

Annex 14.5

Technical requirements of the GSPP Standard

Version 5.4

Date of validity: 1st June 2022

History of changes

Version	Chapter	Changes
5.0 & 5.0.1 (follows 4.1)	1.	Wording changes
	2.	Changes & wording added
	3	Changes & wording added
	4.2	Changes
	4.4	Wording changes
	4.12	New chapter
	5.9	Wording added
	5.10	Changes
	5.11	Changes
	5.13	New chapter
	5.14	Was previously 5.13 & changes
	6.2	Word deleted
	7.8	Deleted; was 7.9
	7.9	Was 7.10
	7.10	Was 7.12
	7.11	Deleted; was 7.13
	7.12	Was 7.14; wording added
	8	New chapter
	9	New chapter
	10	New chapter
	11	Was 8; changes
	12	Was 9; word change
	13	Was 10; changes; new chapter 13.3
	14	Was 11; word changes
	15	Was 12; content deleted, written in GSPP Standard
5.2	7.8	Changes
	12.2	Changes
5.3	5.1	Solanum Sisymbriifolium Lam. added
5.4	All	Text/language changes
	All	Accreditation changed into Certification
	7.8	Text change

The Participant must demonstrate its ability to meet the following requirements:

1 Water

The use of water in the GSPP system is allowed as follows:

- Surface water is never allowed to be used without disinfection.
- Applying water to plants and sown seeds:
 - All water must be tested at least twice a year.
 - Well water or potable water may be used without disinfection in a “closed system”. A closed system for water storage is considered a Green Area. (Rain) Water cannot enter storage without passing a Red Lock (it must be covered by a roof; netting is not sufficient).
 - Water in non-closed systems must be disinfected.
 - If drain water is reused in a Green Area, it must be disinfected to separate entities.
- Water used for other processes:
 - Well or potable water may be used without disinfection.
 - Potable water may be used without testing.
 - If water is reused, it needs to be disinfected to separate entities.
 - Other water sources need to be tested.

As there is no specific, reliable test currently available for *Cmm*-detection in water, the CFU test is used (with a threshold <1500 total CFU/ml), with the option of pre-screening with an IDEXX test. In the event of a positive IDEXX, proceed with Quanti-tray or lab test (both <1500 total CFU/ml).

For the aforementioned situations, the testing methods and the thresholds are explained in the flow charts below.

