Guideline

QS-GAP Production Fruit, Vegetables, Potatoes (Version 4.0)

Version: 01.01.2024

Contents

Note: *The Guideline QS-GAP Production Fruit, Vegetables, Potatoes is written in German and translated into English. In case of discrepancies between the translation and the German version, the German original is valid.*

1 Fundamentals

Basic information on the QS scheme such as organisation, terms of participation, use of the QS certification mark and the sanction procedure can be found in the **Guideline General Regulations**.

1.1 Scope of application

The scope of application comprehends the complete production process, from the cultivation of the crop, over the harvest until the preparation and commercialization of the products for the following production scopes:

- Fruit and vegetable production
  - Fruit production (outdoor/protected)
  - Vegetable production (outdoor/protected)
- Potato production

The producers can be registered for one or more production scopes. When cultivating the same crop in field and in greenhouse (including protected cultivation), registration and certification is always mandatory for both cultivation systems (= both production scopes). All crops, which belong to a registered production scope and are commercialized, must be certified.

Requirements applying to certain production scopes are highlighted as subheadings (e.g. **potato** or **vegetable production**).

The **annex 11.2 "Requirements for Preparation Processes"** is obligatory for producers, who produce soup greens/soup vegetables or do peeling processes and would like to market the processed, if necessary packed products, as QS produce. Exceptions are activities in which the product is exclusively podded, hulled or cleaned (e.g.: the removal of roots and leaves, the removal of the heart in the case of cauliflower and cabbage, the removal of the root section in the case of kohlrabi, the shortening of leaves in the case of leek).

If, in addition, more extensive machining or processing processes are carried out, the guidelines for Preparation/Processing fruit, vegetables and potatoes must be applied.

Registration and participation in the QS scheme

Every producer has to register in the QS scheme via a coordinator and sign a declaration of participation with the coordinator, from the moment of signing, he participates in the QS scheme. The list of approved coordinators is published under **www.q-s.de/en/**. The coordinator is the contact person in all questions about the QS scheme. He is among others responsible for:

- The registration of the producer in the QS database
- The administration of the master data in the QS database
- The organization of the audits and
- The participation in monitoring programmes

Control on the company

Each company is controlled regularly. The controls (audits) are implemented by an auditor, who works for an independent certification body.

After registration in the QS scheme an initial audit is implemented and released by the certification body. If the audit was successful, the company is mostly eligible to deliver after a couple of days and is able to market its products in the QS scheme. The eligibility of delivery can be checked under **www.q-s.de/softwareplattform/en/**.

After the initial audit, an announced system audit is conducted every year.

Between the regular announced audits, 10 % of the producers will be subject to additional unannounced spot audits, in which some criteria will be re-examined.

Furthermore, each company can be controlled additionally, e.g. in a random sample audit.

All details about participation and audits can be found in the **Guideline General Regulations** and in the **Guideline Certification**, which are published on the QS-Website (**www.q-s.de/en/**) under the link documents.

1.2 Responsibilities

The producer is responsible for ensuring

- compliance with requirements,
- the complete and correct documentation,
- the self-assessment,
- the adequate and timely implementation of corrective actions and
- the correct use of the QS certification mark.

He must comply at all times with the requirements of the QS scheme and always be in a position to demonstrate compliance with said QS requirements. He must ensure that, in addition to the requirements of this guideline and the other applicable QS requirements (e.g. general regulation, guideline for certification, guideline for residue monitoring) the applicable legal provisions are fulfilled, both within the country in which the products are produced, as well as the country in which they will be marketed (if known). A food safety culture in accordance with Reg (EU) 2021/382 that is appropriate for the company is implemented. This means that responsibilities and accountabilities for all processes related to food safety are clearly defined. The essential principles required for that purpose are part of the QS-GAP participation and certification.

1.3 Documentation

It is possible to use existing monitoring and documentation systems which guarantee that the QS requirements are met. Internal controls can be documented both in electronic as well as manual records. Digital data must be backed up by security copies.

Documents and records from the self-assessment must be kept for at least three years.

1.4 Risk assessment, operational rules/procedures

Risk assessment and operational rules/procedures must be documented and updated with the relevant changes. They must be revised at least annually. Measures for risk minimization must be taken when risks are identified, so that endangering the food safety, environment and health of the people involved is avoided.

2 General requirements

2.1 General scheme requirements

2.1.1 General company data

A current and complete company overview must be compiled containing the following master data:

- Address of the company and all sites including registration number (e.g. QS Identification number, location number (OGK), legal company name)
- Telephone and fax numbers (if applicable), e-mail address
- Legal representative, contact person

Any changes in the above-listed data must be communicated to the coordinator without delay.

A farm map and location plans for all operational rooms, storages, facilities and irrigation systems including water extraction points must be present. The storage capacity for products must be documented. Moreover, a list of current growing crops and surfaces which allows the identification of the areas and the size of the plots and part areas must be available.

There is an overview of the regular employees and service providers (subcontractors).

All documents relating to the master data remain on the farm. A current declaration of participation and power of attorney must be present.

Company and data overview, declaration of participation and power of attorney, overview employees and subcontractors

2.1.2 Implementation and documentation of self-assessment

Compliance with the requirements must be checked by the manager or a qualified person via a self-assessment. It must include all the relevant areas of the farm. This self-assessment must be documented before the initial audit and then regularly at least once a year by means of a checklist (recommendation: supporting

document self-assessment checklist). In the case of nonconformities corrective actions including implementation deadlines must be defined.

Documentation self-assessment

2.1.3 [K.O.] Implementation of initiated measures from self-assessment

Nonconformities identified during the self-assessment must be corrected as soon as possible.

Documentation implementation of corrective actions

2.1.4 Incident and crisis management

QS has built up a comprehensive crisis management system which provides active support to the scheme participants in the event of an incident or crisis. The scheme participants must immediately inform QS and – if a legal obligation exists – the appropriate authorities on critical events and public product recalls.

Critical incidents are scheme-relevant events that represent, or could become a danger to humans, ecology, assets or the QS scheme as a whole. These include in particular:

- all scheme-relevant identified nonconformities in the procurement of goods, production or marketing, when these nonconformities might pose a risk to food safety.
- all criminal or regulatory investigations, if they are directly or indirectly related with the insurance of the food safety.
- media research, critical media reports as well as public protests questioning directly or indirectly the food safety.

A paper of incident is available to be able to provide all necessary information in a focused manner in the event of an incident. If the producer does not act as crisis manager on its own, he must name a crisis manager who can also be reached outside regular working hours.

Paper of incident

2.1.5 Participation "Separated Marketing”

Only the products produced on the producer's own farm may be marketed via the company registered as "Separated Marketing", i.e. no purchased products falling within the QS scope of the production stage may be sold via it.

Both parts of the enterprise must be an organizational unit (same ownership structure, same place of business), but each part of the enterprise must have its own legal name.

The producer has confirmed in writing to the coordinator that the marketing company fulfils the conditions for participation.

⇒ 10.3 Terms and definitions

Confirmation of participation in "Separated Marketing

2.2 Company management

2.2.1 Qualification

Participation in at least two further training sessions is obligatory for the manager or permanent employees of the farm. Technical events organised by agriculture chambers, societies and expert groups, market organisations, specialist fairs as well as agricultural institutes and companies are recognised. Besides, expert information (e.g. magazins, newsletter) is continuously acquired.

Additional expert sources are available for the topic of plant protection, e.g. alert systems, plant protection advise.

In the case of complaints in the residue monitoring the consultation obligations according to the Guideline Residue Monitoring must be complied with.

Evidence of further training courses, acquisition of expert information

2.2.2 [K.O.] Subcontractors

The producer is responsible, that the subcontractor (contractor) complies with the QS requirements in the frame of its assignment. In particular cases, subcontractors must allow inspections by the certification body of

the producer. The subcontractor must be committed for both points. Compliance is checked by means of a self-assessment. This can be performed by the subcontractor and, for instance, be provided with the agreement. Alternatively, the producer controls under its own self-assessment, whether the relevant QS requirements are met by the subcontractor.

The subcontractor's self-assessment is not necessary if the subcontractor is QS-GAP certified or the relevant requirements are comparably and independently controlled at least once a year. The written confirmation of the independent control includes: 1) date of the visit, 2) name of the certification body, 3) name of the auditor, 4) information about the subcontractor and 5) list of the audited requirements.

Evidence of agreement and self-assessment

2.2.3 Maintenance of facilities, irrigation systems and equipment

Machinery, facilities, equipment and irrigation systems with influence on the food safety or the environment (e.g. sprayers, fertiliser spreaders, irrigation systems), must be kept in good condition and receive maintenance at least once a year. The maintenance must be documented stating the date and type of maintenance. The evidence can also be provided by means of the invoices.

Plant protection devices must be tested in accordance with the German **Regulation for Plant Protection Equipment** and out of Germany in accordance with the **Directive 2006/42/EC**. The sticker assigned by an authorized institution must be valid.

Fertiliser spreaders and other application machines for substances that may affect the food safety and the environment must be calibrated annually. Calibration must be performed by a responsible person or a specialised company.

Evidence of maintenance of machines, facilities and equipment

2.2.4 [K.O.]Separate storage

The following items must be stored separately:

- fertilisers and fertilising machines,
- plant protection/post-harvest treatment agents and machines, packaged micronutrient- and liquid leaf fertilisers,
- seeds and seedlings,
- feed,
- food products,
- medicines,
- highly flammable substances.

Cleaning agents, lubricants, and other similar articles must be stored in designated areas. A direct or indirect contamination of the products must be avoided.

