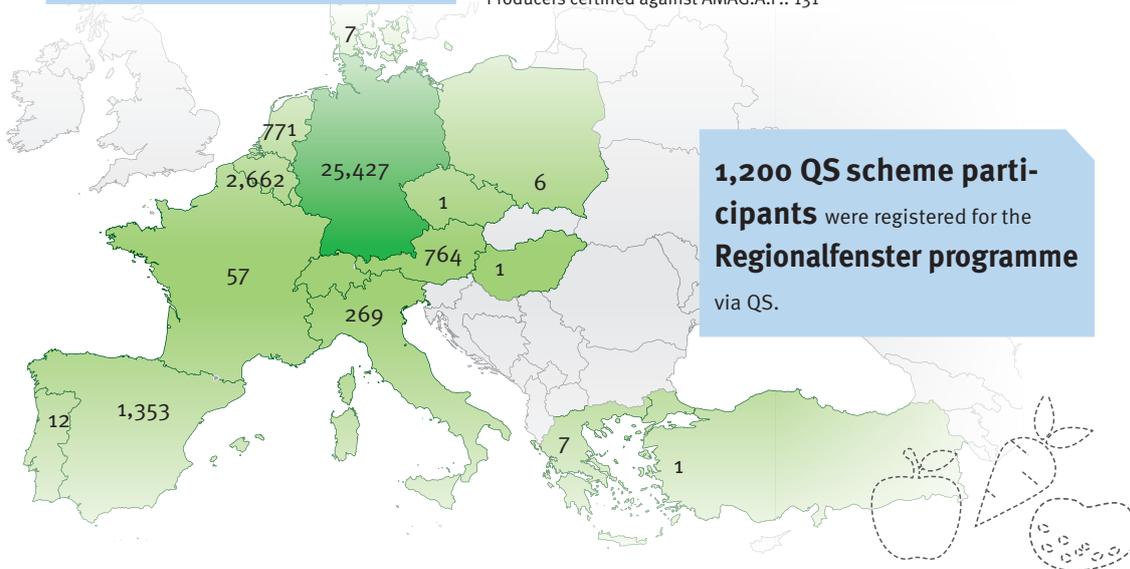
Number of scheme participants (as of Dec 2015)

Stage	Total	Germany	Other countries
<b>Production*</b>	<b>13,756</b>	<b>8,419</b>	<b>5,337</b>
- Fruit, vegetables	10,896	5,620	5,276
- Potatoes	2,860	2,799	61
<b>Wholesale</b>	<b>801</b>	<b>546</b>	<b>255</b>
<b>Logistics</b>	<b>206</b>	<b>123</b>	<b>83</b>
<b>Food retail</b>	<b>16,339</b>	<b>16,339</b>	<b>307</b>

\*Thereof: Producers certified against QS-GAP: 7,023, Producers certified against GlobalG.A.P.: 3,343, Producers certified against Vegaplan: 2,358, Producers certified against AMAG.A.P.: 131

Number of wholesalers 2014

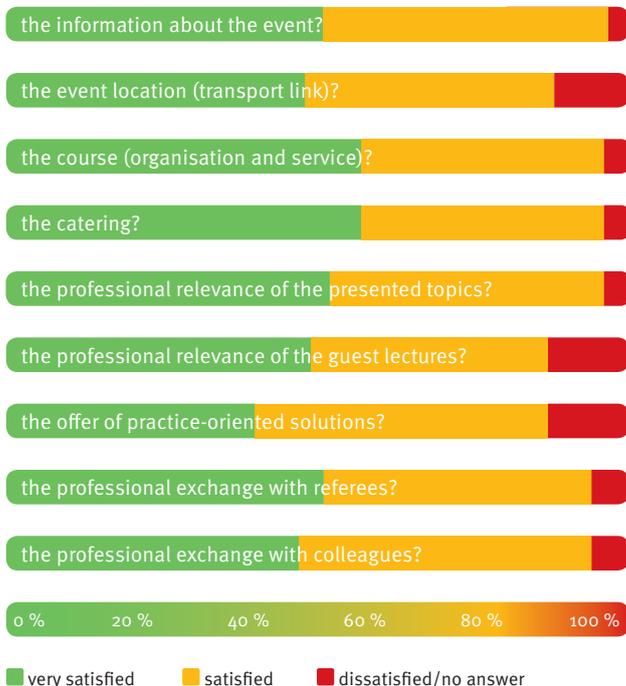
Total	801
<b>Germany</b>	<b>546</b>
<b>other countries</b>	<b>255</b>
<b>Thereof</b>	
Spain	108
Netherlands	50
Italy	40
Austria	15
Belgium	16
France	10
Greece	4
Morocco	2
Poland	4
Switzerland	2
Denmark	1
Portugal	1
Israel	1
Hungary	1



