**Phytosanitary Policy CGN - Version 18 April 2023**

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# **Background**

This document is primarily intended to set out the policy of the CGN to minimise the phytosanitary risks associated with importing, managing (especially propagating and maintaining) and issuing plant material.

Where possible or required, the CGN strives to issue disease-free material. Some of the measures needed to achieve this are enshrined in legislation. Genebanks like the CGN want and need to comply with this legislation. The legal requirements (set at EU level because of the free movement of goods within the EU), their supervision (by the NVWA, NAK/Naktuinbouw), and testing methods, are constantly changing. CGN's phytosanitary policy aims to anticipate these changes as much as possible. The CGN's phytosanitary specialist is responsible for keeping track of these changes, and will update the policy annually if necessary.

If the CGN follows the rules in this document, the risk of spread of regulated plant diseases is minimal and the CGN is reasonably safeguarded from legal liability in the unlikely event that a Q organism is detected in any of its distributed accessions. In addition, the additional measures described in this document are sufficient to minimise the risks of spreading other regulated or non-regulated plant diseases.

# **Current laws and regulations**

On phytosanitary matters, the EU Plant Health Regulation [2016/2031](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R2031) and associated Implementing Regulations [2019/2072](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R2072) are of particular relevance to the CGN. The underlying Delegated Regulations and Control Regulation [2017/625](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32017R0625) may also be relevant. In addition, the European Commission may adopt Emergency Regulations at any time if acute phytosanitary threats arise. For seed intended for "scientific or educational purposes, trials, selection work, breeding or exhibitions", such as genebank material, there are often exceptions or possibilities for exemption from phytosanitary rules. The possibilities for exemption are partly described in the EU Plant Health Regulation [2016/2031](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R2031) itself, the Delegated Regulation [2019/829](https://eur-lex.europa.eu/eli/reg_del/2019/829/oj), and on the NVWA website ([R&D Phyto (EU) 2019/829 | NVWA](https://www.nvwa.nl/onderwerpen/rd-fyto-2019-829)). The CGN's phytosanitary affairs specialist ensures that the relevant legislation is also on the N-disc (W:ipsGWOT-Unit-CGN-PGR-phytosanitary affairs CGN-general EU measures 2019/829). Consolidated EU regulations (= including updates) can be looked up via [EU law - EUR-Lex (europa.eu)](https://eur-lex.europa.eu/homepage.html).

# **Phytosanitary specialist**

In order to manage risks concerning the presence and spread of plant diseases and pests as well as the implementation of continuously changing phytosanitary legislation and regulations as well as possible, it is important to pool all knowledge of phytosanitary matters in the hands of one person. CGN has therefore appointed a "phytosanitary affairs specialist" who is the point of reference and coordinator for all matters concerning phytosanitary matters. These are the tasks and responsibilities of the phytosanitary specialist:

* Track phytosanitary laws and regulations;
* liaise with NAK, Naktuinbouw, NVWA, LNV, SCoPAFF, users, and other EU genebanks regarding phytosanitary issues;
* ultimately responsible for following up agreements with NVWA and NAK/Naktuinbouw;
* primary contact person for audits and inspections by NAK/Naktuinbouw;
* archiving phytosanitary agreements with NVWA, Naktuinbouw, and external propagators;
* applications FCs when the seed manager is absent;
* figuring out complex country requirements and solving export problems;
* making crop declarations to NAK and Naktuinbouw for visual inspections
* point of contact for licensing and use Q facilities PSG.
* responsible for making reports in case of (suspected) presence of a Q organism in genebank material

The phytosanitary specialist can also delegate work on phytosanitary matters to the trustees if necessary. How ever, the phytosanitary specialist always retains ultimate responsibility.

# **Supervision NVWA and NAK/Naktuinbouw**

In the Netherlands, the ultimate responsibility for implementing phytosanitary legislation rests with the NVWA. The inspection services NAK (agricultural crops) and Naktuinbouw (horticultural crops) carry out inspection and enforcement in practice. So if a fundamental issue/problem arises for the CGN regarding specific phytosanitary legislation, the NVWA is the primary point of contact. Consultation with the NVWA takes place, for example, if a Q organism is detected in the CGN collection or if certain phytosanitary legislation is not or difficult to implement by the CGN. Also, the NVWA (because of its contacts within SCoPAFF and EPPO) is the main source of information on phytosanitary legislation that is still under development. This helps the CGN anticipate changes. In addition, NVWA monitors material imported/distributed through Post Entry Quarantine waivers by the CGN.

The NAK and Naktuinbouw are the primary points of contact when issues/problems arise regarding the practical implementation of phytosanitary legislation. For example, the CGN organises visual inspections and administrative audits together with the NAK/Naktuinbouw, or arranges the sampling and testing of material. Naktuinbouw is also the primary point of contact for questions and problems with applying for Phytosanitary Certificates (FC). Inspections when importing material into the EU are usually not coordinated with Naktuinbouw, but go through a forwarder or customs agent.

Contact with NVWA and NAK/Naktuinbouw is maintained by the phytosanitary affairs specialist. The phytosanitary affairs specialist, assisted by the seed manager and the trustees, regularly updates new information on EU phytosanitary legislation and regulations. If this information leads to further consultation about new tests or inspections to be carried out, NVWA and NAK/Naktuinbouw are contacted. If agreements have been made with NVWA or NAK/Naktuinbouw, they will be posted on the internal N-disk (W:\PSG\WOT-Unit-CGN-PGR\Fytosanitary matters CGN\agreements with NVWA concerning Q diseases).

