QS-REPORT Fruit, Vegetables, Potatoes 02/2016

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Editorial

Dear Readers,

The development of the residue situation in Germany shows that fruit and vegetable producers are doing very good work. In 2015, the results of 99 percent of the fruit and vegetable samples tested for plant protection product residues were below the legally specified maximum levels. Nevertheless, the diverse trading specifications pose challenges for producers. We spoke to vegetable producer Rudolf Behr and Dr. Biritta Michalski from the Federal Institute for Risk Assessment about this. Also in this report, we introduce the QS-certified wholesaler UNIVEG Trade Italy, and Dr. Marcus Langen, specialist veterinarian for food, reports on the risks of foodborne bacteria in fruit and vegetables.

The editorial team would be pleased to receive questions and suggestions on the QS-Report to presse@q-s.de.

Residue specifications in the German retail sector

Two sides of the same coin

Meet the high quality demands of the trade and consumers, avoid loss of earnings: to reach these aims, the cultivation of fruit and vegetables must include the responsible use of plant protection products. Particularly in special crops, measures for protecting the agricultural plants against diseases and pests play a vital role. The aim is to use the products in such a way that the desired effect is achieved and, at the same time, all requirements of preventative consumer and environmental protection are fully taken into account.

The monitoring programmes of industry and authorities show that the residue situation in Germany has been steadily improving over the last few years. The QS residue monitoring results also provide evidence of responsible use of plant protection products. 99 percent of the fruit and vegetable samples tested for plant protection product residues in 2015 were below the legally specified maximum levels.

Modern and selective plant protection products, as well as the targeted use thereof, have contributed to this positive trend. The improved state of research and knowledge on chemical and non-chemical plant protection measures as well as better equipment technology also help to optimise the use of plant protection products. Not least, the additional requirements of the food retail sector have their part in this trend.

The other side of the coin

As beneficial as the current situation sounds for consumers on the one hand, it is all the more difficult for producers. The variety of different trading specifications poses significant challenges for cultivation because they may be associated with restrictions in the selection of tools and active substances, the quantities used and the period of use. Loss of earnings and reduced quality can be the result. “Good Practice” in the use of plant protection products also becomes difficult because, for example, the development of resistances needs to be accepted. The other side of the coin is also an issue in retail, because the products should meet very high demands with respect to the visual and sensoric quality, and preservability must be ensured all the way to the end consumer. We spoke to vegetable producer **Rudolf Behr** of BEHR GEMÜSEGARTEN about what the restrictions on the use of plant protection products mean for production.

As a producer, how do you assess the current situation? What are the challenges?

Rudolf Behr: „The increasing restrictions regarding the available active substances will lead to the further development of resistances and make it impossible to fight pests and diseases within the foreseeable future. Already today, we are seeing previously unknown types and species.

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Residue specifications in the German retail sector

Two sides of the same coin – continued from page 1

In the case of mildew on salad vegetables, we have now reached 32 new types. Resistance research and breeding make a significant contribution to the occurrence of the new types that cannot be controlled. Resistances are only briefly overcome. With the limited spectrum of chemical substances, adequate chemical prevention of the formation of new types and species is no longer possible. Harvested products are increasingly changing within a few hours because they contain a latent fungal infestation that then breaks out during the weak phase after harvest."

What needs to be done to solve the problems?

Rudolf Behr: „We need an honest analysis. In light of the challenge of the growing global population, our only option is chemical plant protection, because we are then working with dead, calculable substances. Resistance management is only possible with a sufficient number of active substances. Control measures based on resistance breeding of all breeding types will fail because of the adaptability of nature. The consequence of the large-scale use of antagonists will be an uncontrollable change of species and the ecosystem.

Dr. Britta Michalski, Head of the Residues and Analytical Methods Unit at the Federal Institute for Risk Assessment (BfR), explains: "We welcome efforts, which contribute to reducing the use of pesticides and to a reduction of residues in food. However, this must be done with a sense of proportion. We carry out a health risk assessment and derive safe maximum levels - never higher than required according to Good Agricultural Practice. It is the so-called ALARA principle („As Low As Reasonably Achievable"). Therefore additional requirements are not necessary from a health perspective. Foods are safe, if they comply with the legal maximum levels. This also applies to food that contains residues of multiple active substances. In 2014 the BfR developed a concept for the evaluation of health risks arising from the simultaneous exposure to multiple active substances. Applied to monitoring samples, it does not lead to fundamentally different results than the single substance evaluation. But we see a risk that additional requirements of the retail can have undesirable consequences for the handling of pesticides in agriculture. The conscious approach to go below maximum levels, that have no risk to health, and to limit the number of active ingredients in the crop, can lead to increased occurrence of pests or development of resistance."