## Auditor Trainings

The auditors are satisfied with the process and organisation of the QS training courses. This is the finding of a survey conducted by QS last year among participants at auditor trainings. The survey was well received, with 81 percent of the 619 participants completing an assessment form at the end of the courses. Here are the detailed results:

### How satisfied are you with...



**29 certification bodies** are approved for the QS supply chain fruit, vegetables, potatoes.



**220 auditors** have the approval to carry out audits for the QS supply chain fruit, vegetables, potatoes.

**659 auditors** participated in **36 auditor trainings** organised by QS.

### Auditor trainings (vs. 2014)

Type	Amount	Participants	For foreign auditors	
			Amount	Participants
Production QS/QS-GAP	5 (4)	106 (100)		
Wholesale fruit, vegetables, potatoes	2 (2)	38 (35)	2 (1)	30 (24)
Food retail combined (meat & fruit, vegetables, potatoes)	3 (2)	67 (64)	1 (1)	14 (6)
Initial audit	4 (3)	68 (65)	2 (1)	13 (4)

# Regular, Random Sample and Additional Audits



**12,309 regular audits** were conducted in 2015 in the supply chain fruit, vegetables, potatoes.

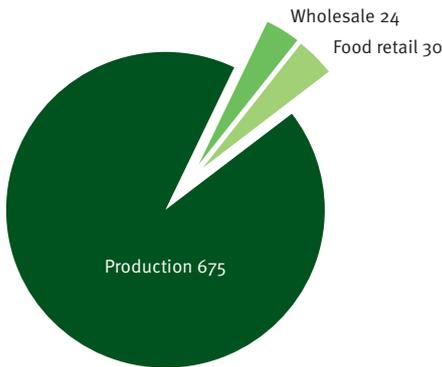


**1.2 %** of all cases led to a **sanction procedure**.

## Regular audits 2015 vs. 2014

Stage	Amount (thereof K.O./no approval)	
	2015	2014
<b>Total</b>	<b>12,309 (365)</b>	<b>12,567 (385)</b>
Production (QS)	378 (11)	382 (7)
Fruit and vegetables	257 (8)	257 (5)
Potatoes	121 (3)	125 (2)
Production (QS-GAP)	7,064 (142)	7,008 (122)
Fruit and vegetables	4,613 (76)	4,625 (71)
Potatoes	2,451 (66)	2,383 (51)
Wholesale	432 (9)	465 (17)
Food retail	4,435 (202)	4,712 (239)