The phytosanitary rules in the EU Plant Health Regulation [2016/2031](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R2031) and the protocols in this document are current and guiding. A historical overview of old agreements between CGN and NVWA on the testing of Q organisms, as well as the Phytosanitary Protocol PD/947539 dated 22-12-1994 on which this document is based, can be found in an internal CGN memo from 2016 (W:\PSGWOT-Unit-CGN-PGR-Grops-Phytosanitary matters CGN phytosanitary policy CGN memo 2016).

# **Communication with users and exchange of phytosanitary information**

Communication with users and exchange of phytosanitary information on CGN accessions is (besides the internal control regime) an important part of the CGN policy to minimise the risks regarding the presence and spread of plant diseases and pests. Seeds from the CGN comply with all EU phytosanitary requirements, and the CGN does its utmost to ensure seed health, but cannot 100% exclude things still going wrong. Moreover, non-regulated or still unknown diseases may still be in the material. Therefore, it is always communicated to users that alertness and phytosanitary precautions on the part of the applicant remain important. Under no circumstances does the CGN accept liability if consequential damage occurs. The standard letter for communication to users and detailed shipping instructions can be found in FOR-CGN-PG-008 Standard Letter.docx and INS-CGN-PG-007 Shipping Instructions.docx, respectively.

The CGN aims to collect as much phytosanitary information on its accessions from users as possible. If accessions are visually inspected or tested at users' premises, the CGN would like to receive the results (preferably qPCR results with ct values). This information is important for the CGN to take phytosanitary precautions to prevent cross-contamination, and to inform other users of possible phytosanitary risks. The CGN stores all phytosanitary information on its accessions centrally on the N-disk. The CGN can make this information available for research purposes. Consider, for example, risk analyses by the EPPO or other organisations.

# **Q, RNQP, ZP-Q, or non-regulated risk organisms**

The EU plant health regulation distinguishes between Quarantine (Q), Zona Protecta (ZP-)Q, and Regulated Non-Quarantine Pest (RNQP). The distinction between Q, ZP-Q, and RNQP organisms is important to know which phytosanitary measures to take. For the CGN, non-regulated organisms may also be relevant.

* Q organism: The list of Q organisms (including those subject to emergency measures) is maintained by the NVWA ([Register Q organisms | Regulations | NVWA](https://www.nvwa.nl/onderwerpen/rd-fyto-2019-829/documenten/export/fytosanitair/voorschriften/algemeen/register-q-organismen-en-q-waardige-organismen)). This list also includes so-called Q-worthy organisms. These are organisms for which measures are already in place in the Netherlands before EU harmonisation. The Netherlands also has a number of 'temporarily' regulated Q organisms.
* ZP-Q organism: The list of ZP-Q organisms can be consulted in the EU Implementing Regulations [2019/2072](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R2072) and on the NVWA website ([Register requirements and codes for protected areas | Publication | NVWA](https://www.nvwa.nl/documenten/plant/plantenpaspoort/register/publicaties/register-eisen-en-coderingen-voor-beschermde-gebieden))
* RNQP organisms: The list of RNQP organisms can be consulted in EU Implementing Regulations [2019/2072](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R2072).
* Non-regulated risk organisms: Based on information from users, the NVWA, and the European and Mediterranean Plant Protection Organisation's A1 and A2 lists (see [[EPPO A1 List](https://www.eppo.int/ACTIVITIES/plant_quarantine/A1_list) and](https://www.eppo.int/ACTIVITIES/plant_quarantine/alert_list) [EPPO A2 List](https://www.eppo.int/ACTIVITIES/plant_quarantine/A2_list)), the CGN makes a selection of seed-borne pest organisms that are not (yet) regulated, but pose a threat to plant health in the EU or beyond. Based on risk analyses carried out by an NPPO, the EPPO, or the European Food Safety Authority (EFSA), some of these diseases can be included in the EPPO A1 or A2 list. The EU can then decide whether they are regulated as Q, ZP-Q, or RNQP organisms, or the diseases are not regulated.

The CGN crops and associated Q, RNQP, ZP-Q or non-regulated risk organisms that are subject to phytosanitary requirements and/or pose a risk to plant health, and the consequences of these requirements/risks for CGN are summarised in an appendix to the KMS (Phytosanitary policy\_appendix\_diseases\_and\_pests\_month-year.xlsx). This spreadsheet is continuously maintained by the phytosanitary specialist.

The rest of section 6 below elaborates for each type of organism what the CGN policy is and what the procedures are to minimise the risks regarding presence and spread of these organisms, and to implement the currently applicable legal requirements.

## **No Q, RNQP, ZP-Q, or non-regulated risk organism on crop**

For many CGN crops, no Q, RNQP, ZP-Q, or non-regulated risk organisms exist (see KMS Annex Phyto-Policy\_Annex\_Diseases\_and\_Pests\_month-year.xlsx) and no specific phytosanitary requirements or internal CGN measures apply. However, please note the following points:

* Introduction and movement within EU: No disease tests or other phytosanitary measures are required to bring seeds into circulation in the EU. A PP for shipment is also not required and may not be applied if there is no legal requirement. Imports from outside the EU always require an FC, arranged and paid for by the sending party. Import inspections are usually not required for crops on which there are no regulated diseases.

It is possible to import small quantities of seed intended for research and breeding (e.g. from collection missions and non-EU gene banks) without FC through a so-called PEQ-Z Procedure (see [What is PEQ-Z? | NVWA](https://www.nvwa.nl/onderwerpen/rd-fyto-2019-829/vraag-en-antwoord/wat-is-peq-z)). The necessary exemptions are arranged centrally at PSG by team AMV.