The challenge for the industry is to find solutions, which will lead to an improvement that is optimal for both sides.

Revisions in the QS-scheme

what you can expect next year

The meeting of the Fruit, Vegetables, Potatoes advisory board at the end of September will revolve around the pending revisions in 2017. The focus will be on the expansion of the scope of validity of the Guideline Preparation/ Processing Fruit, Vegetables, Potatoes as well as QS-GAP re-benchmarking.

Extension of the Guideline Preparation/ Processing

In the last few months, interest in certification according to the QS Guideline Preparation has been developing in a new direction. Companies conducting processing operations (e.g. freezing and heating processes), in particular, are showing an interest. In the future, this trend will be taken into account in the QS Guideline. There are therefore plans to introduce a new stage for companies preparing and processing fruit, vegetables and potatoes, as well as to include the freezing and heating processes in the new guideline. Production companies should have the option of obtaining certification for the preparation and processing area. If processed or prepared products are to be marketed as QS goods, there should be mandatory certification for production companies. For outlets of food retailers, on the other hand, there are plans to integrate relevant requirements for the so-called "Schnibbelküchen" in the stage-specific guideline. The requirements that must be met for QS certification include detailed hygiene concepts and comprehensive conditions regarding temperature control and preservability. The implementation of a microbiological monitoring system to guarantee microbiological safety of the products is another focal point of the new guideline.

"The extended guideline places importance on food safety through compliance with hygiene rules and microbiological standards!"
Regina Zschaler, expert in microbiology

QS-GAP re-benchmarking

The Guideline QS-GAP Production Fruit, Vegetables, Potatoes has been revised by the "Further Development of the QS-GAP Guideline" working group in the context of re-benchmarking. The working group's aim was to further develop the inspection system and to increase the acceptance of the guideline by optimising the practical implementation of the requirements. In addition to combining and cutback requirements, new requirements were also added, e.g. on storing fuels and equipment and on using fertiliser of animal origin. The newly structured QS-GAP Guideline is currently undergoing a re-benchmarking process at GlobalG.A.P and will be decided upon during the next meeting of the Fruit, Vegetables, Potatoes advisory board.

"While revising the guideline, we placed particular importance on ensuring that the requirements and the inspection system are easy to understand and feasible for both producers and certification bodies."
Dr. Thorsten Strissel, Gemüsering Stuttgart, participant in the working group on further development of the QS-GAP Guideline

UNIVEG Trade Italy

Safe and fresh from farm to shop

The wholesale-company UNIVEG Trade Italy, based in Trevenzuolo in the province of Verona, is one of the major import-export companies in the Mediterranean. Almost 50 years ago, UNIVEG Trade Italy launched the organized trade of fruit and vegetables aiming to export harvest-fresh produce from Italy to northern Europe. In 1987 the import from overseas was added. UNIVEG Trade Italy makes most of their export turnover through trade with Germany. The high demands on the residue monitoring and quality is professionally stimulating for them. Not least because of this, the company has been a scheme participant of QS since 2008.

The Italian specialists for freshness are part of the global UNIVEG group, which is headquartered in Belgium and active in 25 countries. More than 100,000 tons of fresh fruit and vegetables are traded annually by Univeg Trade Italy– above all table grapes, peaches, nectarines, apricots and various kinds of cabbages. The products come from around 100 producers who maintain a long term relationship with UNIVEG Trade Italy. "The cooperation with our suppliers is the most important part of our strategy", **Giulio Benvenuti**, Quality Management Consultant at UNIVEG Trade Itlay, emphasises. A team of five agronomists is nationwide on tour and visits the producers regularly. „We advise them e.g. in terms of efficiency in the cultivation and jointly cover potential vulnerability and identify weak points together", says Benvenuti. "This support is appreciated by farmers and suppliers - mainly because it helps them in the development of plant protection strategies, the implementation of good agricultural practice as well as of monitoring programs." Also when it comes to the implementation of the QS residue monitoring, the consultants assist - as QS coordinator UNIVEG Trade Italy acts as the interface between the businesses and QS.