3 Plant production requirements

3.1 Requirements for the location

3.1.1 Risk assessment and risk management for fields/substrata

There must be a risk assessment available for the fields (management units) and the used organic substrata (e.g. in the mushroom or potted herb production). Taking into consideration the endangerment to the food safety, the environment and the health of the involved persons, the risk assessment must cover the following aspects:

- in the case of areas newly used for agricultural production: previous use of the area during the last year (if possible from the last 5 years)
- prior production of genetically modified organisms (where applicable)
- application of sewage sludge (during the last 2 years)
- soil condition (soil analysis)
- erosion
- influence of and on surrounding areas
- environmental influences from the surroundings of the company (e.g. commercial animal husbandry, composting plants, domestic and wild animals, dust formation, floodings)

- residues or contaminated sites (e.g. of plant protection products or heavy metals) in the soil or growing substratum
- use of plant protection products (potential sources of danger e.g. drift, carryovers, equipments, improper use)

⇒ 1.4 Risk assessment, operational rules/procedures

Risk assessment for fields/substrata

3.2 Sustainable tillage and soil conservation

3.2.1 Erosion reduction, soil protection and minimisation of soil borne diseases

Measures to reduce erosion and protect the soil must be implemented depending on the site conditions, for example:

- soil friendly cultivation techniques and equipment,
- mulch sowing procedures,
- minimisation of the periods without vegetation/coverage (e.g. growing catch crops, mulching straw, greening of tramlines in orchards),
- avoidance of tramlines heading downhill,
- avoidance/elimination of soil consistency which prevents infiltration,
- promotion of stable soil aggregates by means of biological activity (e.g. application of organic matter, liming),
- erosion reducing cultivation and meadow design (e.g. through dividing fields, ploughing crossways, hedges and windbreaks).

If possible, an appropriate crop rotation must be followed for annual crops. If by-products are removed from the field, this must be documented.

Records on erosion reduction and soil protection measures for every field, records on crop rotation (e.g. acreage index), if applicable

3.2.2 Chemical soil decontamination

The application of the chemical soil decontaminantion must be justified. The use of methyl bromide is prohibited. Waiting periods before sowing/planting must be adhered to.

Only applicable in countries where chemical soil disinfection is authorized.

Records on chemical soil decontamination

3.3 Sowing/Planting

3.3.1 Records on sowing and planting

For sowing/planting at least the following information must be documented:

- date of sowing/planting
- crop, variety (if required)
- field, batch number (if required)
- quantity sown/planted

Records on sowing and planting for every field

3.3.2 Plant health, suitability of propagation material and purchase of champignon mushroom substrate

Plant health certificates or accompanying documents must prove that the purchased propagation material is suitable for the intended purpose (e. g. quality certificates, terms of delivery or written quality agreements/confirmations).

The plant protection products applied to young plants (excluding permanent crops) must be declared in the accompanying documents.

The purchasing of seeds and propagation material does not violate any variety rights of third parties. The EU-plant passport of purchased passport-requiring plant species is available.

Champignon mushrooms: Mushroom substrate with grown mushrooms or mushrooms in the stage of fruiting body formation must be obtained from QS-certified companies in order to be allowed to market the mushrooms as QS goods. Substrate production and inoculation do not require participation in the QS scheme.

Evidence suitability of propagation material

3.3.3 Control system for in-house plant propagation material

Propagation material from in-house nursery propagation must be regularly monitored for visible signs of pests and disease. In the case of vegetative reproduction, the location of the mother plant is traceable.

Documentation control of in-house plant propagation

3.3.4 [K.O.] Potatoes: Use of certified seed

A one-time replanting of certified seed is allowed.

During the initial audit, evidence must be presented that all potato varieties have been tested for quarantine pests. If the seeds are replanted, one sample must be taken for every 50 t lot, or at least, one sample for every lot.

The samples must be taken by an independent third party with the presence or consent of the producer. Samples taken by the producer him/herself or his/her employees are not allowed. A record of the samples taken must be elaborated. The analysis results must be documented.

After the initial audit, at least 40 % of certificated seeds must be annually used for each variety. If this percentage is not reached for any variety, the replanted lot or variety must be tested for quarantine pests according to the procedure described for the initial audit.

In the case of propagation material of conservation varieties, the scope of the testing must match the scope of testing of the certified seed.

The necessary analyses have to be carried out by means of PCR (Polymerase Chain Reaction) and must include the following quarantine pests:

- Bacterial ring rot

  [Harmful organism: *Clavibacter michiganensis* (Smith) Smith et al. ssp. *sepedonicus* (Spieck. et Kotth.) Davis et al.]

- Potato brown rot

  [Harmful organism: *Ralstonia solanacearum* (Smith) Yabuuchi et al.]

Documentation certified seed/analysis results of replanted propagation material

3.3.5 Sprouts and germ buds: Suitability of seeds

Producers of sprouts and/or germ buds must be additionally certified according to the Preparation and Processing Guidelines. The production in substratum or fibres within a greenhouse is excluded from this rule, as long as the roots and seeds are not intended for consumption.

Microbiological harmlessness of the becoming seeds must be documented by means of microbiological testing of the seeds and germinated goods.

The tests must include the following parameters. The specified limits must be complied with.

- EHEC (VTEC, STEC) not detectable in 25 g
- Salmonella not detectable in 100 g
- E. coli < 10^3 CFU/g
- Bacillus cereus < 10^3 CFU/g
- Listeria monocytogenes < 102 CFU/g

Additionally, testing is recommended for the following parameters:

- Enterobacteria,
- Aerobic mesophilic plate count

The microbiological conformity of the seeds must be conducted and documented according to the **Regulation (EU) No. 209/2013**. This can take place via own testing or supplier certificates. A reference sample of 200 g

from each seed lot must be retained. The reference samples must be kept at least until the best-before date/use-by date of the sprouts and germ buds derived from these seeds has expired.

The frequency of the analysis for the germinated seeds must be determined according to a risk-based approach for every type of sprout or germ bud. In the course of one month every type of sprout or germ bud should have been included in the analysis.

Evidence of microbiological analysis of seeds and germinated seeds

3.4 Genetically modified organisms (GMO)

3.4.1 National legislation on GMOs

The applicable legal stipulations must be fulfilled when genetically modified varieties are cultivated. The national stipulations must be available at the company or the relevant internet sources must be known.

Regulation for GMO crop production (In Germany GenTPf); national legislation on GMOs

3.4.2 Use of GMO varieties and products

When genetically modified varieties and/or products are used, the planting, cultivation or production of the GMO varieties/genetically modified generated crops must be documented.

Documentation planting, cultivation, production of genetically modified varieties

3.4.3 [K.O.] Customer information on the GMO status of products

The customers must be informed about the GMO status of products, if the products in question are GMO. Related records must exist.

Records on information of clients about GMO status

3.4.4 Minimisation of contamination of non-GMO products

A procedure for handling and storing genetically modified material must be elaborated, to minimise the risk of contamination of other products and assure product integrity.

Procedure of handling genetically modified material

3.4.5 [K.O.] Separate storage of GMO and non-GMO products

GMO products must be stored separately from other products to avoid commingling. The storage of GMO products are identifiable and in good order.

3.5 Fertilisation

Some requirements in this chapter are due to the German Fertilisation Regulation. Outside of Germany analogous, legal requirements based on

- Council Directive 91/676/EWG of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources
- Directive 2001/81/EG of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants

must be complied with.

Excluded from requirements 3.5.3 to 3.5.7 are

- Areas that are used for closed or soil-independent cultivation methods,
- Areas in greenhouses or under stationary foil tunnels, as far as a controlled water supply prevents the leaching of nutrients.

3.5.1 Records on fertilisation

There must be complete records of all fertilising measures as well as the application of culture substrate, soil additives and plant additives.

The documentation must be completed two days after the fertilization measure has been carried out the latest.

Records must be made for each plot, each management unit (see 10.3 Terms and definitions) or for combined areas each of less than 0,5 ha with strawberries or vegetables up to a size of 2 ha in total. In case of

continuous fertigation, the fertigation plan is considered sufficient. The plan must be confirmed within two days after completion of the measures.

At least the following information must be documented:

- date of application
- field/plot/greenhouse
- trading name, type of fertiliser (e.g. N, P, K)
- quantity of the applied product by weight or volume/ha
- method of application
- name of the applicant

Records of fertilising measures

3.5.2 Expertise of the responsible person

The technical knowledge of the person responsible for the calculation of the fertiliser requirement, as well as the selection of the type of fertiliser must be proven by means of a professional training/education in the agricultural sector or the participation in further education events.

Evidence of expertise on fertilisation

3.5.3 Determination of the nutrient quantities available in the soil

Nitrogen
The amounts of nutrients available in the soil of every plot or management unit at the time of fertilisation must be determined before applying significant amounts of nutrients, at least annually according to the German **Fertilisation Regulation** by means of:

- analysing representative samples or
- taking the results of analysis at similar sites or
- using calculation and estimation methods based on specialized knowledge.

In vegetable crops, which are cultivated after a vegetable pre-culture in the same year, the amount of nitrogen available in the soil must be determined by examining of representative samples.

Phosphate
The amounts of nutrients available in the soil must be determined by the company before applying significant amounts of nutrients. This is based on the analysis of representative soil samples which are taken for every field from one hectare at least every six years.

Documentation determination

3.5.4 Determination of fertilisation requirements

The fertilisation requirement of all crops must be determined according to the good agricultural practices. The fertilisation requirement for potatoes, strawberries and vegetable crops is determined and documented before applying significant amounts of nitrogen (> 50 kg N/ha/year) or phosphate (> 30 kg P2O5 /ha/year) via fertilisers, soil conditioners, growing substrata and plant aids.

For the past fertilisation year the sum of the individual crop- and field-related fertilization requirements for nitrogen and phosphorus must be calculated by 31.st March of the following year in order to determine the total fertilization requirements of the company.

Documentation of fertilizer demand determination, if applicable

3.5.5 Demand-oriented fertilisation

The fertilization must occur demand-oriented according to the specifications listed below and the determination of fertilisation requirements. Within the framework of the planned fertilizer the determined fertilizer requirement must not be exceeded.

If subsequent circumstances require a higher fertilizer requirement, it has to be proven by further fertilizer determination including soil sampling. However, a maximum of 10 % of the originally calculated fertilization requirement may be additionally fertilized.