* Propagation, distribution, germination trials, cleaning, and other operations: All operations can, in principle, take place without phytosanitary requirements. The fact that there are currently no regulated Q-, RNQP-, ZP-Q or non-regulated risk organisms for a crop does not mean that there are no (undiscovered) diseases that can cause damage or that will be subject to phytosanitary requirements in the future. It is therefore always important to observe basic hygiene measures (where practical) to prevent cross-contamination between accessions.
* Communication to users: CGN will enclose a letter with each issue, stating the following: "*Seeds supplied by CGN meet all legal phytosanitary requirements of the EU. CGN has done its utmost to guarantee the health of the seeds, but cannot give 100% warranty for the health of the seeds. Alertness and the correct phytosanitary precautions on the part of the requestor remain important at all times. CGN does not accept liability in case something is wrong with the phytosanitary condition of the requested material.*"
* Still testing: The CGN can decide to test a collection for certain diseases even if it is not necessary according to the EU Plant Health Regulation. This may be the case, for example, if many applicants request it. Such diseases can be classified by the CGN as non-regulated risk organisms (see section 6.5). Testing of a collection always takes place in consultation with the phytosanitary specialist.

## **Q organism**

Seed from crops that may be infected with Q disease must be tested and found free before it can be distributed. For some crop/disease combinations, testing is not necessary, for example if the seed comes from an area where Q disease does not occur. In principle, the CGN aims to test all accessions for Q organisms if required by the EU plant health regulation. For this, the CGN will have to release or acquire funds in many cases. If necessary, agreement can be obtained from the authorities in the receiving country for receipt at a quarantine site approved by them for this purpose for contained use or non-contained use after carrying out post-entry quarantine testing there.

### **Q organism - not (yet) tested**

* Germination trials, cleaning, sampling, and other seed handling: As long as seed from crops that may be contaminated with a Q organism is vacuum-packed in aluminium bags, no specific phytosanitary measures are needed. If seeds are removed from safe storage for germination trials, cleaning, and other operations, this should take place in a contained manner and hygiene measures should be taken. The basic principle here is that untested accessions are separated from each other and from tested and untested accessions in such a way that contamination between them is excluded, and that spread from the CGN to the surrounding area is also excluded. Before operations with untested seed take place, the phytosanitary specialist should contact a Biological Safety Officer at PSG (More information on Unifarm's working instructions can be found on Unifarm's intranet page ([Procedures and instructions relevant for applicant - Intranet WUR](https://intranet.wur.nl/Project/UNIFARM/Pages/ESh4s13J9EaTHMEapFdaFw#VP3l_3K59UCqW-5FKzAAhg)) and in PSG's safety manual (W:ipsG projects (PSG-wide)-Safety manual). However, the CGN aims to have all material tested before any further handling of the seed. For some crops, the CGN may not do the sampling for disease testing itself, but must be done by an inspector from Naktuinbouw.
* Multiplication: Multiplication of untested material within Unifarm's facilities is not possible. More information on Unifarm's working regulations can be found on Unifarm's intranet page ([Procedures and instructions relevant for applicant - Intranet WUR](https://intranet.wur.nl/Project/UNIFARM/Pages/ESh4s13J9EaTHMEapFdaFw#VP3l_3K59UCqW-5FKzAAhg)) and in PSG's safety manual (W:ipsG Projects (PSG-wide)‛Safety Manual'). Multiplicationof untested seed at an external party is also not possible unless the external party has quarantine facilities approved by the local phytosanitary authority.

* Entry into and movement within EU: The entry into and movement within the EU of seed of crops that may contain a Q organism, but which has not been tested according to phytosanitary legislation, requires a waiver from the NPPO in the country of the recipient. A waiver must be arranged and paid for by the recipient. Once the waiver is obtained, a Letter of Authority (LoA) can be issued by the NPPO in the recipient's country. The LoA is then endorsed by the sender's country before shipment can take place. If release of the received material is the objective (in the case of the CGN, this is always the objective), a condition for the issuance of an LoA is that the recipient has Post Entry Quarantine (PEQ) facilities approved by the local phytosanitary authority for this purpose. For PSG, this is arranged centrally by team AMV. Detailed instructions for the introduction into and movement within the EU of untested seeds can be looked up in chapter "QG 06.1 PROC\_Import-export\_Q plant material" of the PSG safety manual (W:ipsG projects (PSG-wide)‛Safety Manual - Biosafety QG 06 Import, export and transport).

It is possible to import small quantities of seed of crops to which import requirements apply but which cannot or cannot fully comply with the applicable import requirements and which are therefore possibly contaminated with a Q organism and intended for research and breeding purposes (e.g. from collection missions and non-EU gene banks) without FC under certain conditions via a so-called PEQ-G Procedure (see [What is PEQ-G? | NVWA](https://www.nvwa.nl/onderwerpen/rd-fyto-2019-829/vraag-en-antwoord/wat-is-peq-g)). The basic principle here is that after arrival of the consignment, certainty is still obtained about compliance with the missing phytosanitary guarantees (import requirements) by means of NVWA-approved Post-Entry Quarantine testing. The required exemptions are arranged centrally at PSG by the AMV team.