Focus on quality assurance

For many years, the company has a comprehensive quality policy, which includes food safety, sustainability and social responsibility. „Consistent quality won't stop at storages", says Giulio Benvenuti. "For UNIVEG industrial hygiene, product labelling to legal requirements and not least the traceability play a crucial role. With the QS certification, we document the compliance with these requirements not only to our customers but we can also be sure that independent certification bodies certify all upstream and downstream stages of the production and marketing. Thereby we meet our own demands and the increasing customer requirements."

Continuous development of laboratory performance assessments

Challenges for laboratories extended

Economic operators and consumers alike need to be able to rely on the residue analyses of the laboratories. This is why the QS scheme places strict requirements on laboratories and on the performance of analyses. During the laboratory performance assessment, which takes place twice a year, QS tests the analytical quality and performance capability of the approved laboratories. The requirements for the approved laboratories have been recently extended.

In addition to multimethod analysis, the correct analysis of the active substances dithianone, dodine, fenbutatin oxide and phenoxy-alkane carboxylic acids from individual methods now also needs to be mastered. The focus is still on metabolites because their analysis is very complex. The scoring system based on which the participation of a laboratory in the laboratory performance assessment is evaluated was also modified this year. With the new evaluation system, QS increases the selectivity between the participating laboratories, for example by penalising repeated errors in consecutive tests with the deduction of additional points. Since last year, the proper preparation of test reports remains a regular test item. The focus here is on proper evaluation of metabolites, calculating the total value of the metabolite analysis, information on the utilisation of the ARfD (Acute Reference Dose) value, the evaluation of the sample according to the maximum level definition (Regulation 396/2005) and the final evaluation of the sample with respect to its marketability.

Added value for entire branch

Since the introduction of the performance assessments ten years ago, the test design has been regularly adapted to current issues in the industry and the laboratories have thus been continuously sensitised to critical questions of analysis. According to **Dr. Jürgen Kuballa**, Chairman

of the Deutsche Laborgemeinschaft Obst und Gemüse (German Laboratory Association for Fruit and Vegetables), the continuous further development of the laboratory performance assessments represents a challenge but also creates value added for the QS-recognised laboratories: "Due to the efforts of the laboratories, the quality of the pesticide analysis has improved steadily in recent years and is at a high level. This is also confirmed by the good results of the laboratory performance assessments. The stricter evaluation criteria follow this positive trend. The intended target of a fair assessment must not be lost sight of. The German Laboratory Association offers its assistance."

Rolf Viersbach, Quality Manager for Fruit & Vegetables, REWE Group Buying GmbH, is convinced that the entire branch benefits from the regular adjustment of the test design: "The laboratory performance assessment is very demanding for the institutes performing the analyses, but it is a prerequisite for the analysis quality to result in decisions that are fair towards suppliers and producers. To keep the risk of incorrect evaluations as low as possible, this new aspect, in addition to good analysis, is an important element in the evaluation of the institutes."

Bacillus cereus and Bacillus thuringiensis in lettuce

A risk assessment

Lettuce possesses natural bacterial flora made up of different kinds of bacteria. These bacteria find their way onto and into the plants via soil, water and the air. The type of flora depends on, among other things, the plant variety, the cultivation method, any plant protection measures that have been taken, and the climate. Although the number of bacteria in the lettuce can be reduced by washing it before eating it, this does not fully remove all the flora. While most of the types of bacteria found on lettuce are harmless for humans when consumed, some of them have a pathogenic effect in the human organism. In this connection, the possibility of a health risk due to the spore-forming bacteria Bacillus cereus and Bacillus thuringiensis has been the subject of intensive discussion for some time now. The European Food Safety Authority (EFSA) has also repeatedly addressed this topic and published a comprehensive report on the subject in June of this year [1].