Nitrogen
Organic and organic-mineral fertilizer, including farm manure and mixtures, may only be applied in such way that, the amount of total nitrogen applied on average of the utilised agricultural area of the farm does not exceed 170 kg of total nitrogen per hectare and per year. In the case of compost, the amount of total nitrogen applied on average of the utilised agricultural area of the farm over a three-year period shall not exceed 510 kg total nitrogen/ha and year.

Soft fruit production
A nitrogen analysis must be carried out when applying more than 80 kg N/ha a year at bushberries. In these cases, the application of fertilisers must be justified by the manager.

Top fruit production
A nitrogen analysis must be carried out when applying more than 60 kg N/ha a year at pomes and more than 80 kg N/ha a year at stone fruits. In these cases, the application of fertilisers must be justified by the manager.

Outdoor vegetable and strawberry production
For the cultivated crops, the nitrogen requirement must be documented. A current nominal value table showing the Nmin has to be presented for vegetable production, containing at least the cultivated crops. The determination of the Nmin reserves in the soil is a prerequisite for using nitrogen fertiliser and has to take place on all fields (or management units) as close as possible to the sowing or planting or before the application of nitrogen fertiliser (fertiliser application in accordance with the Nmin nominal value system that accompanies the culture in question).

Fruit and vegetable production (greenhouse)
The nitrogen fertilisation strategy must be presented (Nmin system taking into account the stronger mineralisation in greenhouse soils, acknowledged composition of nutrient solutions, exchange of nutrient solutions when the sodium content exceeds 5 mmol/l in the run-off water).

Records determination of fertilisation requirements and fertilisation for every field

3.5.6 Comparison of fertilizer requirement and nutrient input

For the past year of fertilization, the total sum of the fertilization requirement (nitrogen and phosphorus) and the total nutrient input (nitrogen and phosphorus) must be compared by March 31 of the following year. The nutrient input must not exceed the sum of the fertilisation requirement determinations. For this purpose, the total fertilisation requirement calculated according to requirement 3.5.4 is used. On the other hand, all nitrogen and phosphorus quantities applied on the farm must be added up. It has to be recognisable from which source (mineral fertilizers, farm manure of animal origin, other organic fertilizers, soil additives, culture substrates, plant additives, plant auxiliary substances, waste) the nutrient originates. For nitrogen, only the nitrogen available to the plants must be used for totals.

Excluded are:

1. areas planted with ornamental plants, nurseries, vines, shrubberies and fruit trees and areas under permanent crops of vines and fruit trees not in production
2. areas used exclusively for grazing, with an annual nitrogen production (nitrogen excretion) from livestock manure of up to 100 kg N/ha without additional N fertilization
3. farms which do not apply more than 50 kg total nitrogen/ha or 30 kg phosphate/ha at any one time per year
4. holdings with less than 15 ha of agricultural (excluding areas named under 1. and 2.) and growing not more than 2 ha of vegetables, hops, wine or strawberries, and where the nitrogen content of livestock manure does not exceed 750 kg

Documentation Comparison of fertilizer requirements and nutrient use

3.5.7 Application of fertilisers

The following contents of the Fertilisation Regulation must be considered when nitrogen or phosphate containing fertilisers, soil improves, growing medium and plant aids are applied:

- Already available amounts of nutrients or amounts of nutrients that will become available are attainable for the plants at the proper time
- No application to flooded, water-soaked, frozen or covered with snow soils. Deviating from this, Calcium fertilizer with a phosphate content below 2 % can be applied on frozen soil, if the requirements of the Fertilisation Regulation are complied.

- No direct input, nor rainwash of nutrients into surface waters (adherence to minimum permissible distances, especially for strongly sloped surfaces)
- Compliance of the retention periods prescribed in the Fertilisation
  - for fertilizer with a substantial amount of available nitrogen
    1. vegetables, soft fruits and strawberries from 1st of December to 31st of January
    2. potatoes: from the harvest of the last main crop until 31 January
  - for solid manure and compost from 1th of December to 15th January.
  - from 1 December to 15 January for fertilizers with a significant phosphate content

If necessary, federal state specific requirements must be observed.

3.5.8 Risk assessment for organic fertilisers

A risk assessment of organic fertilisers must be performed prior to the application of organic fertilisers. This includes, for example:

- the risk of transmission of plant diseases and introduction of weed seed
- the type and origin of the organic fertiliser
- the method of composting
- the risk of input of heavy metals
- the timing of the application
- the risk of direct contact to edible parts of crops
- Risk of microbiological contamination

The application of the organic fertilzer takes place in consideration of the risk analysis.

⇒ 1.4 Risk assessment, operational rules/procedures

Risk assessment for organic fertilisers

3.5.9 [K.O.] Application of farm-produced fertiliser from animal origin

The following applies when applying not treated animal farm-produced fertiliser:

- Top trees, bushberries: application only after harvest and incorporation previous to bud burst. The incorporation is not needed if in the later course of vegetation, a contamination (e.g. by splashing water in case of heavy rain) can be ruled out by a sufficient distance to the fruits of the crop.
- Leaf vegetables: no application after planting
- All other crops: application and incorporation at least 60 days prior to the harvest.

The use on fields planted with products, which are always cooked before consumption is excluded of this rule.

The application of liquid fertilizer of animal origin for top dressing in vegetable cultivation is prohibited without exception. In addition, the application of liquid fertilizer of animal origin is only permitted in vegetable cultivation if the period between application and harvest of the vegetables crops is at least twelve weeks.

Records on fertilisation measures

3.5.10 [K.O.] Application of sewage sludge

The application of sewage sludge on standing crops is forbidden. According to the **Sewage Sludge Regulation** it is forbidden to grow vegetables on the fields where the sewage sludge application was applied during the year of the application and in the following year. Sewage sludge must not be applied on potato production fields 12 months before planting the potatoes.

3.5.11 Use of fermentation substrates

If fermentation substrates are applied, the following requirements apply:

- The application after sowing/planting is prohibited
- In addition, the following restricting periods apply:

  Field vegetables and strawberries: Application of fermentation substrate in the year of cultivation and the following year is prohibited.

  Potatoes: No fermentation substrates may be applied 12 months prior to cultivation.

- Exceptions for application in the above-mentioned restricting periods before sowing/planting:

  The fermentation substrates originate from plants whose input materials can be proven to consist only of manure and plant material according to **Annex 11.1**.

  In addition, the following applies to field vegetable and strawberry cultivation: The fermentation substrates are hygienically safe for the production of fresh produce. In this respect, the following limit values per batch are complied with. If the material and origin of the fermentation substrate remains the same, a corresponding test which is not older than max. 2 months before the date of application of the fermentation substrates is available and sufficient.

  Parameters:

  – Salmonella, not detectable in 50 g of the bulk samples taken

  Salmonella testing may be waived, if

  – the fermentation substrates originate from a thermophilic biogas plant
  – the application takes place at least 3 months before harvest.

  – Heavy metal content (milligrams per kilogram dry matter of the material to be applied)

    – Lead 150 mg/kg
    – Cadmium 1,5 mg/kg
    – Chromium 100 mg/kg
    – Copper 100 mg/kg
    – Nickel 50 mg/kg
    – Mercury 1 mg/kg
    – Zinc 400 mg/kg

- Exception to application after sowing/planting for permanent crops

  The application after planting/sowing is only possible for permanent crops if the application takes place at least 3 months before harvest and no edible parts are present. In addition, the above-mentioned limit values for salmonella and heavy metals must be complied with.

Input materials used, evidence on safety of fermentation substrates (if applicable)

Fertilisation Regulation; Regulation for organic residues; Renewal Energies Law

3.5.12 Nutrient content and inventory of fertilisers

Documentary evidence detailing nutrient content or recognised standard values (in case of organic fertilisers) is available for all fertilisers purchased within the last 12 months.

An inventory (type and quantity) must be kept. The documentation can be the result of balancing out the delivery notes of received products and the used amounts. When a common storage is used by several companies, there must be an inventory (type and quantity) of the inorganic fertilisers. In the case of changes, this list must be updated at least after one month.

Documentation chemical composition of fertilisers; inventory of fertilisers/balance

3.5.13 Storage of inorganic fertilisers

Mineral fertilisers must be stored in dry rooms with an impermeable floor. Bagged fertilisers and additionally covered on a pallet may be briefly stored outside.

The storage must be clean and easy to clean. It must be well ventilated and protected from rainwater and heavy condensation.

The location for the storage must be chosen in a way that the risk of water pollution due to fertilisers be reduced to a minimum. The conditions for the storage of liquid mineral fertiliser are a retaining room without outflow or a retaining tank. The retaining capacity is 10 % of the total stored volume (for water protection areas 100 %), but at least 100 % of the volume of the largest single container. If the risk of aquatic pollution existis,it must be possible to contain 110 % of the volume of the largest single container.

When storing ammonium nitrate and fertilisers containing ammonium nitrate at least the following requirements must be met:

- Access to the store by unauthorised people must be prohibited. Appropriate signs must be displayed in a clearly visible way.
- Smoking, naked flames and lights are not allowed in the place of storage. Appropriate permanent and clearly visible signs must be displayed.
- Equipment, installations and means of production which give off heat must be set up in such a way and so insulated that no heat, which could lead to decomposition, can be transferred.

3.5.14 Storage of organic fertilisers

The contamination of surface waters must be avoided. Storage places in close proximity to water (25 m) measures must be taken (e.g. concrete foundations and walls, or specially created leakproof containers).

When farmyard manure and compost are stored for a long-term (over three months), the piles must be covered or the leachate must be collected. The storage capacity and locations for liquid and solid manure must be documented.

Documentation storage capacity and locations for organic fertilisers

3.6 Plant protection/post-harvest treatment

Residue analysis

Note: *The producers participate on the QS Residue monitoring according to the* ***Guideline Residue Monitoring – Fruit, Vegetables, Potatoes****. The implementation is responsibility of the coordinator. The sample can be taken unannounced at any time by an authorised sampler. Access to the fields, storages, points of sales and vehicles must be granted to the sampler during normal business hours.*

3.6.1 [K.O.] Records on plant protection and post-harvest measures

It is mandatory to have records of the applied products, including the use of basic substances, plant strengtheners, additives, soil decontaminating and chemical sterilisation of growing medium, as well as post-harvest treatmens and dressings. The records must also be available for self-multiplication of seeds/ seedlings.