Figure 1. Flow chart: applying water to plants and sown seeds

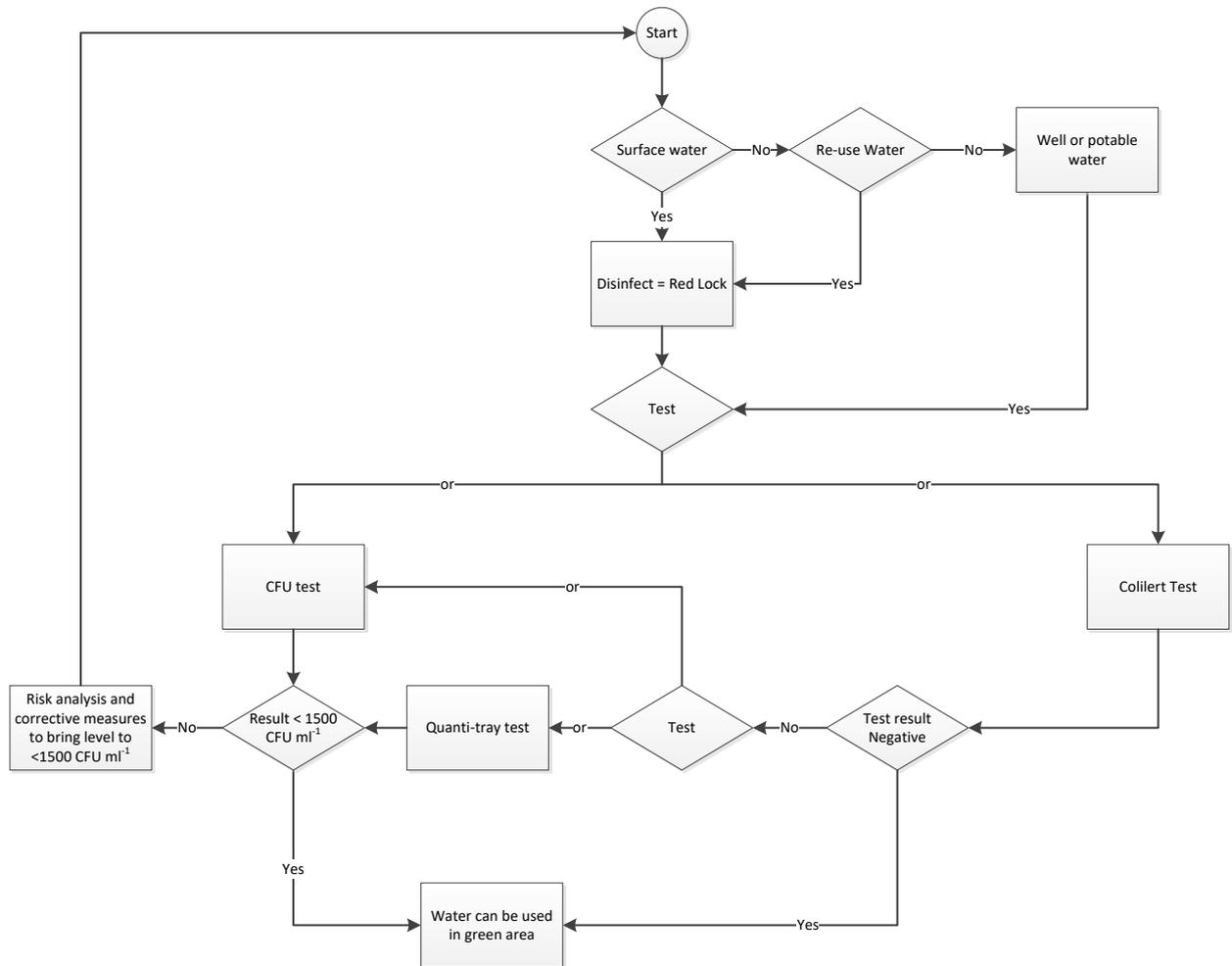
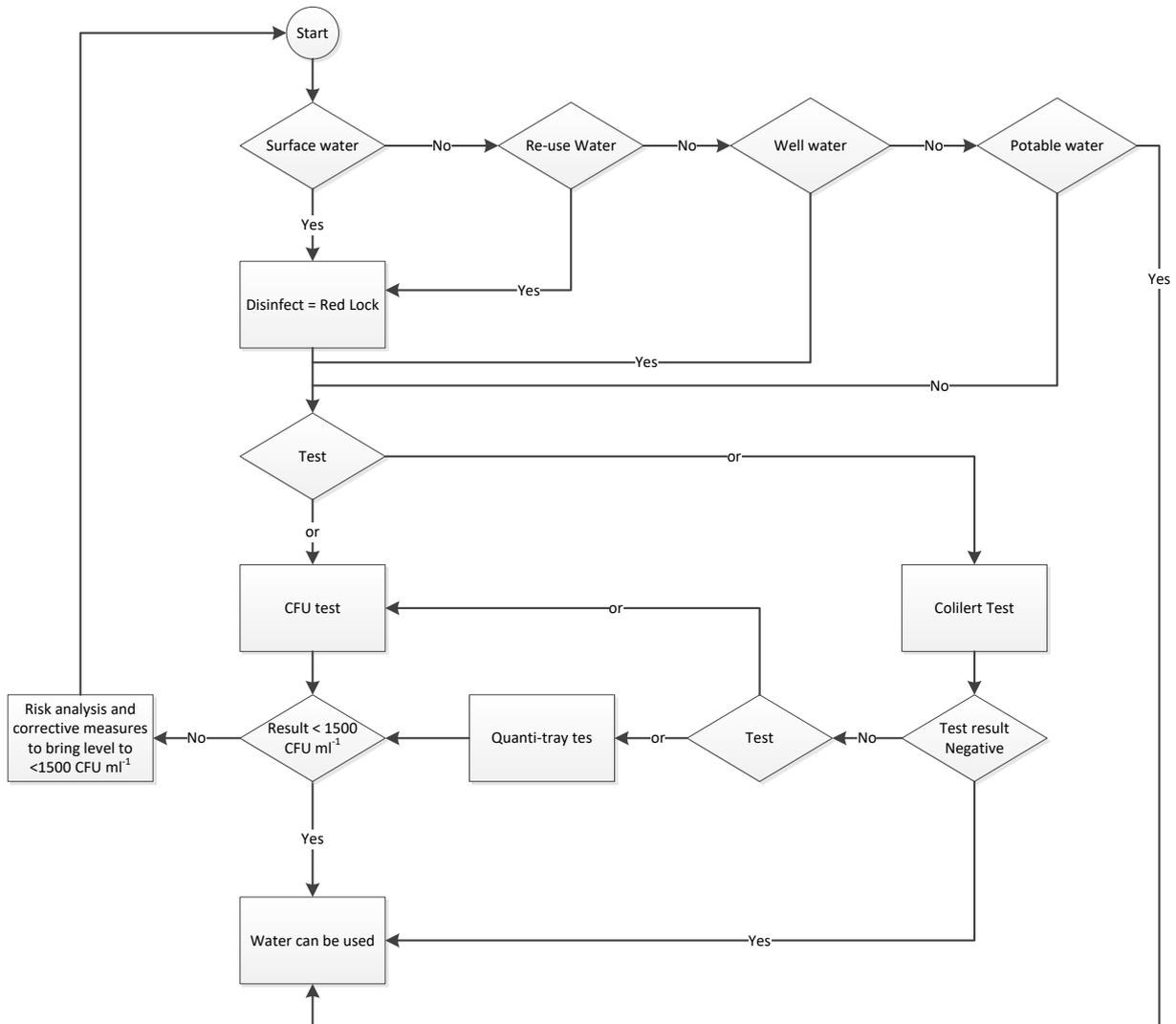


Figure 2. Flow chart of water for other processes.



2 Disinfection

- Methods for material / soil disinfection: Any disinfectant or cleaning chemical may be permitted provided its bactericidal effects are demonstrable. Work solutions that have to be prepared and/or diluted from stock solutions at the participant's site should be checked in relation to the effective concentration.
- There are three accepted methods for soil or growing substrate disinfection:
 - Soil steaming.
 - High temperature.
 - Chemical disinfection.

3 Materials and equipment

- All materials that pass through a Red or Green Lock must be assessed by the risk identification team.
- Any material classified as a risk must be disinfected before entering the Green and Yellow areas.
- Waste may be brought from a Green Area to a Yellow and/or Red Area without disinfection.
- If materials and equipment are visibly unclean, they must be rinsed before disinfection.