* Availability and communication to users: If a budget is not available in time to test seeds, it is either possible to have applicants pay for disease testing or send seeds untested with a LoA. Both options will be temporarily communicated on the website to users until the entire collection is tested, e.g. in case of ToBRFV in tomato/peppers (period: Feb. 2021 - Feb. 2022):

*"In line with "XXX (EU regulation)", seeds of XXX and XXX can only be sent within the EU accompanied by a Letter of Authority (LoA) provided by the requester or after being tested and found free of the quarantine disease Tomato Brown Rugose Fruit Virus (ToBRFV). Requests without a LoA will only be processed after payment of the costs for testing of the requested material. The costs per accession are XX Euro for requests over 30 accessions. Costs increase for smaller requests. The time needed for testing depends on the capacity at the testing agency. For countries outside the EU other regulations may apply. For more details, please contact* [*XXX*](mailto:willem.vandooijeweert@wur.nl) *(phytosanitary specialist)."*

If the plant material is tested, until the result is known, the plant material will not be issued. This will also be communicated to users on the website:

*"The XXX collection is currently undergoing testing for XXX. Pending the results, the XXX collection will not be distributed to users. The results are expected around month/year. For Questions please contact our phytosanitary specialist XXX"*

### **Q organism - tested and found free**

* Germination trials, cleaning, and other operations: No additional phytosanitary requirements apply to germination trials, cleaning, and other operations. However, it is important to observe hygiene measures to prevent the tested and found free accessions from being contaminated from the environment, and to prevent cross-contamination between accessions with other (as yet unknown) diseases. The basic principle here is that the non-tested accessions are separated from each other and from non-tested accessions in such a way that mutual contamination is excluded.
* Propagations: If seeds have been tested for Q organisms in the manner prescribed in the phytosanitary legislation and found free, then the seeds can be multiplied. Consultation with PSG AMV team and Unifarm staff is required before multiplication of crops susceptible to Q organisms. Taking hygienic measures can prevent contamination from the environment. These include the use of protective hygienic work clothing (lab coat, gloves, etc.) that is left behind in the work area on departure, and the use of clean materials and tools. Healthy material should also be kept spatially separated from untested material to rule out contamination. More information on Unifarm's work instructions can be found on Unifarm's intranet page ([Procedures and instructions relevant for applicant - Intranet WUR](https://intranet.wur.nl/Project/UNIFARM/Pages/ESh4s13J9EaTHMEapFdaFw#VP3l_3K59UCqW-5FKzAAhg)) and in PSG's safety manual (W:ipsG Projects (PSG-wide)‛Safety Manual'). Furthermore, the crop should be visually inspected by NAK/Naktuinbouw at appropriate times during cultivation. The phytosanitary specialist arranges these inspections in consultation with the relevant curator. If regenerations take place at an external party, it must be agreed with the external party who is responsible for arranging the visual inspections by NAK/Naktuinbouw.
* Circulation within EU with PP: If seeds have been tested for Q organisms in the manner prescribed in the phytosanitary legislation and found free, then the seeds can be circulated within the EU. If the crop in question is PP-compliant according to the EU Implementing Regulation (2) or the NVWA's "register of plant [passport-compliant](https://www.nvwa.nl/documenten/export/fytosanitair/voorschriften/algemeen/register-plantenpaspoortplichtige-producten) products" ([Register of plant passport-compliant products | Regulation | NVWA](https://www.nvwa.nl/documenten/export/fytosanitair/voorschriften/algemeen/register-plantenpaspoortplichtige-producten)), the sending party must provide the shipment with a PP. A PP may only be issued if the seed is free of Q organisms and meets any RNQP requirements. No official documents are required for crops not subject to PP. However, for most PP-eligible crops, there is an exception to the PP requirement for seed used for research, selection, breeding, testing, processing and contract cultivation. The PP mandatory exception only applies if there are no special requirements or emergency regulations in force. In other words, if there is a testing requirement, then the exception lapses and a PP is required (or a LoA if the special requirements are not met). The phytosanitary specialist continuously keeps track of which crops require a PP in the spreadsheet "Phytopolicy\_annex\_pests\_and\_pests\_month-year.xlsx".
* Requesting PPs: For most crops, the CGN is authorised by Naktuinbouw to provide shipments with a PP itself. A PP is created in GENIS with a tracking code, the transaction number of the seed application. The PP is visibly affixed to the seed shipment.

For potato, the NVWA creates the PPs for the time being. To this end, the CGN seed manager creates an overview in GENIS of the requested accessions with the Q-disease test data. This list is sent to j.h.j.heres@nvwa.nl. After a few days, the list, provided with the PP, can be collected from the NVWA in Wageningen. The CGN aims to be authorised for all crops to provide shipments with a PP itself. The phytosanitary specialist is therefore taking the initiative with Naktuinbouw to investigate the possibility of authorisation by Naktuinbouw of CGN to draw up and issue PPs itself, subject to conditions, for seeds from the potato collection to be marketed. The phytosanitary affairs specialist will inform the NVWA about the agreements with Naktuinbouw and the time path towards authorised self-compilation and issue of PP for potato seeds.