At least the following information related to the measures must be promptly documented:

- date of application
- field/plot/greenhouse or place of post-harvest treatment or place of dressing
- treated crop or in the case of post-harvest treatment batch or lot number
- trading name of the product or beneficial organism applied
- active substance of the product or scientific name of the beneficial organism applied (if applicable, for example, identifiable by means of a list of products)
- amount of product applied by weight or volume per hectare (e.g. kg/ha, l/ha, g/l)
- justification (name of the pest, disease or weed controlled)
- name of the applicant
- pre-harvest interval in accordance with the manufacturers' specifications
- in the case of post-harvest treatment: type of treatment (e.g. spray, mist).

Documentation of measures

3.6.2 Additional documentation about the use of plant protection products

In addition to the information required under ☐ chapter 3.6.1 it must be also documented:

- Equipment/ machine
- Name of the responsible person, who decided on the plant protection product application (if different from applicant)
- Weather conditions, in case they have a negative impact on the efficacy or the drift

Documentation of plant protection measures

3.6.3 [K.O.] Compliance with the pre-harvest interval

The predetermined pre-harvest interval must be observed. Especially during periods of continuous harvest, the fields with pre-harvest intervals to be respected must be clearly identified for the employees (e.g. site plans with an appropriate reference to the corresponding documentation). In countries where the pre-harvest interval

is not a legal requirement, it may fall short in justified cases, as long as it can be proved by means of a residue analysis drawn by a third independent party, that the legal MRLs are complied with.

3.6.4 [K.O.] Use of plant protection, post-harvest treatment and seed treatment

Only plant protection, post-harvest treatment and seed treatment, which are legally authorized or permitted for the corresponding crop in the country of cultivation may be used. The official MRLs (**Regulation (EC) No. 396/2005**) must be complied with and the contamination with plant protection active substances, which are not approved for the crop must be avoided. If necessary, a (pre-harvest) analysis must confirm the conformity of the product.

The specifications given by the manufacturer and the regulatory authorities must be complied with. These include those rules established in the use instructions regarding the maximum application rates per application or per year. It is possible to make use of the splitting procedure, as long as it adheres to the good agricultural practices and the maximum application rate per year is not exceeded.

The MRLs for the plant protection active substances used in the countries where the products are expected to be marketed (if known), are available (list, internet) and are obeyed.

3.6.5 [K.O.] Proof of competence

Anyone who applies or decides on the use of plant protection or post-harvest treatment substances must be competent on this matter. The competence meets the requirements of the **German Regulation for Plant Protection Competence** or the **Plant Protection Framework Directive 2009/128/EC**.

For post-harvest treatments, which are not regulated under the regulations for plant protection products, the persons technically responsible for the application must be competent according to the application specifications.

Proof of competence

3.6.6 [K.O.] Compliance with re-entry times

If re-entry times are established in the manufacturer's specifications of the plant protection products applied, there must exist rules for re-entering the fields after the use of such plant protection products. These rules must be complied with. The treated areas should only be re-entered once the substance on the plants has dried.

Documentation rules

3.6.7 [K.O.] Integrated pest management measures

The principles of good agricultural practices and of integrated pest management set out in the **Plant Protection Act** must be adhered to. All plant protection measures must be carried out for every location, crop and conditions according to the publication "**Principles for the implementation of good phytosanitary practices**" (from the German Ministry of Agriculture - BMEL). The application of plant protection products must be limited to what is absolutely necessary. Where applicable, the threshold of damage principle has to be considered (e.g. on the basis of knock-down sampling). The application of beneficial organisms and selective substances is preferred.

It must be proven, that at least five integrated pest management measures are implemented. These can be for example:

- Use of disease-tolerant or resistant varieties
- Promotion of beneficial organisms (hedges, perches, rock piles, nest boxes, etc.)
- Entry/use of beneficial organisms (predatory mites, parasitic wasps, etc.)
- Use of monitoring devices (sticky traps, magnifying glass, pheromone traps, forecast model (e.g. RimPro), scab warning devices, etc.)
- Use of optimized plant protection technology
- Interchange plant protection products to prevent resistance
- Mechanical or thermal weed control, use of mulching (plastic film, straw, bark)
- Use of culture nets or fleece
- Assurance of field sanitation (quickest possible and thorough removal of crop residues)
- Assurance of room hygiene (quickest possible and thorough removal of crop residues, materials, etc.; disinfection)
- Vegetation heating
- Use of climate computers
- Rejuvenate strong stocks of several years

- Analysis on soil-borne pathogens (nematodes, Verticillium, etc.) before new planting
- Site-adapted variety selection
- Treatment of partial areas and boundaries
- Interchange of cultivation fields/compliance with required cultivation breaks by means of regular crop rotation
- Use of green manure
- Implementation of measures to minimize erosion (e.g. by cross-plowing, mulching, intercropping, etc.)
- Avoid waterlogged sites
- Optimization of irrigation (e.g. drip irrigation)
- Demand-oriented irrigation in accordance with need (e.g. measurement of soil moisture, climatic water balance)
- Greening of tramlines
- Floor damping
- Treatment of drainage water (slow sand filter, thermal or UV disinfection)
- Use of soil-conserving measures through appropriate soil conservation techniques/equipment

Proof of integrated pest management measures

3.6.8 Prevention of spray drift

The required distances to adjacent crops must be observed. Besides, optimized plant protection technologies and the weather conditions must be used and taken into consideration.

3.6.9 Disposal of surplus application mix

Surplus mix must be disposed in accordance with the good phytosanitary practices and the national requirements. Residues due to technical reasons must be deluted tenfold and applied to the last area treated with increased speed and reduced pressure. The waste water from tank washing must be applied to the treated area, and under no circumstances should reach the sewers.

3.6.10 List of plant protection/post-harvest treatment substances

An updated list comprising all plant protection and post-harvest treatment substances applied in certified crops is available.

List of plant protection/post-harvest treatment substances

3.6.11 [K.O.] Storage of plant protection products

The entry of chemical plant protection products in the ground water must be avoided.

The storage indications in the package, as well as the current national, regional and local laws and regulations in force (e.g. supplementary requirements in protected areas) must be obeyed.

All plant protection products must be stored in the original packaging. In the event of packaging damage, all details from the original packaging must be transferred to the new packaging.

3.6.12 Labelling of plant protection products

Plant protection products applying at least one of the following criteria must be labelled in the pesticide storage:

- exclusive approval for home and small gardens,
- no approval or authorisation for crops grown in the current season,
- there is a disposal obligation in accordance with the requirement "Disposal of plant protection products" (clause 3.6.20), but it has not yet been possible to dispose the product.

3.6.13 Stock inventory/hazardous substance inventory

A hazardous substance inventory and an inventory of the plant protection products must be kept. The documentation can be the result of balancing out the delivery notes of received products and the used amounts.

When a common storage is used by several companies, an inventory must be maintained in the storage.

This inventary comprises the quantity (amount of packages, bags, bottles or kilogramms, litres) and in case of changes, this list must be updated within one month.

List of harzardous substances, inventory of plant production products (if required)

3.6.14 Plant protection products storage

The plant protection products storage or the pesticide cabinet must be labelled as such.

The storage must be robust, stable and made of flameproof material (i. e. fire-resistant up to 30 minutes). It must be dry, cool and be kept free from frost and protected from extreme temperature fluctuations.

Walk-in storages must have sufficient illumination and ventilation.

3.6.15 [K.O.] Access to the plant protection products storage

Only authorised persons may enter the storage. In addition, the storage must have a solid door and (if applicable) windows and must be kept locked.

3.6.16 Precautions for spillage/leakage

Containers with absorbent material (sand, chemical binding agents, etc.), floor brush, dustpan and plastic bags must be available in a fixed location.

The storage facilities is equipped with shelving made of non-absorbent material (e.g. metal, rigid plastic) or with shelving cover with impermeable liner.

The storage of the containers takes place either in stable shelves made of hardly flammable material with a built-in retaining tank or in a cabinet with a built-in or slide-in retaining tank. The retaining tank must be able to retain at least 10 % of the entire amount of the stored substance, but at least 110 % of the largest single container. In water protection areas it must be possible to collect the entire storage capacity. If the shelve or cabinet have no retaining tank, then the floor of the storage must be covered with a proper paint or coating resistant to acids, caustic substances or organic solvents, and the storage must be provided with a door sill.

Liquid plant protection products stored on shelving should not be stored above those in granular or powder formulations.

When transporting and storing plant protection products, precautions must be taken to prevent damage to the containers and cross-contamination. The containers must always be kept locked during transport.

3.6.17 [K.O.] Mixing plant protection products

The manufacturers' specifications for the mixing of plant protection products must be observed. Especially the facilities and devices (including measuring equipment) must be suitable for mixing plant protection products. The measuring equipment and devices must be checked at least annually by a responsible person and balances must be calibrated.

Documentation control of measuring devices

3.6.18 [K.O.] Disposal of empty containers

The manipulation of the plant protection products containers must adhere to the national, regional and municipal laws and regulations in force.

The return of plant protection products containers must take place through a qualified waste disposal system. A proof of disposal must be available. The danger for the humans and the environment is minimised by the selected disposal system.

Empty containers may not be re-used in any form. They must be stored in a safe, lockable place (e.g. pesticide storage) until disposal. The selected storage is separate from products and packaging materials, and labelled accordingly.

The disposal of the containers can take place through established take-back systems, like PAMIRA in Germany (**www.pamira.de**), or through plant protection products' manufacturers or distributors.

Disposal proof

3.6.19 [K.O.] Rinsing of empty containers

Once emptied, the containers of plant protection products (canisters) are to be thoroughly rinsed either via the use of a integrated pressure rinsing device or manually.

When rinsing the containers manually, written instructions for the procedure must exist:

- Containers are rinsed three times with hand.
- Rinsing water must be added to the application mix and the canister must be emptied thoroughly via the syringe filler neck.
- Containers must be kept open (unsealed) and dry until delivery.