4 Facilities

4.1 Physical layout:

- The participant must produce a drawing of the physical layout of each site that defines the Yellow (if applicable) and Green Areas, the Red and Green Locks and the entities.
- Red Locks are mandatory at the entrance of a GSPP site. Green Locks are mandatory between Yellow and Green Areas. Green Locks may also be used to create different entities.

4.2 Red Locks are required at a GSPP-production site:

- Inclusion of a Yellow Area is not obligatory, but may help GSPP Participants in terms of the practical implementation of the parts required by the Standard. Green and Red Locks are mandatory for an applicable Yellow Area.
- It must be impossible for unauthorized people to access Yellow or Green Areas unless accompanied by an authorized person.
- A Red Lock is always physical. A Red Lock is designed to provide access to the 'four threats' (propagation material, water, people and materials (including equipment)) to the Yellow or Green Areas after sufficient disinfection and/or a risk analysis indicating that the risk of contamination with *Cmm* has been minimized. The risk of contamination between Red and Green or Yellow Areas is minimized by a Red Lock. When entering the Yellow or Green area via the Red Lock, the boundaries (the start and end) of the Red Lock should be logical, identifiable/visible and controllable.

- A Red Lock is always physical, but may be in place during a certain period of time only, and is thus a temporary Red Lock:
 - This period should be clearly defined in the internal procedure of the company and must be registered with the GSPP Secretariat.
 - All necessary measures must be taken to assure that the requirements for re-establishment of a Red Lock and the Green Area located behind it are met.
 - The measures taken and the accompanying risk analysis need to be registered and audited in the period of GSPP plant production after re-establishment of the Red Lock.
 - The (re-)establishment of a Red Lock is defined as follows:
 - The first time a Red Area becomes Green (so the first time there is establishment of a Red Lock) the participant must carry out a risk analysis and make sure it is audited by the AO during the production period of the extended part. It is the linking of a Red Area to a green one.
 - When a participant decreases the Green Area (by moving a Red Lock). This is possible and the new Red Lock should be subject to a risk assessment and an internal audit. External audit is not necessary here, as the area was already green.
 - When the participant wants to return the Green Area to its previous size. This must again be subject to a risk assessment and an internal audit. During the regular external audits, risk assessments need to be checked for accuracy.
 - When the participant increases the Green Area, and a Yellow Area becomes a Green Area, the participant must carry out a risk analysis.
 - There is no minimum or maximum number of changes; however, a time limit (2 years) is set between the first movement of the Red Lock and the moment an external audit takes place.
 - A layout of the site must be drawn that specifies the situation when the Participant uses a temporary Red Lock.

4.3 When passing through the Red Lock:

- Change into clean clothes and shoes or cover them entirely.
Clean clothes must be:
 - Washed with detergent (no specific temperature or detergent requirements) or dry cleaning, if steam is part of the dry-cleaning process.
 - Stored under hygienic conditions and worn in the specified Green and Yellow Areas only.
 - Must cover all personal clothes worn. In the event that circumstances require a different way of dressing and not all personal clothes or bare body parts are covered in their entirety, this should be included in the Participant's Risk Analysis and appropriate measures should be taken such that personal clothes and/or bare skin cannot come in contact with plants or are disinfected.
 - The Participant is free to choose between gloves or an effective hand disinfectant (or both).
 - Footwear must be adequately cleaned and disinfected, stored under hygienic conditions and worn in the relevant Green and Yellow areas.
- Wash and disinfect hands.

- When using gloves, they must be disinfected after putting them on.
 - This must take place in a logical sequence (from dirty to clean).
 - Personal belongings are not allowed beyond the Red Lock unless disinfected.
 - The following personal belongings may pass the Red/Green Lock without disinfection:
 - Glasses.
 - Wedding rings (when smooth).
 - Earrings/piercings (when smooth).
 - Other: when in a clean plastic bag or when disinfected.
 - Electronic devices (laptops, PDAs, cameras, mobile phones): these must be included in a risk assessment.
- 4.4 A Green Lock is required to separate entities. A Green Lock is a 'physical or non-physical separation'. This lock is compulsory between Yellow and Green Areas. It may consist of:
- A door or metal bar to prevent unrestricted access and/or
 - An additional disinfection station for hands, wheels or other parts or tools.
 - A lock in time is also possible. It means that entities can be separated by time, e.g. Between the first and second day there have been taken measures which foresee in disinfection of all materials used and people entering the facility in clean clothes again. In delicate processes, (such as grafting), which carry higher risks of transmitting *Cmm*, this is a way to define entities.
- A Green Lock is implemented and required when a risk analysis shows a potential risk of contamination or cross-contamination. In these cases, preventive measures must be written down and implemented, and, in doing so, the risk of contamination between entities is minimized.
- Entities are described in several ways and are company specific. They may consist of, but are not limited to:
- A group of plants separated from other groups of plants, identifiable in the track and trace system.
 - A separation or sub-division of a group of plants related to the four threats. An entity may be sub-divided into other (sub-)entities.
 - When sub-dividing an entity, a plant's entity must remain clear at all times (tracking and tracing) both downstream and upstream in the process.
- 4.5 *Solanaceous* plants (or parts of them) are not allowed to grow in the Yellow Area.
- 4.6 The Green Area is always covered with glass, plastic or insect netting. Companies that raise young plants for fruit production do not need insect netting in the greenhouse ventilation openings.
- 4.7 Netted greenhouses (for seed production and production of young plants for seed production): mesh size must not exceed 2x7 mm.
- 4.8 All activities vulnerable to *Cmm* contamination must be carried out under 'Green' conditions throughout the entire production cycle.
- 4.9 Seed production: the risk is very slight once the fruit has been harvested. Further activities may therefore take place outside the Green Area provided they are subject to a risk analysis.