## Number of random sample audits



## Frequent C and D evaluations 2015

Stage	Amount		Requirements with frequent C and D evaluations
	C	D/ K.O.	
<b>Production (QS)</b>			
Fruit and vegetables	46 30 21	5 1 9	<ul style="list-style-type: none"> <li>Hygiene (checklist and instructions)</li> <li>Fundamental protection of operators</li> <li>Annual nutrient comparison</li> </ul>
Potatoes	10 9 7	5 1 3	<ul style="list-style-type: none"> <li>Inventory list (directory of hazardous substances)</li> <li>Hygiene instructions</li> <li>Fundamental protection of operators</li> </ul>
<b>Production (QS-GAP)</b>			
Fruit and vegetables	43 139 34	217 6 107	<ul style="list-style-type: none"> <li>Worker trained on first aid</li> <li>Fundamental protection of operators (K.O.)</li> <li>Inventory list/ directory of hazardous substances</li> </ul>
Potatoes	32 17 30	133 67 47	<ul style="list-style-type: none"> <li>Worker trained on first aid</li> <li>Fundamental protection of operators (K.O.)</li> <li>Inventory list/ directory of hazardous substances</li> <li>First-aid-kits</li> </ul>
<b>Wholesale</b>			
	37 25 28	0 5 6	<ul style="list-style-type: none"> <li>Pest monitoring/ control</li> <li>Information/ training on the QS scheme</li> <li>Implementation of the residue monitoring (K.O.)</li> </ul>
<b>Food retail</b>			
	410 221 175	44 70 123	<ul style="list-style-type: none"> <li>Legal labelling in sales room</li> <li>Information/ training on the QS scheme</li> <li>Monitoring of test equipment</li> </ul>

There were **11 suspected cases** where QS commissioned **additional audits of special purpose**.

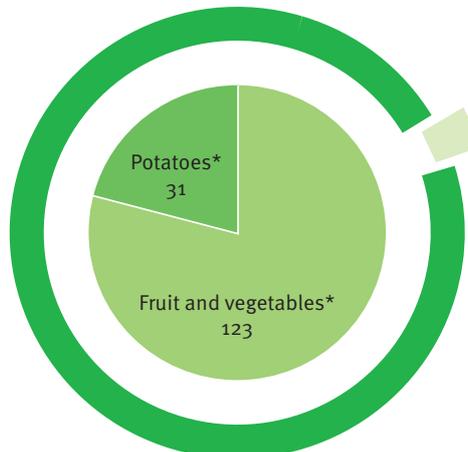
**i** The implementation of additional audits of special purpose is usually unannounced and has, except for reviews, no effect on the audit frequency or status of the operation. However, if a rating awarded, a complete system audit is carried out.

# Sanction Procedures

**83 reports** from scheme participants, third parties or from the media were processed in the **internal incident and crisis management system**. Roughly **85 %** of the reports were routine cases.

**i** In the **QS-Ereignisjournal** on [www.q-s.de](http://www.q-s.de) information on current incident and crisis cases in the QS scheme, is regularly published and it is shown, which measures QS takes at operational and communicative level (only in German).

## Number of sanction procedures and extract of K.O. evaluations



### Wholesale (6)

- Correct labelling of QS goods
- Implementation of corrective measures
- Implementation of residue monitoring

### Production (142)

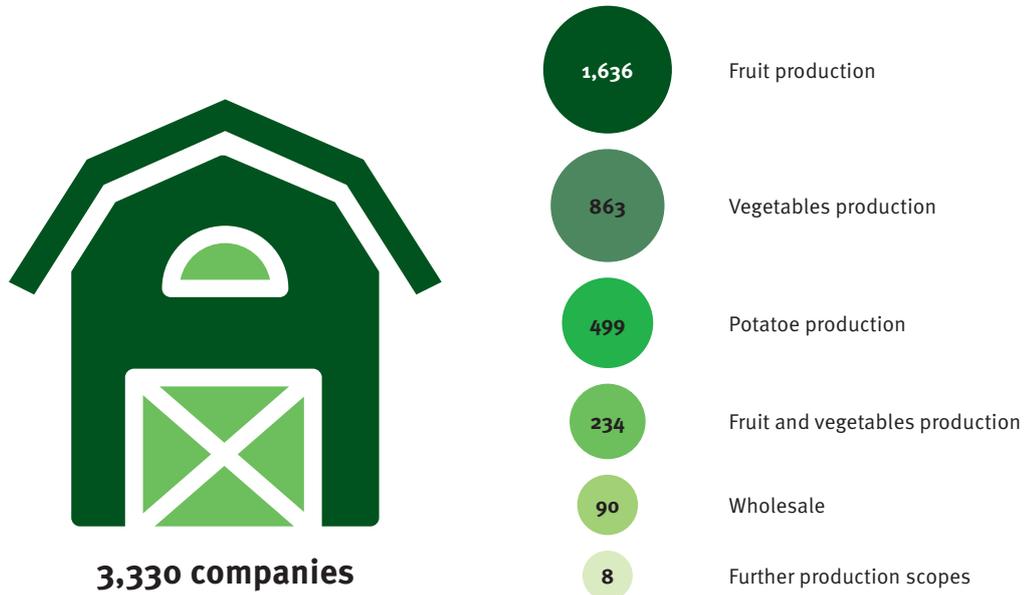
- Use of authorised substances/ plant production products
- Compliance with maximum residue levels
- Compliance with maximum quantities of expenditure
- Compliance with waiting period