* Audits PPs: once a year, Naktuinbouw checks whether the CGN meets the requirements to receive an authorisation to issue plant passports. The authorisations are documented centrally on the N-Disk: W:PSG\WOT-Unit-CGN-PGR\WashingsCGNPlant Passports General.
* Issue and communication to users: CGN will enclose a letter with each issue, stating the following: "*Seeds supplied by CGN meet all legal phytosanitary requirements of the EU. CGN has done its utmost to guarantee the health of the seeds, but cannot give 100% warranty for the health of the seeds. Alertness and the correct phytosanitary precautions on the part of the requestor remain important at all times. CGN does not accept liability in case something is wrong with the phytosanitary condition of the requested material.*".
* Entry into EU with FC: If seeds have been tested for Q organisms and found free, the seeds, provided they have an FC, can be entered into the EU. The sending party should arrange the FC with the relevant competent authority. In addition to an FC, some crops also require inspection. Which crops are subject to inspection can be looked up in the register "Products subject to certificate and inspection upon import" on the NVWA website: [Products subject to certificate and inspection upon import | Import of plants, vegetables, fruit, plant material | NVWA](https://www.nvwa.nl/onderwerpen/import-planten-groenten-fruit-plantaardige-producten/certificaat-en-inspectieplichtige-producten-bij-import), and in the KMS appendix "Phytosanitary policy\_appendix\_diseases\_and\_pests\_month-year.xlsx". Import inspection should be arranged by the importer. In the case of CGN, import inspections are arranged by the phytosanitary specialist with a freight forwarder/customs agent. For import inspections, the CGN has an account with Flowerwings Cargo B.V. [(](https://flowerwingscargo.nl/import/)https://flowerwingscargo.nl/import/). If for whatever reason no import inspection has taken place on seeds subject to inspection (i.e. no fully completed CHED-PP is enclosed), the phytosanitary affairs specialist will contact Flowerwings Cargo B.V. as soon as possible to still have an inspection take place at an approved inspection location, otherwise the seeds may not be used.

**Collection missions outside Europe:** An FC is also required for seeds carried in traveller's luggage after a collection mission and an import inspection must sometimes be arranged. If it concerns material falling under a phytosanitary import ban, an exemption from the import ban will first have to be applied for, activities approved with it and a Letter of Authority granted by the NVWA. An FC must be arranged with the NPPO in the collection country on the last day of the collection mission. For this, a species list must be prepared, with the number of accessions collected and the weight for each species. The NPPO checks this list and may carry out a visual inspection on the seeds. The seeds should be cleared of debris (sand, twigs, insects, etc.) and properly packed. If possible, the seeds have been in a freezer for 24 hours to kill the last insects. If seeds subject to inspection have also been collected, the FC should be forwarded to a forwarder (Flowerwings Cargo B.V.) Flowerwings Cargo B.V. then notifies the seeds to be imported in the NVWA's "CLIENT-import" system, and forwards this notification to the collector. Upon arrival at Schiphol Airport, the collector has to declare the seeds at Customs (through the red gate!), and show the registration in the CLIENT-import system to Customs staff. After approval, the collector may proceed with the seeds himself to an inspection location. Flowerwings Cargo B.V. then handles the import inspection and customs clearance and forwards the seeds to the CGN. All import documents obtained (e.g. CHED-PP, FC) should be kept carefully. If it is not possible to arrange import inspection on arrival at Schiphol Airport, the seeds cannot be included in baggage. However, sending the seeds to Flowerwings Cargo B.V. by DHL before departure is an option.

* Doubts about reliability FC: In some cases, there may be doubts about the reliability of test results (e.g. if disease tests have not been commissioned by the CGN). Testing commissioned by the CGN by Naktuinbouw (or elsewhere) may then still be necessary. This may be the case when importing accessions with an FC from outside the EU (e.g. from other gene banks or collection missions). After all, FCs issued do not offer a 100% guarantee that the plant material is actually disease-free.
* New diseases: In consultation with Naktuinbouw, as many RNA extracts of the tested accessions/bulks as possible will be retained, so that there will be no need to reclaim the CGN's seed stock every time a new Q disease emerges. The composition of bulk samples will be administered at seed lot level ('seed lot').

### **Q organism - tested and infected**

* Follow NVWA instructions: If, after testing, a seed lot turns out to be infected with a Q-organism, NVWA must be informed by the phytosanitary specialist immediately after the finding. The NVWA must also be informed in the unlikely event that material subject to import prohibitions (consignment not previously approved by the NVWA by means of issuing a LoA for this purpose) is presented to the CGN or arrives otherwise. The NVWA then issues instructions to the CGN. The follow-up steps are carried out by the CGN in consultation with the phytosanitary specialist. The CGN will always insist that the test results are verified with another test method, as prescribed by the EU plant health regulation.
* Search for clean seed lot: If a seed lot is found to be infected, the curator searches for a replacement non-infected seed lot (e.g. within the CGN, or at a fellow genebank). In addition, the curator looks for methods to make the seed lot disease-free (e.g. through treatment or otherwise). Only if there are no possibilities to replace the infected seed lot or make it disease-free will the accession be removed from the collection.
* Multiplication, distribution, germination trials, seed cleaning, and other operations: Multiplication, distribution, germination trials, seed cleaning, and other operations with the infected lot are no longer possible. The infected lot will be blocked by the seed manager so that it can no longer be requested via the website. The blockade is lifted if verification shows that the test result is false positive, or if the infected lot has been successfully replaced or made disease-free. The batch is then again available for use and for propagation. If the batch is definitely positive after verification, and there are no possibilities to replace the seed lot or make it disease-free, the accession is physically removed from the collection.

## **RNQP organism**

Under the EU Plant Health Regulation, the introduction and movement within the EU of RNQPs is in principle banned. However, this ban and measures to prevent the presence and spread of RNQPs in the EU do not apply to small quantities of seeds for "scientific or educational purposes, trials, selection work, breeding or exhibitions". This includes genebank material. Thus, for the CGN, the implications are limited unless Q diseases may also be present in the crop.