- 4.10 The premises must be kept neat and tidy.
- 4.11 All persons are entitled to leave the Green Area briefly for certain permitted activities. These permitted exceptions to the rule must be decided and justified on the basis of a risk analysis and involve only movement from the Green Area to the Red Area and back.
- 4.12 The Participant must define and maintain a procedure for **regular** renewal of netting/plastic/glass (or any other product) covering a greenhouse/tunnel, that is separate from incident management in response to a Red Lock breach. It must be done when there is no Solanaceous crop in the compartment(s). The Green Area must be protected from the four threats by a Green or Red Lock during the renewal of netting/plastic/glass. A risk analysis must be conducted and appropriate measures must be taken before the compartment(s) turns into a Green Area again and the temporary Green or Red Lock can be removed.

5 Starting material for seed production

- 5.1 Seeds as starting material for seed production of the species mentioned below need to be checked to confirm that they are free of *Cmm* with lab tests yielding negative results:
- *Solanum cheesmaniae* (L.Riley) Fosberg (= *Lycopersicon peruvianum* var. *parviflorum* Hook.f.)
 - *Solanum galapagense* S.C.Darwin & Peralta (= *Lycopersicon cheesmaniae* f. *minor* (Hook.f.) C.H.Mull., *L. cheesmaniae* var. *minor* (Hook.f.) D.M.Porter, *L. esculentum* var. *minor* Hook.f.)
 - *Solanum lycopersicum* L. – Tomato, Cherry tomato etc. (= *Lycopersicon cerasiforme*, *L. lycopersicum* and many others)
 - *Solanum pimpinellifolium* L. – Currant Tomato (= *Lycopersicon esculentum* ssp. *intermedium* Luckwill, *L. esculentum* ssp. *pimpinellifolium* (L.) Brezhnev in Zhukovskii, *L. esculentum* var. *racemigerum* (Lange) Brezhnev in Zhukovskii, *L. pissisi* Phil., *L. racemiforme* Lange, *L. racemigerum* Lange)
 - *Solanum pennellii* Correll (Neolycopersicon group)
 - *Solanum habrochaites* S. Knapp & D.M. Spooner (= *Lycopersicon hirsutum* Dunal)
 - *Solanum sisymbriifolium* Lam.
 - Interspecific crosses with one of the species mentioned above.
- 5.2 Each generation of basic seed must be tested.
- 5.3 Seeds of species listed in 5.1 must be tested and must originate from GSPP Participants and must comply with the GSPP requirements. Seeds of species other than those listed in 5.1 may pass the Red and Green Locks without testing. The requirements mentioned in 5.11 are applicable.
- 5.4 Seeds of species listed in 5.1 must have been sampled and tested according to the accepted protocol (see Annexes 14.1 and 14.3) by recognized laboratories and proof of analysis must be available. The test results must be available before Scope 4

(applicable to all plants within the entity). All plant lots in the entity must be removed when one seed lot proves to be infected. A risk analysis must be carried out to investigate and determine the risk of spread of *Cmm*. A reference seed sample must be available for confirmation of the original test result in the event of an outbreak. This reference sample must meet the requirements described in Annex 14.1.

- 5.5 The use of cuttings of species mentioned in 5.1, taken from plants in the Green Area is allowed in two situations:
- When the availability of seeds is low. Cuttings may be taken shortly after sowing without testing the plants to multiply the number of plants for the same production cycle.
 - Use of cuttings or side shoots, to prolong or restart the production cycle without sowing. This procedure may not be repeated for more than one production year or to start more than one new production cycle. This manner of working will result in one entity for a maximum of 2 years and/or 2 production cycles after sowing.
- 5.6 Plants or plant parts (cuttings) of the species mentioned in the list in 5.1 and in the additional list below may not pass the Red Lock unless they are produced under GSPP conditions, at a certified site:
- *Capsicum annuum* L.
 - *Solanum nigrum* L.
 - *Solanum melongena* L.
 - Interspecific crosses with one of the species in the above list.
- 5.7 Mother material of cuttings of species listed in 5.6 must be produced in Green Areas and conditions.
- 5.8 Plants or plant parts (e.g. cuttings and *in vitro* propagated materials) of species other than those listed in 5.1 and 5.6 may pass the Red and Green Locks without testing; however, for Solanaceous crops, a risk assessment is mandatory and the requirements specified in 5.10 and 5.11 are applicable.
- 5.9 *In vitro* propagated material of the species mentioned in 5.1 and 5.6 may pass through a Red and Green Lock when they meet all of the criteria mentioned below:
- The material has been grown *in vitro* on a tissue-culture medium for at least two weeks.
 - No antibiotics have been added to the culture medium that can suppress growth of *Clavibacter michiganensis* subsp. *michiganensis*.
 - No visible bacterial growth has been observed on the culture medium or on the *in vitro* propagated plant material.
 - The *in vitro* propagated material (the part that has been cut) has been placed on or in the culture medium.
- 5.10 Additional requirements for cuttings from Solanaceous crops other than those listed in 5.1 and 5.6 are:
- The material is 'Naktuinbouw Elite Ornamental Crops' or 'PPIS-Special Quality Label' certified and originates from 'Naktuinbouw Elite Ornamental Crops' or 'PPIS-Special Quality Label' accredited producers.
 - Non-GSPP plants of the species listed in 5.1 and 5.6 were absent at or in the production location of the producer of cuttings at the time of producing the

cuttings that would enter the GSPP entity. The producer of the cuttings of elite cuttings should provide a declaration that the species listed in 5.1 and 5.6 were not present in the entity.