\* In 12 of 142 cases, carried out at production companies, producers are affected of both: fruit and vegetables as well as potatoes. They were counted for each production scope.

# FIAS-Inspection

The voluntary QS inspection of working and social conditions (FIAS) continues to be popular a full two years after it was launched. At 3,330 scheme participants in the fruit, vegetables and potatoes supply chain voluntary inspections of the working and social conditions for external employees are carried out regularly. This positive response underlines the findings of a survey on the practicability of the inspection conducted by QS among coordinators, wholesalers and certification bodies. The overwhelming majority of respondents were happy with the introduction and implementation of the social module by QS.

FIAS-participating companies by production scope

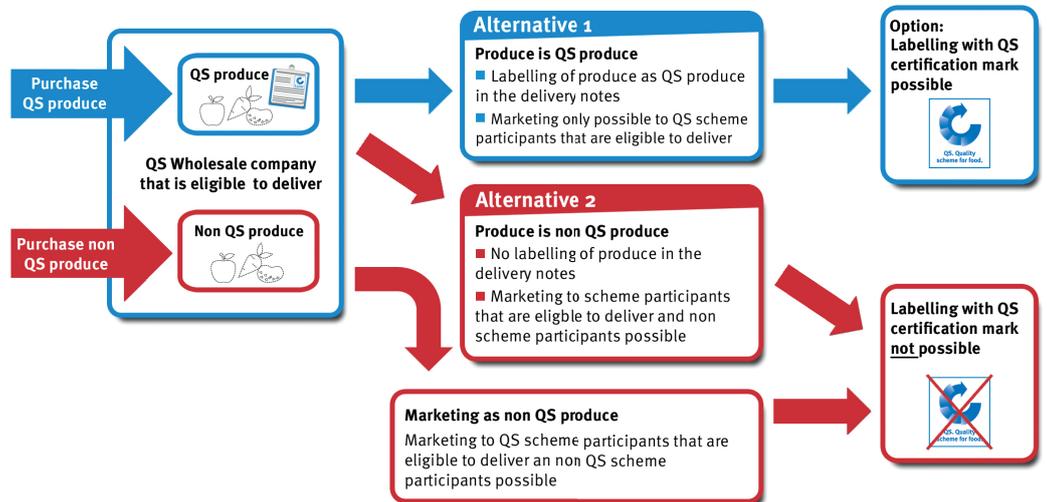


# Correct labelling of QS goods

With the new supporting document entitled „Labelling of QS produce“ introduced in 2016, QS helps all scheme participants in the supply chain fruit, vegetables and potatoes to handle the labelling of QS goods in the delivery notes. The various options are outlined in detail and in an easy-to-understand manner using diagrams and graphics.

This means a practice-focused document is now available that forms a solid basis for the labelling of QS produce in line with the specific requirements of a business (e.g. merchandise management systems) and for implementation in compliance with the valid QS requirements. The document contains illustrated explanations of the various identification options in delivery notes and outlines the difference between identification on the product itself and in the delivery notes.

Example graphic of the supporting document: labelling of QS goods for wholesale



The supporting document „Labelling of QS produce“ is now available in the download centre of the QS website.

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