3.6.20 Disposal of plant protection products

Plant protection products which are subject to the obligation to dispose of in accordance with the Plant Protection Act (§ 15) or other national laws must be disposed of immediately and professionally via officially authorised disposal systems.

Until disposal, these plant protection products must be stored safely in the pesticide storage.

3.7 Irrigation and use of water on pre-harvest activities

The following requirements (Section 3.7) apply for the water used before the harvest, for example, sprinkling/irrigation, fertigation, spraying liquid plant protection products.

3.7.1 [K.O.] Risk assessment on microbiologic quality of the water

Risk assessment

A risk assessment concerning microbiological hazards must be carried out, in which the following points are considered:

- application method
- crop
- water source
- application timing (growth stage of the crop, time to harvest)
- causes and susceptibility to contamination of water sources
- points of extraction, which could be for example affected by the inflow of effluents from sewage treatment plants

Water analysis

Based on the risk assessment, water analysis must be carried out by **ISO 17025** accredited laboratories. At least one water analysis a year is necessary. Deviations from the minimum number can be made if the calculation of the number of analyses is carried out on the basis of the decision tree of the QS supporting documents "Risk analysis microbiological water quality". Available analyses concerning drinking, bathing or surface water monitoring (e.g. in the frame of water quality monitoring), can be used.

The following limit must be fulfilled: *Escherichia coli* < 1000 CFU/100 ml.

Crops, which are not suitable for raw consumption, as well as crops whose harvested parts do not come into contact with the water, are excluded from the obligation to carry out the water analyses.

Sampling location and time are also determined on the basis of the risk assessment and the sampling should take place at a representative exit point of the irrigation system.

If the results of the water analysis identify a risk for the food safety, plant parts suitable to be eaten raw should not come into contact with the water. In that case, corrective actions with deadlines must be set and documented.

⇒ 1.4 Risk assessment, operational rules/procedures

Evidence of water quality, results of water monitoring

3.7.2 Risk assessment chemical and physical water quality

A risk assessment must be carried out with regard to chemical and physical hazards, in which the following points are considered:

- application method
- crop
- water sources

- timing of irrigation (developmental state, time to harvest)
- causes and susceptibility to contamination of water sources
- points of extraction, which could be for example affected by the inflow of effluents from sewage treatment plants

The amount of the necessary water analysis is defined in the risk assessment.

Water analysis must be carried out by ISO 17025 accredited laboratories with the frequency established in the risk assessment. Sampling location and time are also determined on the basis of the risk assessment. The sampling should take place at a representative exit point of the irrigation system. Already available analyses concerning drinking, bathing or surface water monitoring (e.g. in the context of water quality monitoring) can be used to this end.

If the results of the water analysis identify a risk for the food safety, the water must not be used. In that case, corrective actions with deadlines must be set and documented.

⇒ 1.4 Risk assessment, operational rules/procedures

Risk assessment, water analyses

3.7.3 [K.O.] Sewage

Untreated sewage (unclear) is not used.

3.8 Water management

3.8.1 Sustainable use of water

The irrigation method used must be justified in terms of the sustainable use of water and must be economically and ecologically reasonable for the corresponding crop. The local provisions on water usage restrictions must be met.

Water from renewable sources should be preferred. Renewable sources are those that supply enough water under normal (average) conditions.

The water requirement of the crops is determined on the basis of available information (e.g. data from local agricultural institutes, rain gauges, drainage trays for substrate cultures, tensiometer). Existing resources/tools must receive maintainance.

Companies located in regions with scarcity of natural water resources muss present a plan for the efficient use of water.

Plan of water usage if necessary

3.8.2 [K.O.] Water extraction and discharge

A permit issued by the competent authority for the water extraction and discharge must be submitted, if required by law. Further regulatory requirements (e.g. extraction volume or usage rates) are documented.

Documentation permit for water extraction (e.g. letter, licence etc.)

German law on the regulation of water supply (WHG), Directive 2000/60/EC establishing a framework for Community action in the field of water policy

3.8.3 Risk assessment on environmental impact

If no official permits for water extraction and discharge are available, the impacts of irrigation/fertigation and other water uses, as well as the discharge of used water on the environment and surroundings of the operation (with exception of potable water from public water supply) must be considered in a risk assessment. In case there are no official permits for water extraction and discharge and no drinking water from the public water supply is used, the purposes for which the water is used must be documented in a water management plan.

Risk assessment, water management plan

3.9 Harvest and transport

3.9.1 Preparation of the harvest

The harvesting conditions (maturity, soil and weather) are assessed before starting the harvest, so that a gentle and damage-free harvest can be done. A visual inspection of the field with regard to contamination risks for

the crop by weeds (especially for the harvest with machines) or a high concentration of animals in or near the field (wild, rodents, dog walkers) must be performed. If required, measures for the risks minimisation must be taken, for example:

- instructions for the harversting workers
- signs
- erect fences or barriers
- removal of weeds before harvest or during packaging
- selection of harvesting equipment

3.9.2 Records on harvest

The date or period of the harvest, as well as the harvested quantities must be documented for each of the fields.

Records on harvesting dates and quantities for every field

3.10 Storage and handling of products

3.10.1 Product identification in the storage

The origin of every batch of products must be documented and traceable, also for purchased products. The identity of the products (batch number, if applicable) must be noted on the written documents which accompany the batch from the reception until the removal/departure of the storage.

⇒ 3.11.2 Traceability

Documentation product identification

3.10.2 Quality preservation measures

It must be ensured that no mixture or contamination of the products occurs when these are put in the storage. The stored products must be prepared to be stored in accordance with the length of the storage (e.g. by appropriate drying and ventilation measures) and their quality specific indicators must be regularly checked. Produce intended for immediate sale are excluded of this rule.

The storage conditions must be optimised, so that no damage occurs to the product. The following information must be documented during the storage checks:

- air humidity (if applicable)
- temperature control (if necessary)
- pest infestation
- contamination of the harvested crops (to be avoided when storing as far as possible)

If irregularities with regard to the given normative values appear, appropriate counter measures must be taken and documented (e.g. drying, ventilation, relocation, pest control or sprout inhibiting).

Documentation storage checks, records on quality preservation measures (if applicable), temperature control

3.10.3 Control of measuring devices

The intervals specified by the manufacturer for the control and check of the devices and facilities used as measuring equipment (e.g. scales, thermometers) must be fulfilled.

If there are no manufacturer specifications on this regard, the measuring equipment must be calibrated or checked according to own risk assessments, but at least once a year (approx. every 12 months).

3.10.4 [K.O.] Pest monitoring and pest control

At critical points, especially at the storage and handling of products as well as the storage of packaging material, it must be regularly and systematically checked and documented if there is pest infestation (rodents, insects). In addition to the visual inspection, additional measures such as the setting up of monitoring, bait points or traps must be carried out.

A permanent baiting (without infestation) of rodents with rodenticides is basically not permitted. Rarely, a strategic permanent baiting (without infestation) with rodenticides can be carried out if the implementation takes place via a professional and qualified pest controller who meets the legal requirements of the appropriate country.

In case of pest infestation, a systematic pest control must be implemented and be proven accordingly (e.g. the presence of traps, bait boxes, delivery notes for the purchase of bait, etc.). If a pest monitoring and/or pest control are executed, they, as well as the qualifications of the person in charge, must meet the legal requirements. The application regulations and restrictions of the used agents must be complied with.

When distributing baits and traps for controlling harmful rodents, a trap-/bait plan must be elaborated. Traps and baits are displayed in such way that other animals do not have access to it. The monitoring and bait points/traps must be checked at least once a month unless other control intervals have been defined based on a risk assessment. Initiated measures must be documented.

Garbage dumps or domestic waste situated in the proximity of the operation must be given special consideration in the pest control.

Documentation pest monitoring/control, bait plan

3.10.5 Handling non-compliant products

A regulation for handling non-conform/defective products must be in place and implemented. It must be possible to clearly identify and isolate the affected products (e.g. separate storage location, label) and they must be handled or disposed of accordingly.

A non-compliant product is a product that does not meet food safety, regulatory requirements, certain quality or customer requirements.

Documentation Regulation

3.11 Documentation of means of production, traceability, labelling and use of the QS certification mark

3.11.1 Purchase of means of production and services

Each purchase of means of production and services must be documented. The documentation obligation applies a. o. to the product (seeds and seedlings, as well as, young plants) and means of production that come in contact with the product, such as plant protection products, means for pest control, fertilisers, substrata, cleaning agents and disinfectants.

The documentation on means of production can be e.g. the delivery notes and invoices.

Documentation purchase of means of production

3.11.2 [K.O.] Traceability

An identification and registration system comprehensible for third parties must be implemented. This must ensure a clear identification of the goods and the traceability at all times, in accordance with the **Regulation (EC) No. 178/2002**, as well as the plausibility of the flow of goods and the packaging materials.

The system ensures the traceability of the produced goods, if possible, until the cultivation management unit and the purchased goods (if applicable).

Moreover, it is ensured that information on the traceability is provided to QS within 24 hours after establishing contact with the scheme participant. The internal traceability processes are structured in such a way, that the relevant information can be compiled within four hours.

The following information about customers, suppliers and deliveries are relevant:

- name, address and telephone number
- QS ID or location number
- type and quantity of supplied products
- delivery date
- batch or lot number (if generated during the production process)
- for bulk products the batch/lot number on the packaging

Suppliers list
It is traceable which products/packaging materials were acquired/purchased from which supplier. There is a list of all suppliers.

Customers list
It is traceable which products are delivered to which customer. There is a list of all customers (except final consumer).