- The cuttings can be tracked and traced, and this track and trace is auditable at the site of production.
- 5.11 Additional requirements regarding general management are (with the exemptions made for the species listed in 5.1 and *Capsicum annuum*, species that can be crossed with *Capsicum* (e.g. *Capsicum chinense*), *Solanum melongena* and species that can be crossed with *Solanum melongena* (*Solanum aculeatissimum*), *Solanum torvum* and *Petunia X hybrida*):
- GSPP tomato or tomato rootstocks (and aforementioned exemptions) are handled first, followed by other Solanaceous crops.
 - Working in other Solanaceous crops, followed by work in GSPP tomato/tomato rootstocks (and aforementioned exemptions) is only possible after changing into clean clothes and disinfection of footwear, hands and materials.
 - There is always a Green Lock between GSPP tomato/tomato rootstocks (and aforementioned exemptions) and other Solanaceous crops.
 - A risk analysis must be conducted and, based on the results, appropriate measures must be taken before re-use or entry of any kind of material.
- 5.12 *Solanaceous* pollen must originate from GSPP production.
Exemptions: Pollen of *Capsicum annuum*, species that can be crossed with *Capsicum* (e.g. *Capsicum chinense*), *Solanum melongena* and species that can be crossed with *Solanum melongena* (*Solanum aculeatissimum*), *Solanum torvum* and *Petunia X hybrida*, can pass through the Red/Green Lock(s) without being tested and does not have to originate from GSPP production.
- 5.13 If *Cmm* has been found in any plant in an entity, neither plants nor seeds from this entity may be released as GSPP.
- 5.14 Seed companies must inform seed producers and subcontractors (e.g. by individual notification on packaging, packing list or associated documents or general statements) that all starting material (e.g. seeds of parental lines, pollen, vegetative material, parts of plants, etc.) complies with the GSPP requirements.

6 Plant production for seed production

- 6.1 The ventilation opening must be covered by netting with a mesh size not exceeding 2x7 mm.
- 6.2 The Participant may sow the seeds, even if test results are not yet available. The test results must be available before Scope 4 (applicable to all plants within the entity) and proof of the analysis must be available. All plant lots in the entity must be removed when one seed lot proves to be infected. A risk analysis must be carried out to investigate and determine the risk of spread of *Cmm*.
- 6.3 Biological crop protection is not regarded as a risk.
- 6.4 Dust is not regarded as a risk.

- 6.5 The GSPP Standard specifies that plants used for seed production must be raised at a GSPP-certified location. Parent plants grown by a not-yet-certified plant raiser may be used for seed production under the following conditions:
- Seed producers must receive proof from the plant raiser that they are in process of acquiring GSPP certification.
 - The plant raiser is in the process of acquiring GSPP certification when an application has been submitted and an audit is planned prior to the completion of the plant production cycle.
 - This audit must lead to a positive recommendation to the GSPP Board and a positive decision regarding certification by the Board before seed production of the delivered parent plants is complete.
 - The plant raiser in the process of acquiring GSPP certification must also declare to the GSPP seed producer that, in the event of a confirmed infection of the parent plants, the plant raiser will allow a GSPP specialist to carry out a Root Cause Analysis and will follow the steps described in the TIP.
- 6.6 Furthermore, conditions as described in Paragraph 5 apply.

7 Seed production

- 7.1 All plants (male and female) must be grown in a Green Area.
- 7.2 *Non-Solanaceous* plants or plant parts may pass through the Red and Green Locks without testing, but a risk assessment is required.
- 7.3 Seeds from *non-Solanaceae* may pass the Red/Green Locks without testing.
- 7.4 *Solanaceous* plants or plant parts may not pass through the Red and Green Locks unless they are produced under GSPP conditions and at a certified site, or are *in vitro* propagated materials, see Chapters 5.6, 5.7, 5.8 and 5.9 of this Annex.
- 7.5 *Solanaceous* seeds and pollen must be produced in GSPP production locations by a GSPP Participant, as specified in 5.12. Exemptions:

For *Capsicum annuum* and species that can be crossed with *Capsicum* (e.g. *Capsicum chinense*), *Solanum melongena* and species that can be crossed with *Solanum melongena* (*Solanum aculeatissimum*), *Solanum torvum* and *Petunia*.

- Pollen from these crops may pass through the Red and Green Locks without being tested.
 - Seeds from these crops are allowed to pass the Red and Green locks without being tested.
 - They do not have to originate from GSPP Participants or GSPP production locations, as specified in 5.12.
- 7.6 Seeds may be considered GSPP after one production cycle under certification.
- 7.7 Seed production is only possible under covered conditions (glass, netting, plastic, etc.). Mesh size must not exceed 2x7 mm.
- 7.8 Growing in soil is allowed under the following circumstances:

- When the soil/plot is used for the first time: the seeds from the last harvest must be tested prior to delivery of any seeds from this production to plant raisers and/or fruit production growers.
- If this new soil/plot is in an existing Yellow Area, there is no need to wait for the last harvest to test the seeds prior to delivery.
- Mulching of a GSPP crop is allowed. Mulching of crops mentioned in 5.1 and 5.6 connects seed productions over cycles or years. The crops mentioned in 5.1 and 5.6 are hosts of *Cmm* and might carry over *Cmm* from one cycle to the other when entity breaking measures (like soil and structure disinfestation) are not applied. Entity breaking measures are not obligatory and a participant can choose not to take any measures. When *Cmm* occurs, the previous tomato crops have to be evaluated in the Root Cause Analysis. The number of crop cycles and cropping years to be included in the RCA is limited to 5 years prior to the outbreak, RCA and RA might lead to shorter connecting entities limiting the number of crop cycles or cropping years included in that entity.