### **RNQP organism - not (yet) tested / tested and found free**

* Propagations: CGN has the accessions multiplied annually in WUR greenhouses and in the field visually inspected 1-2 times a year by Naktuinbouw randomly for the occurrence of RNQPs. To this end, the phytosanitary specialist submits annual crop declarations to Naktuinbouw and the NAK. CGN accessions multiplied by others (mostly breeding companies) are checked in the same way by Naktuinbouw/NAK, if the multiplicationtakes place in the Netherlands, or by the phyto-authorities in the country where this multiplicationtakes place. The agreements made are documented by the phytosanitary specialist on the N-disk.

**Additional measures CGN:** To minimise the risk of the presence and spread of pest organisms (RNQPs and Qs), the CGN aims to have additional visual inspections carried out by specialised personnel with knowledge of plant diseases in addition to the random visual inspections by the NAK/Naktuinbouw. In case diseases are detected in an accession, and several accessions are multiplied side by side, the curator will take into account the probability that said diseases and pests also occur in accessions that do not show visible symptoms. If the curator decides to include in the collection seed from accessions that are not infected based on laboratory tests and visible inspection, the curator shall motivate this decision, and this decision, including motivation, shall be documented.

* Movement within EU: Small quantities of seed for research and breeding need not be tested for RNQPs. Receiving or sending seed within the EU can be done without PP, unless requirements for Q organisms apply to the crop. Sending seed to companies for multiplicationalso does not require a PP if it falls under "contract cultivation".
* Import into EU: Import from outside the EU always requires an FC, arranged and paid for by the sending party. Which crops are subject to inspection can be looked up in the register "Products subject to certificate and inspection upon import" on the NVWA website: [Products subject to certificate and inspection upon import | Import of plants, vegetables, fruit, plant material | NVWA](https://www.nvwa.nl/onderwerpen/import-planten-groenten-fruit-plantaardige-producten/certificaat-en-inspectieplichtige-producten-bij-import) and in the KMS annex "Phytosanitary policy\_annex\_diseases\_and\_pests\_month-year.xlsx". Import inspection should be arranged by the importer. In the case of CGN, import inspections are arranged by the phytosanitary specialist with a freight forwarder/customs agent. For import inspections, the CGN has an account with Flowerwings Cargo B.V. [(](https://flowerwingscargo.nl/import/)https://flowerwingscargo.nl/import/). If for whatever reason no import inspection has taken place on seeds subject to inspection (i.e. no fully completed CHED-PP is enclosed), the phytosanitary affairs specialist will contact Flowerwings Cargo B.V. as soon as possible to still have an inspection take place at an approved inspection location, otherwise the seeds may not be used.
* Germination trials, seed cleaning, and other operations: Germination trials, seed cleaning and other seed handling operations can take place without phytosanitary measures.
* Issue and communication to users: CGN will enclose a letter with each issue, stating the following: "*Seeds supplied by CGN meet all legal phytosanitary requirements of the EU. CGN has done its utmost to guarantee the health of the seeds, but cannot give 100% warranty for the health of the seeds. Alertness and the correct phytosanitary precautions on the part of the requestor remain important at all times. CGN does not accept liability in case something is wrong with the phytosanitary condition of the requested material.*".
* Still testing? The CGN may decide to test a collection for certain RNQPs, even if this is not necessary according to the EU Plant Health Regulation. This may be the case, for example, if many applicants request it. Testing a collection always takes place in consultation with the phytosanitary specialist.

### **RNQP organism - Tested and infected**

If an accession is found to be infected after a visual inspection, or after testing commissioned by the CGN or others, no action will be imposed by the NVWA. However, the CGN itself will take action to prevent the spread of the RNQP. The actions taken may vary greatly by crop/RNQP combination. In most cases (e.g. if the tolerance level to presence of an RNQP is 0%), just as in the case of Q disease infection, the seed lot will be replaced or disease-free. If this is not possible, the seed lot will be removed from the collection. Propagation, distribution, germination trials, and other operations with the seed from the infected lot will then no longer be possible.

# **ZP-Q organisms**

ZP-Q organisms have the status of a Q organism only in protected areas within the EU. ZP-Q organisms have RNQP status in the Netherlands, or they are on the CGN list of non-regulated risk organisms. So for ZP-Q organisms, CGN follows the policy issued for RNQP organisms or non-regulated risk organisms. Only when seed of crops that may be contaminated with a ZP-Q organism has to be sent to a protected area, specific phytosanitary requirements apply. The seed may have to be tested and tagged with a ZP-Q PP. CGN will determine on a case-by-case basis whether it can meet these requirements before sending the seed to a protected area.

## **Non-regulated risk organisms**

There are no phytosanitary requirements for non-regulated risk organisms in the EU Plant Health Regulation. However, the primary goal of the CGN policy is to minimise the risks of spread of all diseases and pests that pose risks to plant health, including non-regulated organisms. In addition, the CGN tries to anticipate changing regulatory requirements as much as possible. What is not a Q organism today may become one in the future. Taking early action may be wise in some cases.

### **Non-regulated risk organisms - not (yet) tested**

In principle, seeds of crops that may be infected with a non-regulated risk organism can be introduced untested (provided they are marked FC) and marketed in the EU. Also, propagation, germination trials, and other operations with the seed can in principle be done without phytosanitary measures. The CGN may decide to still test the seeds if there are good reasons to do so, for example if a disease is on the EPPO A1 or A2 list AND seed is transmissible AND there is a high probability of the disease acquiring Q status in the (short) term. To know the likelihood of the EPPO A1/A2 list disease acquiring Q status in the short term, the phytosanitary specialist will have to seek advice from the NVWA (e.g. the SCoPAFF reports), Naktuinbouw, users, and possibly other European gene banks. If it appears that testing is indeed wise, a plan will be drawn up by the phytosanitary affairs specialist in cooperation with the relevant trustee to have the seeds tested as yet. Pending the test results, propagation, germination trials, distribution and other operations with the seed can continue as usual without phytosanitary measures.