Note: *In order to verify the identity and traceability of the products in the QS scheme, cross-audit delivery note controls, so-called cross-checks, are carried out in the QS scheme supply chain fruit, vegetables, potatoes.*

Batch identification, goods receipt documentation (e.g. delivery notes, incoming goods inspection) and outgoing goods documents, traceability system, supplier list, customer list

3.11.3 [K.O.] Labelling of QS produce

Only the crops registered and certified by QS can be marketed as QS produce. If the goods are to be marketed as QS produce, they must be clearly labelled as such on the accompanying documents (e.g.: apples (QS) or QS apples, usually on delivery notes or despatch notes using electronic data interchange, alternatively weighing receipts). The labelling as QS produce on the accompanying documents also applies for products that come from recognised standards (e.g. AMAG.A.P., GLOBALG.A.P., Vegaplan) and are supplied to the QS scheme.

For the labelling of the QS produce general agreements or the use of synonyms can be agreed between customer and supplier to replace the designation „QS" (e.g. the labelling „German produce" on the delivery notes replaces „Apple (QS)"). The procedure must be documented in the quality management manual or in a work instruction, must be known to the respective employees and to the supplier/recipient of the produce and must be comprehensible during the audit.

The labelling obligation serves to establish a clear relation between the QS produce and the corresponding delivery notes or other accompanying documents at any time.

⇒ 3.11.5 Use of the QS certification mark

Note: *Labelling is the identification of the QS produce on the accompanying documents. Products that have been produced according to the requirements of the QS scheme and on a QS certified farm, but have not been identified as such on the delivery note, lose their status as QS produce and cannot be marketed as QS produce.*

Evidence of QS produce (e.g. delivery notes)

3.11.4 Labelling of QS produce with an identification number

QS produce must be labelled with the OGK -number/QS-ID or another in the QS-database deposited identification number of the producer (e.g. GLOBALG.A.P.-Number (GGN) or Global Location Number (GLN)) in the delivery notes / accompanying documents or on the label of the goods (or box label).

In the case of batches which may contain goods from several producers due to mixing as a result of bulk goods storage or technical packaging or treatment processes (e.g. sorting system) and in the case of packed goods which contain goods from several producers, the QS-ID, the GH-number or another in the QS-database deposited identification number (e.g. the GLN, GGN) of the packing location can be used alternatively.

Evidence Identification number (e.g. delivery note or box label)

3.11.5 Use of the QS certification mark

Note: *Use of the mark is the illustration of the QS test mark on the goods.*

Scheme participants on the stage production are entitled to use the QS certification mark once they have been permitted to do so by an explicit agreement with their coordinator. Goods which are labelled with the QS certification mark on the label or the outer packaging may only be delivered or marketed to QS scheme participants. Goods marked with the QS certification mark must be marked in the delivery documents in accordance with requirement 3.11.3.

In justified cases it may be deviated from this rule, if it can be expected that the reseller, in the course of his business and in contact with his customer, no longer actively advertise and/or market the products as QS produce. In this case, the produce should not be described as QS in the accompanying papers.

The use of the QS certification mark is only allowed in accordance with the **Style guide**.

The QS certification mark with reference to a product, can be used on products, delivery notes and documents accompanying produce. Its use is also possible on marketing materials, letter paper and similar commercial documentation without direct reference to a product, if the scheme participant can be recognised as user of the QS certification mark.

⇒ 3.11.3 Labelling of QS produce

Confirmation of the coordinator (if necessary)

3.11.6 Product labelling

The **European and national laws and regulations for the labelling** (General Marketing Standard, special marketing standards and UNECE standards, if applicable) must be complied with.

This applies for the labelling of:

- packages (boxes, reusable crates and other shipping units)
- sales packaging
- shipping documents/notes of delivery/label

All self-placed information on the label must be correct (for example QS-ID, GLOBALG.A.P.-number (GGN)).

3.12 Packaging of harvested products

3.12.1 [K.O.] Packaging material

The storage of packaging material must be appropriate, dry and hygienically flawless (e.g. no pest infestation, nor physical and/or chemical damage).

If the products are packed directly in the field, the packaging material must be removed from the field or put into safe interim storage after finishing harvest or when the harvest/packaging activities are interrupted for longer periods of time (e.g. overnight). Rests of packaging material and others, which did not originate from the products, must be removed from the field.

When reusable packaging is used, it must be clean and undergo rinsing, if required.

3.12.2 Declaration of conformity/clearance certificate

There must be a current declaration of conformity for the used packaging material that has direct contact with the food. This material must be harmless to health and hygienically flawless.

A clearance certificate must be available for all packaging materials that have direct contact with the food and that do not require a declaration of conformity according to the **Regulation (EC) No. 1935/2004 of the European Parliament and the Council on October 27th 2004**.

Declaration of conformity or clearance certificate for packaging material

4 Hygiene requirements

4.1 Hygiene management

The **EU Regulation on Food Hygiene (EU Hygiene Package (EC) No 852/2004)** must be fulfilled by all stages of the production, processing and distribution of foodstuffs, including the transportation, storage and treatment of primary products on the point of production, as well as the proper use of plant protection products and biocides.

4.1.1 Risk assessment on hygiene

The risk assessment covers the entire production environment, including handling of products after harvest (for example: sorting, washing, packaging, storage) and internal transport. The critical points for the food security (e.g. possible contamination) are also included in the risk assessment.

The contamination of the product can take place through:

- harvest workers (e.g. body fluids, contagious diseases)
- means of transportation, which are also used for other purposes (e.g. transport fertilisers)
- dirty harvest machines
- dirty tools for the harvest (e.g. knives, scissors, cutters, etc)
- unprotected storage of products on the filed
- uncovered transportation of products
- foreign objects
- cross-contamination (e.g. allergens, plant protection products)
- premeditated threats

⇒ 1.4 Risk assessments, operational rules/procedure

Risk assessment handling of harvested products

4.1.2 [K.O.] Hygiene checklist/procedure

Based on the risk assessment, a hygiene checklist for the self-assessment is created, in which all relevant measures to maintain the hygiene in operation are covered, including post-harvest activities and internal transport. The checklist contains the names of those responsible for the implementation of the hygiene measures and measures in the case of irregularities.

The checklist and the operational rules for the hygiene procedure must contain at least the following requirements, whose compliance must also be assured:

- Harvesting machines and reusable containers are cleaned and maintained at least annually. Harvesting tools are disinfected, if needed. The cleaning and disinfecting are documented.
- Company vehicles used for loading and internal transportation of harvested products are clean and in good condition, so that the contamination of the product (for example, through earth, dirt, animal manure, spills, etc.) is avoided.
- Harvest containers are clean and only used for harvested products.
- Products packaged directly at the place of harvest must be removed from this place overnight. Packaged products are covered during the removal from the field and during internal transport (for example: with a tarpaulin or in closed trailers, etc.).
- No risk of contamination may originate from harvest waste (accumulation of crop residues).
- Company own vehicles, which are also used for other purposes than transporting products (e.g. fertilizer) must be cleaned before being used.

Hygiene checklist/procedure

4.1.3 [K.O.] Hygiene requirements for the company's premises and facilities

Based on the risk assessment, hygiene requirements which cover at least the following points, must be elaborated and fulfilled:

- Premises and facilities (e.g. as process lines and equipment, floors, storage rooms) must be kept clean and in good condition. A cleaning schedule must exist.
- Toilets and hand washing facilities must be easily accessible. The toilets in the working area must be kept in a good hygienically condition. Hand washing facilities must be available in close proximity. Toilets must be equipped with toilet paper and flushing water. Hand washbasin must be located in the toilet room. The toilet room should have no direct access to the rooms where food is produced, treated or in circulation. If toilet rooms are opening directly in the produce handling area the toilet room must be provided with a self-closing door.
- Hand washbasins must be equipped with hot and cold water supply. The water has potable water quality. In addition, suitable means for hand cleaning and drying (excluding towels for multiple use) must be available, as well as a cleaning schedule for the sanitary facilities.
- Containers for food waste and other residues must be conveniently located, easy to clean and also to disinfect, if required.
- Appropriate precautions must be taken for the storage and disposal of food waste and other residues. Waste storage areas must be so arranged and organised that they can be kept clean and free of vermin.

Hygienic requirements; cleaning schedule

4.1.4 [K.O.] Hygiene instructions

Based on the risk assessment, there are hygiene instructions for workers (including service providers) in the work areas and visitors, in the form of signs (images) and/or in the prevailing language(s) of the workers, and they are located on visible places. The instructions must contain at least:

- personal hygiene (e.g. clean clothes, no jewellery, coverage of wounds etc.)
- hand hygiene (e.g. hand washing before starting work, after each toilet visit, after touching contaminated material, after smoking or eating, after breaks and before returning to work)
- wearing of protective clothing (e.g. headgear), if applicable, including its cleaning and storage
- product contamination by means of body fluids
- appropriate behaviour when dealing with products (e.g. no spitting, smoking, eating and drinking during work etc.)
- smoking, eating, chewing gum and drinking are restricted to designated areas

- prevention of foreign objects and other sources of contamination in the harvested crop
- notification of any relevant infections or diseases to the responsible employee/manager
- return to work after illness

The employees understand and apply the requirements.

Hygiene instructions/documentation hygiene instructions

4.1.5 [K.O.] Hygiene training

All persons who have contact with products, must be trained on the contents of the hygiene instructions, in a way that they understand the contents and in accordance with their functions. These trainings take place at least once a year and when a new employee start work. The trainings must be proven by means of the signature of the trained employees (date, signature).

There is a training plan in accordance with the training needs of the employees. This training plan includes all codes of conduct such as:

- training content (e.g. dangers due to physical, chemical, microbiological contamination of products)
- training intervals
- participants
- speaker
- language

Hygiene training, training plan

4.1.6 [K.O.] Requirements for water and ice

The final post-harvest washing of the fresh produce must be done with water which satisfies the quality of potable water. The same applies for the water used for post-harvest treatments. Ice used must be elaborated with potable water and handled under the consideration of hygienical conditions.

Proof of potable water quality may be demonstrated via official analyses carried out as part of the potable water monitoring. Alternatively, a sample of post-harvest washing water must be taken at the point of extraction and analysed at least every 12 months.

Laboratories carrying out the water analyses must be accredited to ISO 17025.

Irregularities identified within the frame of the water analysis must be eliminated before the next use.