7.9 Biological crop protection is not regarded as a risk.

7.10 Dust is not regarded as a risk.

7.11 Seed producers may not display or use the GSPP logo (e.g. on packaging and/or documents) when seeds are shipped to a seed company.

7.12 Seed production by seed producers

The GSPP Standard requires that the seed production must be done at a GSPP-certified location. GSPP seeds produced for **a not-yet-certified seed company** must comply with the following requirements:

- The seed producer must require from the seed company that is in the process of acquiring GSPP certification, to prove that they are in this process.
- An initial audit is conducted during the first production cycle, following the application, that does not reveal any major non-conformities and yields a positive decision regarding certification by the Board, before the seeds suitable for GSPP enter the inventory of the seed company.
- The seed producer requests that the seed company confirms in writing or by mail that the basic seeds they are sending for seed production have been tested and are free of *Cmm*.
- The seed company in the process of acquiring certification must also declare to the GSPP seed producer that, in the event of a confirmed infection, the seed company will allow a GSPP specialist to carry out a Root Cause Analysis and will follow the steps described in the TIP.

GSPP seeds produced by **a not-yet-certified seed producer** must comply with the following conditions:

- The seed company must require from the seed producer in the process of acquiring GSPP certification, proof that they are engaged in this process.
- An initial audit is conducted with the seed producer during the first production cycle following the application, that does not reveal any major non-conformities and yields a positive decision regarding certification by the Board, before the seeds suitable for GSPP enter the inventory of the seed company.
- The seed producer must require the seed company to confirm in writing or by mail that the basic seeds they are sending for seed production has been tested and free of *Cmm*.

- The seed producer in the process of acquiring certification must also declare to the GSPP seed company that, in the event of a confirmed infection, the seed producer will allow a GSPP specialist to carry out a Root Cause Analysis and will follow the steps described in the TIP.

In both cases, it is referred to Chapter 12: Seed trading for information on implementing the requirements of trading the seed suitable for GSPP.

8 Seed extraction (Scope 7)

- 8.1 Seed extraction may take place in the Red Area, as the risk of seed contamination with *Cmm* is regarded as low when:
- 8.1.1 GSPP tomatoes are separated from non-GSPP tomatoes for extraction:
 - 8.1.1.1 Physically separated in such a way that batches cannot be mixed.
 - 8.1.1.2 Materials are thoroughly rinsed with water between batches.
 - 8.1.2 In case of fermentation and or enzyme treatment: when the same solution is re-used (partially) for different seed lots, these seed lots become one entity.
 - 8.1.3 When using a solution with disinfecting properties to extract seeds or as part of the seed extraction process, in a solution of recommended strength for disinfection and/or proven to be effective against *Cmm*, the disinfectant fluid itself is not regarded as being a vector of transmission.
 - 8.1.3.1 Physically separated seed batches of any kind may be disinfected together in the aforementioned solution without becoming one entity.

9 Seed processing (Scope 9)

- 9.1 Dry seed processing may take place in the Red Area, as the risk of seed contamination with *Cmm* is regarded as low when:
- 9.1.1 GSPP tomato seeds are separated from non-GSPP tomato seeds for processing.
 - 9.1.1.1 Physically separated in such a way that batches cannot be mixed.
 - 9.1.1.2 Dust is not regarded as a risk.

10 Seed treatment (Scope 11)

- 10.1 Seed treatment may take place in the Red Area, as the risk of seed contamination with *Cmm* is regarded as low when:
- 10.1.1 Tomato seeds produced under GSPP conditions are separated from tomato seeds produced under non-GSPP conditions for treatment.
 - 10.1.1.1 Physically separated in such a way that batches cannot be mixed.
 - 10.1.2 Seed treatment: When using a seed disinfectant in a solution of recommended strength proven to be effective against *Cmm*, the disinfectant fluid itself is not regarded as being a vector of transmission.
 - 10.1.2.1 Physically separated seed batches of any kind may be disinfected together in the aforementioned solution without becoming one entity.

10.1.3 Seed treatment: When a solution without disinfecting properties is (partly) reused, the both treated batches become one entity.

11 Plant production for fruit production

11.1 Seeds or plants of tomato and tomato rootstock must be GSPP certified.

11.2 Seeds may pass through a Red and Green Lock as non-GSPP except species listed in 5.1.

11.3 *In vitro* propagated material may pass through a Red and Green Lock when all the criteria mentioned below are met including the requirements as described in Paragraph 11.5:

- The material has been grown *in vitro* on a tissue-culture medium for at least two weeks.
- No antibiotics have been added to the culture medium that can suppress growth of *Clavibacter michiganensis* subsp. *michiganensis*.
- No visible bacterial growth has been observed on the culture medium or on the *in vitro* propagated plant material.
- The *in vitro* propagated material (the part that has been cut) has been put in or on the culture medium.

11.4 Cuttings and plants may pass through a Red and Green Lock as non-GSPP except the species listed in 5.1 and 5.6, which are required to be raised in a GSPP-certified entity.