However, if visual inspections show that an accession is heavily infected and seriously diseased, efforts will be made to replace the seed lot or make it disease-free or remove it from the collection. Propagation, distribution, germination trials, and other operations with the seed from the infected lot will then no longer be possible.

### **Non-regulated risk organisms - Tested and found free**

The seed can be introduced (provided it has FC) and marketed in the EU. Propagation, germination trials, and other operations with the seed can also take place without phytosanitary measures.

### **Non-regulated risk organisms - Tested and contaminated**

Using qPCR test results, it can be determined whether an accession has become heavily infected during multiplication(low ct values) or whether the seeds have become lightly infected by cross-contamination through dust, contaminated surfaces, or otherwise (high ct values). The risk of further spread is significant in the former case, while in the latter the phytosanitary risks are limited. Only if an accession is heavily infected can a decision be made to replace the seed lot or make it disease-free or remove it from the collection. Propagation, distribution, germination trials, and other operations with the seed from the infected lot are then no longer possible. Because no phytosanitary requirements apply (yet), slightly contaminated accessions can in principle be multiplied and distributed as normal within the EU. Germination trials and other operations can also take place without phytosanitary measures.

Issuance of slightly contaminated accessions is done only with a disclaimer. Before a seed application is approved by the trustee, the applicant must explicitly agree to this disclaimer in writing. A disclaimer may state the following:

*"The CGN XXX collection has been tested for XXX. We found that a number of bulks tested positive for XXX. As we tested bulks we do not know which specific accessions are infected.*

*XXX is on the EPPO alert list, nevertheless there is currently no EU regulation prohibiting the distribution of seeds that are potentially infected with XXX. Therefore, all accessions are available upon request.*

*We ask you to reply to this mail, accepting that the material can be infected with XXX and agreeing that CGN does not accept any liability for damage or problems that may be caused in case the material is infected with XXX."*

# **Exports outside the EU**

When exporting material to a non-EU country, the shipment must comply with that country's import requirements. This often means that an FC must be enclosed. To apply for an FC, a shipment must meet the country requirements applicable to that material. If one or more of the country requirements cannot or cannot fully be met or if an import ban applies in any case, an import permit is required with which exemption from the import ban can be granted and/or additional requirements and conditions for safe transport etc. can be described. The intended recipient of the material should arrange this with the phytosanitary authorities there.

* Country requirements: When a seed application comes in, the seed manager checks whether the seed shipment can meet the country requirements for seeds. The country requirements can be found on the NVWA website ([Seeds, export procedure | Export plants, vegetables, fruit, vegetable products | NVWA](https://www.nvwa.nl/onderwerpen/export-planten-groenten-fruit-plantaardige-producten/exportprocedures-voor-planten-groenten-fruit-plantaardige-producten/zaaizaden)). The "Register coding" or "Register harmful organisms sowing seeds" indicates per crop, for the listed harmful organisms, which action should be taken. In the "Register coverages sowing seeds" (available in the group "Export guarantees sowing seeds" at https://samenwerken.pleio.nl/) it can be checked whether which cover guarantees are issued by the NVWA (e.g. is the Netherlands free or not of a certain pest organism?).
* Application FC: If the seed can meet the country requirements, the seed manager forwards the application to the trustee for approval. After approval, the seed manager applies for an FC through the e-CertNL export system ([Home | e-CertNL](https://e-cert.nl/)). For detailed instructions, see "INS-CGN-PG-020 Manual application phytosanitary declaration" and [Manuals | e-CertNL](https://e-cert.nl/toepassing/handleidingen/).
* Import licence: Sometimes an import licence is also required. In this, additional requirements may be imposed by countries on the seed to be exported. If this is the case, the seed manager sends an e-mail to the recipient stating the following:

1. Whether to send the import licence requirements of the relevant country,
2. That applying for an import licence in the relevant country may cost money,
3. Whether to check with the phytosanitary authorities on the possibility of exceptions to the import authorisation requirements for small seed lots and seed that will be used for research and/or selection purposes,
4. that the adjustment of a phytosanitary declaration (in case of different requirements) by the Dutch authorities costs about 200 Euro and that the applicant has to pay it,
5. that the seed should subsequently comply with this amended phytosanitary declaration without additional examination, as otherwise no certificate will be issued from the Dutch side,
6. and that there may also be Post Entry Quarantine options for sending unkeyed seed.

Should the applicant send in the import permit requirements, it appears that there is no exception for small seed lots in the country of destination, and the applicant agrees to the costs associated with changing the FC, the seed manager/curator will consult with Naktuinbouw. If it then turns out that no additional research is needed for a modified FC, the seed material is sent with FC. For further instructions in the event of deviating country requirements, see "INS-CGN-PG-020 Manual application phytosanitary declaration".