Proof of potable water quality post-harvest washing (final washing), proof ice from potable water

4.1.7 [K.O.] Toilets for harvesters

If the workers have direct contact with the product during harvest, it is necessary that they have access to clean permanent or mobile toilets. These toilets must be easily accessible by foot or by means of transport within a reasonable period of time (guide value 7 minutes from field edge). The number of toilets must comply with the specifications in the table below.

Deviations of the minimum number are allowed if harvesting does not last longer than 90 minutes.

Table 1: Minimum number of toilets for harvesters.

Number of harvesters	Number of toilets
≤ 20	1-2
21 to 40	2-4
41 to 60	4-6
From 60 each additional 30	+1

The toilets must be in a hygienic good condition. Facilities for washing hands in potable water quality must be provided within or near the toilets. It is sufficient if potable water is filled as fresh as possible into clean containers. As an alternative to potable water, clean water of irrigation quality (e.g. well water, not surface water) can also be used. The toilets are equipped with toilet paper and appropriate resources for cleaning and drying hands (excluding reusable towels). If necessary, disinfectant dispensers are also provided (e.g. if necessary, if no water of sufficient irrigation quality is available for washing hands).

4.1.8 Suitability of means of production

All means of production which come into contact with the product (lubricants, cleaning agents etc.) must be suitable for the use in the food sector. Appropriate documentation (e.g. label, manufacturers' specifications on properties) must be present.

Proof suitability of means of production in the food sector

4.1.9 [K.O.] Breakage of lamps

Shatter-proof lamps featuring a protective screen must be installed above all areas where produce and packaging material are handled or stored.

4.1.10 Handling of glas and hard plastic

There must exist written instructions for handling glass or clear hard plastic fractions in areas where products are handled or stored, as well as in the greenhouse. The instructions must be implemented.

Instructions for handling glass or clear hard plastic fractions

4.1.11 Access of domestic animals

In areas where products are handled or stored, the access of domestic animals must be regulated.

5 Producers handling not self-produced goods

5.1 Handling of not self-produced goods

This chapter is only obligatory for those producers who, along with the self-produced goods, also handle goods in their own establishment that they did not produce by themselves (e.g. through purchasing or the provision of services such as sorting or packaging).

The requirements of this chapter need to be applied and checked if the not self-produced goods:

- are QS-goods or
- belong to the same production scope for which the producer is registered by QS. Concerning the production scope, the cultivation of fruit and vegetables "outdoor" and "protected cultivation" are composed.

5.1.1 Incoming goods inspection

Inspections of incoming goods must be carried out according to a regulated process on the basis of internal guidelines. These incoming goods inspections must be recorded. They must comprise all relevant products. Delivered goods must also be checked for pest infestation and if necessary, appropriate measures must be introduced. If necessary, incoming goods inspections must be adapted to suit changes in the production, storage or transport conditions.

All suppliers of QS produce must be easily identifiable as eligible to deliver scheme participants in the QS software platform via the public scheme participant search.

5.1.2 Returns management

A rule for the processing of returns is established and is annually checked. All deliveries of returned goods must be recorded and evaluated. The rules, which are relevant for the further use of the returned goods, must be followed. Appropriate measures to prevent the recurrence of irregularities must be introduced. The separation of QS produce and non-QS produce must be taken into consideration.

5.1.3 Traceability check

The traceability of all goods must be checked using an example from the production or shipment in accordance with the **Regulation (EU) No. 178/2002**. This also applies to packaging materials. The system is checked at least annually.

Documentation Testing Traceability

5.1.4 [K.O.] Produce separation

A comprehensible system for the separation of QS and non-QS produce must be in place. A clear labelling and batch separation of QS and non-QS produce must be guaranteed. The procedure for separating the produce must be outlined in a suitable manner. QS produce must be clearly identified within the company. It must be ensured that mixtures of products do not occur.

Parallel to the requirements for separation and identification of the QS produce, the separation and identification of other specific product categories (e.g. regional or organic labelling) must be also observed.

5.1.5 [K.O.] Reconciliation of incoming and outgoing goods

A plausible relationship between the volumes of produced and (if applicable) purchased, as well as the sold goods must be available. Losses during the storage or handling must be taken into consideration.

5.1.6 Use of certification mark on purchased products

In addition to the requirements for the use of the certification mark (clause 3.11.5), goods from producers with a GLOBALG.A.P. option 2 certificate or a GLOBALG.A.P. option 1 multisite with QMS certificate can only be labeled with the QS certification mark if the producers are authorized for the use of the certification mark. Producers who are not authorized for the use of the certification mark on goods are marked in the QS database.

6 Waste and environmental management, recycling and reuse

6.1 Environmental protection

6.1.1 Storage of fuels and means of production

The storage of means of production must take place avoiding a damage for the environment. The storage occurs in accordance with legal requirements, local regulations and the manufacturer's specifications, if applicable.

If the local regulations do not contain provisions for the leak of fuel storage tanks, the minimum requirement is an impermeable tank wall/embankment and can retain at least 110 % of the largest tank. In an environmentally sensitive area, the capacity must comprise 165 % of the largest tank. Permanent and readable signs must indicate potential dangers. Signs with "no smoking" are available and the appropriate precautions must have been taken in the vicinity in case of fire.

6.1.2 Environment and nature protection plan

There must be an environment and nature protection plan for conservation of the biological diversity. Optionally, this can also be done via local landscape and environmental plans.

Proof of environment and nature protection plan

6.1.3 Energy efficiency

There are records of energy consumption, e.g. delivery notes on fuels or bills from energy providers. When procuring new machinery and equipment, the energy consumption should be taken into account. Machinery and equipment must be maintained in terms of energy efficiency. The use of renewable energy sources is evaluated.

6.1.4 Substrata

Substrata do not come from declared conservation areas.

Records substratum origin

6.2 Waste management, recycling and reuse

6.2.1 Waste products and sources of pollution

Generated waste (e.g. paper, cardboard, plastic, oil) and potential sources of pollution (e.g. fertiliser excess, exhaust gas for heating units, rests of plant protection treatments, tank rinsing, etc.) must be listed.

List waste and sources of pollution

6.2.2 [K.O.] Storage of waste

Waste must be stored in designated areas and be regularly disposed. These areas are routinely cleaned and disinfected if necessary. Only waste obtained during the daily work can be found outside of designated areas. Waste may not cause a risk of contamination for products.

Cleaning and disinfection plan

6.2.3 Waste management

The waste management ensures that the operating waste is reduced to a necessary minimum. Additionally, a recycling system must be implemented (separate waste disposal, such as Dual System).

Waste management and recycling plan

7 Working conditions

7.1 Occupational safety and social issues

7.1.1 Occupational safety, health and social issues

The management is responsible for the health and safety at the workplace, as well as for social issues. The name of the responsible person must be communicated to the employees.

Documentation responsible person for occupational safety, health and social issues

7.1.2 Periodical staff meetings

Meetings between management and permanent staff to deal with health and safety at work, as well as social issues, take place at least once a year. The issues can be openly discussed and do not generate any operational disadvantage for the employees.

Documentation staff meetings

7.1.3 Risk assessment on safe and healthy working conditions

A risk assessment with regard to safe and healthy working conditions, based on national, regional and local legislation, as well as sectorial agreements must be elaborated. It includes for example:

- moving machine parts
- electricity
- noise
- vibrations
- extreme temperatures
- ladders
- fuel storage

⇒ 1.4 Risk assessment, operational rules/procedures

Risk assessment on safe and healthy working conditions

7.1.4 Rules for safe and healthy working conditions

Rules for occupational safety must be created, based on the risk assessment for safe and healthy working conditions (employees' requirements/qualification, if applicable). To this end, it should be noted that the operational infrastructure, equipment and facilities are constructed and maintained in a way that minimises the health and safety risks for employees as much as possible. Permanent and legible signs must indicate potential hazards, such as landfills, workshops, etc. The rules also include the transport of employees on public roads in accordance with legal requirements.

An action plan with a timetable and responsibilities for accidents and emergency situations must be created. The employees must be trained about accidents and emergency situations. The training contents, date, participants and speakers must be documented.

Procedure and action plan; proof of trainings

⇒ 7.1.3 Risk assessment on safe and healthy working conditions

7.1.5 [K.O.] Worker's instruction and qualification

Workers who operate dangerous machines or devices must be instructed in their use. These instructions are documented (e.g. via participation certificates or signed attendance lists).

Workers who handle chemicals, disinfectants, plant protection products and/or other hazardous substances and/or operate dangerous or complex equipment or devices meet the requirements/ qualifications determined in the operational rules (7.1.4).

Documentation worker’s instruction, qualification workers

7.1.6 [K.O.] Protective clothing and equipment, user protection

Faultless protective clothing and equipment are provided to workers, service providers and visitors and are used in accordance with legal requirements, recommendations of professional associations, operational rules and the manufacturer's specifications.

The specifications given by the manufacturer and the competetent authorities for the protection of the user and third parties, must be observed during the handling and storaging of plant protection products. The user must wear protective equipment in accordance with the requirements and instructions for use of the plant protection product. This protective equipment must always be in good state of repair and stored separately from plant protection products, in a well-ventilated place. The class of respirator filter to be used is subject to the instructions of use and manufacturer’s specifications of the plant protection product. The service life depends on the external application conditions. New filters may be stored in its original packaging up to the specified storage date, used respiratory filters must be replaced at least once a year. Protective clothing must be cleaned after use in accordance with an operational cleaning plan. The cleaning plan must be adapted to the type of use and the degree of dirt. The cleaning must be done separately from personal clothing. Protective clothing which is not in good condition is properly disposed.

The recommendations for the use of protective clothing and equipment must be available. Also other protective equipment must be used according to the manufacturer's specifications.

Cleaning plan protective clothing; Recommendation use of protective clothing/equipment

7.1.7 First aid facilities

Complete first aid kits with valid shelf life are in the proximity of the working areas and are accessible. The furnishing depends on the type and size of the operation, and based on the risk assessment for safe and healthy working conditions.

⇒ 7.1.3 Risk assessment on safe and healthy working conditions

In addition to a first aid kit, an eyewash facility or running clean water must be available on the plant protection products storage and mixing areas (within 10 m).