11.5 Additional requirements for cuttings from Solanaceous crops other than those listed in 5.1 and 5.6 are:

- The material is 'Naktuinbouw Elite Ornamental Crops' or 'PPIS-Special Quality Label' certified and originates from 'Naktuinbouw Elite Ornamental Crops' or 'PPIS-Special Quality Label' accredited producers.
- Non-GSPP plants of the species listed in 5.1 and 5.6 were absent at or in the production location of the producer of cuttings at the time of producing the cuttings that would enter the GSPP entity. The producer of the cuttings of elite cuttings should provide a declaration that these species listed in 5.1 and 5.6 were not present in the entity.
- The cuttings can be tracked and traced, and this track and trace system is auditable at the site of production.

11.6 Additional requirements regarding general management are (with exemptions made for the species listed in 5.1 and *Capsicum annuum*, species that can be crossed with *Capsicum* (e.g. *Capsicum chinese*), *Solanum melongena* and species that can be crossed with *Solanum melongena* (*Solanum aculeatissimum*), *Solanum torvum* and *Petunia X hybrida*):

- GSPP tomato or tomato rootstocks (and aforementioned exemptions) are handled first, followed by other Solanaceous crops.
- Working in other Solanaceous crops followed by GSPP tomato/tomato rootstocks (and aforementioned exemptions) is only possible after changing into clean clothes and disinfection of footwear, hands and materials.

- There is always a Green Lock between GSPP tomato/tomato rootstocks (and aforementioned exemptions) and other Solanaceous crops.
 - A risk analysis must be conducted and, based on the results, appropriate measures must be taken before re-use or entry of any kind of material.
- 11.7 If *Cmm* has been found in an entity of plants, no plants from this entity may be released as GSPP.
- 11.8 Biological crop protection is not regarded as a risk.

12 Seed trading

- 12.1 Seeds must be produced under GSPP conditions.
- 12.2 It must be proven that seeds have been tested and sampled according the accepted protocol (see website, Annex 14.1 and 14.3) by recognized laboratories (§13, below). The test results must be available before Scope 15. A reference seed sample must be available for confirmation of the original test result in the event of an outbreak. This reference sample must meet the requirements described in Annex 14.1.
- 12.3 Seed companies and subcontractors must inform seed producers if the seed test on the produced seed lots yields a positive result.
- 12.4 If an entity or seed lot is found to be infected by *Cmm*, under no circumstances may seeds from this entity be released as GSPP seeds.

13 Laboratory analysis of seeds

The requirements specified by GSPP as they pertain to laboratories that test seeds are described in Annex 14.8 (see website).

- 13.1 Seeds may only be tested by recognized laboratories.
- 13.2 The laboratories must undergo proficiency testing at least once every three years.
- 13.3 Inheritance rules of test results of seed batches are as follow (Figure 3 and Figure 4):
- Inheritance is only vertical downstream
 - Horizontal inheritance is not possible

Figure 3. Inheritance of seed test results after processing.