* Difficult country requirements: Certain non-EU countries may have such strict country requirements that the CGN cannot (or finds it difficult) to meet them. In consultation with the seed manager and trustee, the phytosanitary specialist determines whether the CGN can still meet the country requirements within a reasonable period of time. If not, it is communicated to the applicant that the seed cannot be sent, unless the recipient country grants a waiver by means of a modified import licence or otherwise.
* Suspension of seed shipments in case of export problems: If a seed shipment (with great difficulty) can eventually meet the country requirements, but the seed shipment still does not arrive due to unknown legislation or unclear reasons, it may be decided to reject all shipments to the relevant non-EU country for a certain period of time (1-2 years maximum) before re-examining whether the CGN can meet the country requirements. De specialist fytosanitaire zaken houdt de “export status” van niet-EU landen bij in een excel-file (Datum Overzicht export.xlsx) op de interne N-schijf (W:\PSG\WOT-Unit-CGN-PGR\Gewassen\Fytosanitaire zaken CGN\fytosanitaire verklaringen\export problemen en oplossingen).
* Differences between EU and non-EU phytosanitary legislation: Some non-EU countries may, knowingly or unknowingly, have less stringent phytosanitary requirements than within the EU. In some cases, this can lead to untested seeds of crops that may be infected with a Q organism being sent to a non-EU country without disease testing and without LoA. This situation runs counter to the CGN policy to minimise the presence and spread of plant diseases. If EU and non-EU phytosanitary measures regarding EU Q organisms differ greatly, the strictest phytosanitary requirements will always be followed for the export of CGN plant material. Exceptions to this policy can be made if it is clear that the EU Q organism does not pose a phytosanitary risk to the non-EU country concerned. The curator, in consultation with the phytosanitary specialist, decides whether the seeds can be sent.

# **Registration documents**

Alle officiële import- en exportdocumenten, inclusief de volgnummers van de plantenpaspoorten worden gearchiveerd op W:\PSG\WOT-Unit-CGN-PGR\Gewassen\Fytosanitaire zaken CGN. The curator is responsible for registering import documents, while the seed manager is responsible for registering export documents. For the crop apple, the curator is responsible for the registration of both import and export documents. Correspondence around phytosanitary aspects of a release is stored integrally by the Seed Manager in CGN seedhandling's e-mail box. All other phytosanitary documents, including phytosanitary agreements with den NVWA, Naktuinbouw, and external propagators, are archived by the phytosanitary specialist.

# **Definitions**

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| **AMV** | PSG's Health, Environment & Safety department |
| **CGN** | Centre for Genetic Resources Netherlands [Centre for Genetic Resources Netherlands - WUR](https://www.wur.nl/nl/Onderzoek-Resultaten/Wettelijke-Onderzoekstaken/Centrum-voor-Genetische-Bronnen-Nederland-1.htm) |
| **CHED-PP** | Common Entry Health Document for Plants and Plant Products: <https://www.nvwa.nl/onderwerpen/importeren-planten-en-plantaardige-producten/voor-het-eerst-planten-importeren> |
| **CLIENT-Import** | NVWA system for notification of import consignments for plants and plant products: <https://www.nvwa.nl/onderwerpen/importeren-planten-en-plantaardige-producten/importinspecties> |
| **e-cert** | MinLNV's system for applying for phytosanitary certificates [Home | e-CertNL](https://e-cert.nl/) |
| **EPPO** | European and Mediterranean Plant Protection Organisation [home page (eppo.int)](https://www.eppo.int/index) |
| **FC** | Phytosanitary Certificate [PHYTOSANITARY EXPORT CERTIFICATION SYSTEM - International Plant Protection Convention (ippc.int)](https://www.ippc.int/en/core-activities/capacity-development/phytosanitary-system/phytosanitary-export-certification-system/) |
| **KMS** | CGN's quality management system |
| **LoA** | Letter of Authority [Transport document applications R&D Phyto | R&D Phyto (EU) 2019/829 | NVWA](https://www.nvwa.nl/onderwerpen/rd-fyto-2019-829/transportdocument-aanvragen-rd-fyto) |
| **NAK** | Dutch General Inspection Service [Home - NAK](https://www.nak.nl/) |
| **NPPO** | National Plant Protection Organisation |
| **NVWA** | Netherlands Food and Consumer Product Safety Authority [Home | NVWA](https://www.nvwa.nl/) |
| **PEQ** | Post-Entry Quarantine [Post-entry waivers (PEQ) | R&D Phyto (EU) 2019/829 | NVWA](https://www.nvwa.nl/onderwerpen/rd-fyto-2019-829/vergunning-aanvragen-voor-onderzoek-aan-risicodragende-materialen/post-entry-vergunningen-peq) |
| **PP** | Plant Passport [Plant Passport and Plant Health Regulation question and answer | Naktuinbouw](https://www.naktuinbouw.nl/plantenpaspoort-en-plantgezondheidsverordening-vraag-en-antwoord) |
| **Q** | Quarantine organism or Quarantine-worthy organism. Pest organism meeting the requirements listed in Article 3 of EU Plant Health Regulation [2016/2031](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R2031) or listed in the NVWA Register Q organisms [| Regulation | NVWA](https://www.nvwa.nl/onderwerpen/rd-fyto-2019-829/documenten/export/fytosanitair/voorschriften/algemeen/register-q-organismen-en-q-waardige-organismen) |
| **RNQP** | Regulated Non-Quarantine Pest. Pest organism meeting the requirements listed in Article 36 of EU Plant Health Regulation [2016/2031](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R2031) |
| **ToBRFV** | Tomato Brown Rugose Fruit Virus [Tomato brown rugose fruit virus (TOBRFV)[Overview]| EPPO Global Database](https://gd.eppo.int/taxon/tobrfv) |
| **ZP-Q** | Zona Protecta organism: <https://www.nvwa.nl/documenten/plant/plantenpaspoort/register/publicaties/register-eisen-en-coderingen-voor-beschermde-gebieden> |