7.1.8 Accident and emergency plan

A written emergency plan exists containing the following information:

- rules of conduct in the case of accidents and emergencies
- Safety precautions (e.g. location of fire extinguishers, emergency exits, emergency stop switch for electricity, gas and water connections)
- nearest telephone
- adress of the company
- most important telephone numbers in the event of accidents and emergencies (police, fire brigade, ambulance)

The emergency plan is freely accessible, and is available in the predominant language(s) of the workforce in the form of pictographs. Moreover, it must be located within 10 m of plant protection products' storages and mixing areas. If required, safety precautions for hazardous materials exist (e.g. websites, telephone numbers, information sheets).

Accident and emergency plan

7.1.9 Workers trained on first aid

In the presence of several workers, at least one person with a first aid training (within the last 5 years) is present whenever agricultural/horticultural activities (production and handling) are being carried out. For a guideline with regard to the amount of first aid trained workers in proportion to the total amount of workers, the recommendations of the trade associations apply. In the case of inexistent national legislation on this regard, at least one person with a first aid training must always be present.

Proof first aid training

7.1.10 Health check

Workers who have contact with plant protection products, are offered the possibility to take part in an annual health check in accordance with the **German Regulation on Occupational Medical Precausions** (ArbMedVV) in conjunction with the **German Regulation on the protection of hazardous substances** (GefStoffV).

Analog legal dispositions outside of Germany must be fulfilled. When this disposition is not existent, the German regulation must be met.

Offer for health check

7.1.11 [K.O.] Social room and workers' accommodation

There is a social room for workers. The workers' accommodation provided by the company, are suitable for this purpose. It is equipped with potable water and basic sanitary facilities.

8 Complaints management

8.1 Complaint procedure

8.1.1 Complaint procedure

A documented complaint procedure ensures that received complaints with regards to the QS sheme are collected and followed up. There also exist documents of the actions taken with respect to such complaints.

Complaint procedure and actions

9 Recommendations

9.1 Requirements for the location

9.1.1 Have soil maps been created for the operation?

The type of soil is identified for each site, based on a soil profile or soil analysis or local (regional) cartographic soil-type maps.

9.1.2 Is the company involved in an independent certification programm for the calibration of the equipment, where available?

The company's involvement/participation in a calibration programm is documented.

9.2 Tillage, soil conservation and substrata treatment

9.2.1 Does the farmer participate in recycling programmes for substrata, where available?

Type, date and quantities of recycled material are documented, for example, via invoices or loading notes. The lack of participation in an available recycling program must be justified.

9.3 Fertilisation

9.3.1 Have purchased inorganic fertilisers information about their heavy metal content?

The heavy metal content is available for all inorganic fertilisers used on crops grown under QS-GAP within the last 12 month period.

9.4 Plant protection

9.4.1 If needed, a coordination on the use of plant protection products with the neighbors takes place in order to avoid spray drift to or from neighboring fields?

In order to avoid spray drift from or to neighboring fields, if needed, a coordination with the neighbors about the use of plant protection products takes place.

9.5 Sprinkling and irrigation

9.5.1 Are facilities for water storage available and maintained, in order to make optimum use of water in periods of maximum availability?

If the operation is located in areas of seasonal availability of water, facilities for water storage are available for the use in periods when the water availability is low. If required, these are legally authorized, in good state of repair and appropriatly fenced/secured to prevent accidents.

9.6 Hygiene requirements

9.6.1 Requirements on cleanliness of transport vehicles and containers met?

The exterior of the vehicles as well has to be cleaned of visible dirt and remains of the previous cargo. Special attention should be payed to fume emissions. Forklifts and other driven transport trolleys should be electric or gas-driven.

9.7 Waste and environmental management, recycling and reuse

9.7.1 Are organic wastes composted on the operation and used for soil improvement?

Organic wastes are composted and used for soil improvement. The composting method ensures that there is no risk of disease transmission.

9.7.2 Has the producer considered how he could improve environmental protection in order to meet the needs of the local community and to preserve the fauna and flora, sustainably?

The producer can demonstrate tangible actions and initiatives either on the farm or by participation in a group that actively pursues environmental protection concepts. During the preparation of the environmental protection plan, a census is conducted on the state of fauna and flora on the farm. The priorities and measures to improve the habitat for flora and fauna and to increase biodiversity on the farm are defined in the environmental protection plan, where feasible.

9.7.3 Has consideration been given to the conversion of unproductive sites into conservation areas?

Where viable, there are plans to convert unproductive sites on the farm into conservation areas for fauna and flora.

9.7.4 If water was used for washing and cleaning purposes, is it so disposed, that risks to the health, safety and the environment are minimized?

Wastewater from the washing of contaminated equipment, e.g. plant protection devices, personal protective equipment, cooling machines or stables should be collected and disposed in a manner that the environment and the health and safety of the employees, visitors and near settlements become the least possible impact. Legal requirements must be met.

9.7.5 Is water collected and reused, taking into account the food safety?

The collection of water is recommended, if it is economically and practically feasible, e.g. in roofs, greenhouses etc.. The collection of watercourses that flow through the area of operation, requires an extraction permit from the authorities, if applicable.

9.7.6 Is there a plan to improve operational energy efficiency?

A plan that identifies opportunities to improve energy efficiency in the operation is available. The use of renewable energy is contemplated.

9.8 Occupational safety and social issues

9.8.1 Are there suitable changing facilities for the workforce?

The changing facilities should be used to change clothing.

9.9 Prevention of food fraud

9.9.1 Did the producer carry out a risk assessment with respect to the vulnerability to food fraud?

A documented risk assessment to identify potential vulnerabilities for food fraud (e.g. fake plant protection products or propagating material, packaging materials not suitable for food) is available, up to date and implemented. This method may be based on a general method, but must be adapted to the scale of production.

9.9.2 Has the producer a plan to prevent food fraud and has this been implemented?

Rules to prevent food fraud are available and implemented, where the measures introduced by the producer to tackle identified threats for food fraud are described.

I. Regionalfenster

Only applicable for scheme participants in Germany.

Regionalfenster is a national program for the labelling of regional food in Germany. More information about Regionalfenster Service GmbH can be found on www.regionalfenster.de.

10 Definitions

10.1 Explanation of symbols

This symbol marks K.O. criteria **[K.O.]**

References to other applicable documents are marked in **bold**.

This sign means: A written confirmation must be provided. In addition to this sign, documents are also provided that can be used as proof. All (including digital) control and documentation systems that prove that the requirements are fulfilled can be used.

This symbol provides a reference to another chapter of the guideline ⇒.

***Note** (on statutory requirements or other framework conditions) are indicated by italics. Notes are not QS requirements, are not checked and are not included in the valuation.*

10.2 Abbreviations

CFU	Colony-forming units
K.O.	knock out
mmol/l	Millimol per Litre, measure of concentration
N	Nitrogen
Nmin	mineral nitrogen
OGK-Nr. and potatoes	Identification number/Location number for QS scheme participants in the scope fruit, vegetables
P	Phosphorous
P2O5	Phosphate, Phosphorous pentoxid
RIMpro	scab-warning program

10.3 Terms and definitions

- Cross-Checks

  Cross-stage and cross-audit delivery note controls against which requirements for traceability and identity of goods are verified. Basic information and details on how to carry out the cross-checks can be found in the document "Cross-Checks fruit, vegetables, potatoes".

- Separated marketing

  This productions scope offers a participation possibility to producers who own a legally independent commercialization company. The coordinator can register this company as an additional location in the database. The condition is that only the products produced in the own producer's premises can be commercialized as "separated marketing", in other words, no products are bought from third parties. Moreover, both parts of the company should act as one organizational unit (same owner, same establishment), in which the respective business units operate as legally separated.

- Management unit (according to Fertilisation Regulation)

  Two or more plots, which have comparable site conditions, are managed uniformly and with the same plant species or with plant species with comparable nutrient requirements or to cultivation provided are.

- Labelling

  Labelling is the identification of QS produce on documents accompanying the goods (e.g. delivery note)

- Location

  A location can consist of one or more fields/greenhouses. It is managed by the same (legal) person (owner or tenant) and the same infrastructure is used. This means that all requirements of the QS Guideline Production can be tested altogether and no field/greenhouse-specific distinctions have to be made (e.g., regarding PPP storage, machinery, hygiene training of employees).

- Packaging material

  Sales packaging (for sale in food retail) that has direct contact with the food.

- Preparation

  Preparation comprises all activities in which the product is shredded, peeled, grated, sliced, pureed or strained after the harvest. Preparation does not cover activities in which the product is exclusively podded, hulled or cleaned (e.g.: the removal of roots and leaves, the removal of the heart in the case of cauliflower and cabbage, the removal of the root section in the case of kohlrabi, the shortening of leaves in the case of leek).

- Producer

  In terms of QS, a producer is an individual or a company that vouches for the production of certified crops and has the legal responsibility for products sold by this agricultural/horticultural enterprise.

- QS produce

  Produce that has been produced and/or marketed according to the requirements of the QS scheme on a QS certified farm.

- Risk assessment

  is a systematic process to evaluate risk in a more comprehensive manner, to make complex interconnections transparent and to deal with uncertainties. It can be subdivided into three parts:

  - Identifying the risks – those risks which my business is facing
  - Risk evaluation - which risks occur with which likelihood – risk assessment in the purest sense of the term
  - Risk management – identifying causes and planning measures

- Subcontractor

  Organisation/single person that is commissioned by the producer for doing several tasks, which are QS-requirements (e.g. contractors).

- Use of QS certification mark

  Use of QS Certification Mark is the depiction of the QS Certification mark on the product.

A list of general terms and definitions can be found in the **Guideline General Regulations**

11 Annex

11.1 Possible input substances for biogas plants
11.2 Requirements for preparation processes

Annexes 11.1 and 11.2 are published as separated documents. The Annex 11.1 is published as 9.1/11.1 Possible input substances for biogas plants.

Guideline
QS-GAP Production Fruit, Vegetables, Potatoes

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