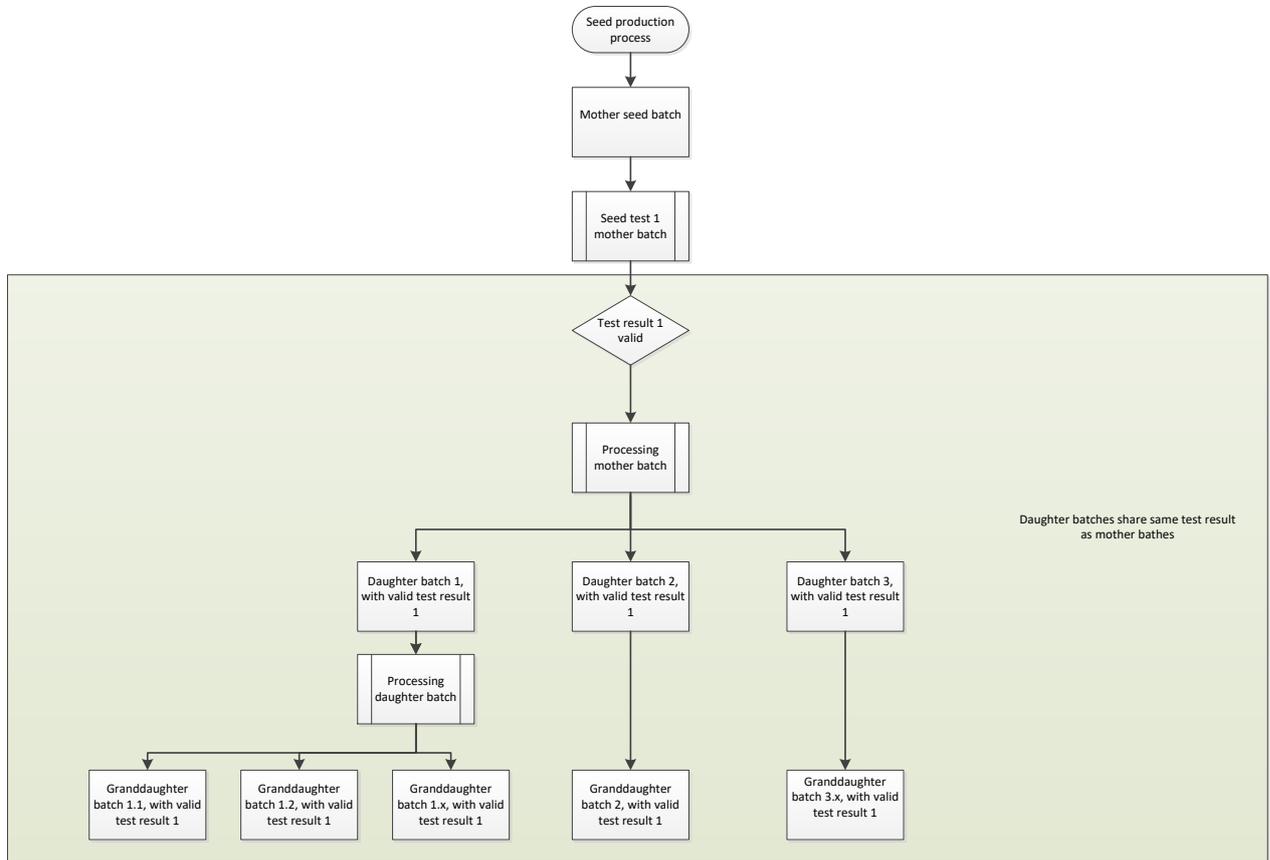
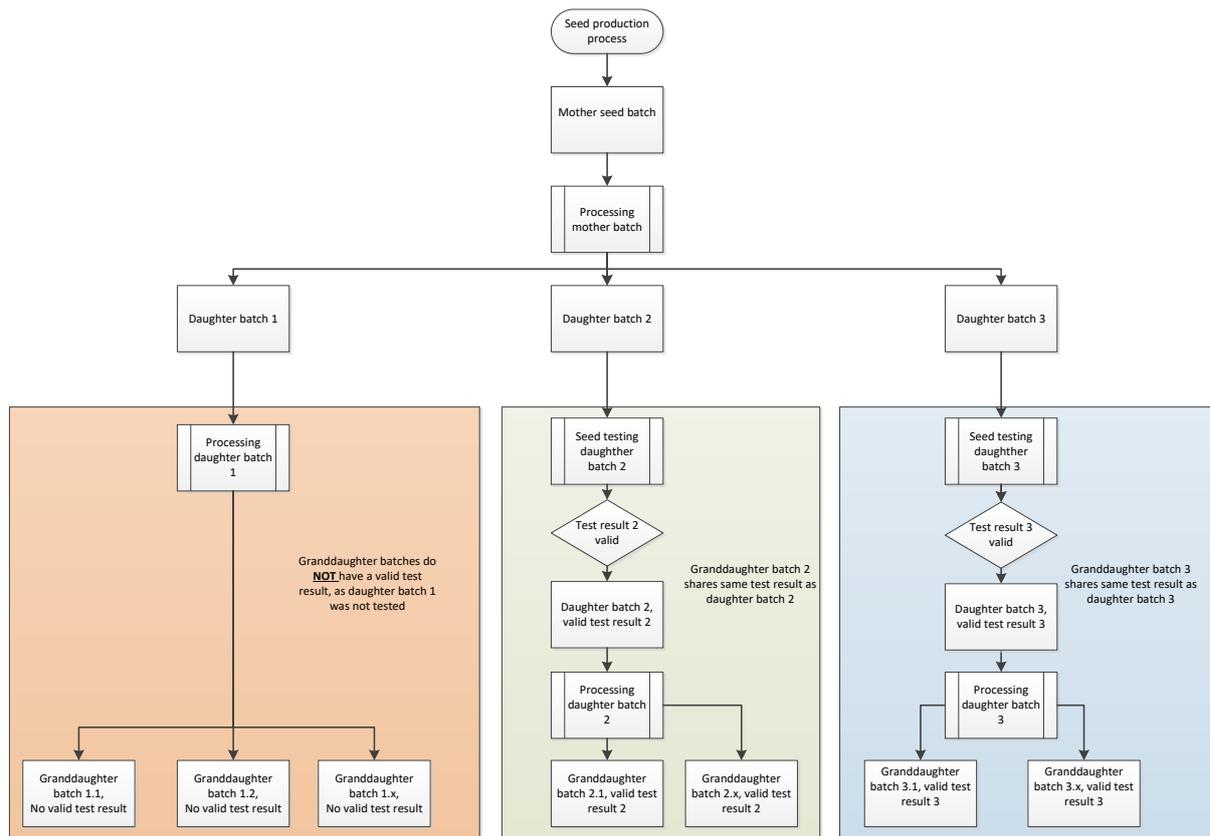


Figure 4. Inheritance of seed test results generated after processing mother batch to daughter batches and granddaughter batches.



14 Laboratory analysis of plant testing

The requirements specified by GSPP as they pertain to laboratories that test suspected plants are described in Annex 14.8 (see website). Laboratories must use the GSPP protocol (Annex 14.2, see website).

- 14.1 Where the participant sub-contracts the testing, the laboratory must specify in writing that they follow a GSPP-recognized protocol for detecting *Cmm*.
- 14.2 Field detection kits (immunokits for *Cmm* or *Cmm* specific PCR) can be used as a preliminary tool to identify possible contamination in the field, if uncertain symptoms are seen on a plant by a pathologist:
 - If the field detection kit is negative, there is no *Cmm*, however, the expert/pathologist may decide to perform an additional lab test to confirm the initial test result.
 - If the field detection kit is positive, a laboratory test is required to determine whether or not the plant is actually contaminated. The final results should be a combination of test results from the laboratory, field inspections (presence of symptoms) and expertise of the plant pathologist assigned to assist production.
- 14.3 Companies cannot rely on the outcome of a field detection kit alone in the event of a positive test result.

15 Documents and labelling

The requirements for delivery documents and labelling are described in Chapter 10 of the GSPP Standard.