B. cereus is ubiquitous in soil and in water, and is therefore commonly found on plants. As an opportunistic bacterium, it can lead to two different forms of foodborne gastrointestinal disease in humans. The emetic form of the disease is triggered by the formation of the cereulide toxin in food by the B. cereus strains, and in the corresponding doses (8-10 µg/kg body weight), this toxin can result in vomiting within a short period of time. The formation of the cereulide toxin is a result of the metabolic activity of the corresponding strains, however. The optimum temperature is between +30°C and +40°C. The diarrhoea form of the disease occurs when the B. cereus strains or their spores ingested with food enter the human intestine and form enterotoxins, which can lead to diarrhoea. B. thuringiensis also commonly occurs in the environment. Some strains are also used as biological insecticides in crop production. Past studies have not proven the ability of B. thuringiensis to form the cereulide toxin. There are, however, indications that at least some of the B. thuringiensis strains used as insecticides are able to form enterotoxins. Due to the close genetic relationship between B. cereus and B. thuringiensis, it is not possible to distinguish the two bacteria with certainty in the course of routine diagnostics.

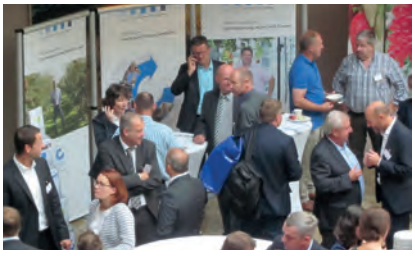
In its recent publication[1], EFSA recommends, among other things, that B. thuringiensis products used for plant protection are applied strictly in line with the producer's instructions in order to minimise the risk that may arise from B. cereus and B. thuringiensis. It also recommends that the storage temperature after harvest is maintained along the food chain at ≤+7°C, even better, however, ≤+4°C, in order to prevent the breeding of bacteria. (Guest author: **Dr. Marcus Langen**, Specialist Veterinarian for Food, Head of Department Dr. Berns Laboratorium GmbH & Co. KG, Scientific Associate TiHo Hannover)

[1] EFSA BIOHAZ Panel, 2016. Scientific opinion on the risks for public health related to the presence of Bacillus cereus and other Bacillus spp. including Bacillus thuringiensis in foodstuffs.

News in brief

QS at the Prognosfruit 2016

The Prognosfruit took place in Hamburg from 3 to 5 August 2016. QS was there and supported the 40th anniversary of the annual conference of the international stone fruit industry. During the event, specialist colleagues from QS were



on hand to talk to conference visitors at an information booth on issues relating to the QS scheme. **Wilfried Kamphausen**, responsible for the fruit, vegetables, potatoes supply chain at QS, drew a positive balance: "The great deal of interest and the numerous visits by existing and potential scheme participants at our booth show the high priority given to the topic of quality assurance in the industry. We were able to establish important contacts, particularly with international participants". In addition to initial assessments for the upcoming harvest of apples and pears in the EU, the conference featured other interesting presentations and forums on current issues in the industry. The conference came to a successful end on the third day with an excursion to the container port of Hamburg and the Niederelbe fruit-growing region. The hosts of this year's industry event were the Bundesvereinigung der Erzeugerorganisationen Obst und Gemüse (Federal Association of Producer Organisations for Fruit and Vegetables (BVEO), the Bundesausschuss Obst und Gemüse (Federal Committee on Fruit and Vegetables (BOG), and the Agrarmarkt Informations-Gesellschaft (Agricultural Market Information Company (AMI). Next year, the Prognosfruit will take place in Lleida, Spain.

Fruit Logistica 2017 – Save the Date

The QS team is looking forward to seeing you at the Fruit Logistica 2017! You will find uns in hall 20, booth A-02.

FRUIT LOGISTICA
8|9|10 FEBRUAR 2017, BERLIN

Grips&Co goes Berlin

On 5 October 2016, the RUNDSCHAU will award a prize for food retail for the 35th time in the context of the Grips&Co competition "Germany's Best Newcomer in the Trade". This year, the final will take place at the Admiralspalast in Berlin. The winner will not only carry the coveted title of the best newcomer in the German trading sector for one year, but he or she will also become a QS-live ambassador and will have the opportunity to take part in training and events relating to quality assurance in food.

You can find more information on this at www.qs-live.de.

Imprint

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