EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION
ORGANISATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES

25-30256 (24-29589, 23-29007)

Report of a Pest Risk Analysis for *Resseliella citrifrugis*

Dark discolourations in the skin of *Citrus maxima* caused by *R. citrifrugis* (EPPO Code:RESSCI).
Courtesy: NVWA, NPPO of The Netherlands

It is worth noting that EPPO recommendations for regulation are made either on the basis of EPPO Pest Risk Analyses (PRAs) prepared by Expert Working Groups (EWGs), PRAs developed by EPPO member countries for the EPPO region, or PRA reports based on national or EFSA PRAs.
The aim of this PRA report is to assess the status of *Resseliella citrifrugis* as candidate for listing on the EPPO A1 and A2 Lists of pests recommended for regulation as quarantine pests. This summary is based on an EFSA pest categorisation for *Resseliella citrifrugis* (EFSA, 2021), an EFSA quantitative risk assessment (EFSA, 2023), the DROPSA datasheet (Grousset *et al*., 2016) and a quickscan from the Netherlands (NVWA, 2020). Additional targeted literature searches have been conducted to make it more representative of the whole EPPO region. Probability of entry, establishment, spread, and potential impact have been established by the Panel on Phytosanitary Measures on a five level scale (very low, low, moderate, high, very high), with a three-level uncertainty (low, moderate, high), based on EFSA (2023), and adapted for the EPPO region. Risk management measures were first drafted based on other EPPO recommendations and USDA (2019).

Pests:	*Resseliella citrifrugis* Jiang (1994) (Diptera: Cecidomyiidae)
PRA area:	EPPO region
Assessors:	**Original PRAs:** EFSA pest categorization & quantitative risk assessment: EFSA Panel on Plant Health for the EU, DROPSA: G. Schrader, K. Steffen, A. Wilstermann (JKI) F. Grousset, F. Petter, M. Suffert (EPPO), NVWA: anonymous **PRA report:** With subsequent discussions in the Panel on Phytosanitary Measures.
Date:	The DROPSA datasheet was prepared in 2016, the NL quickscan published in 2020 and the EFSA risk assessments in 2021 and 2023. The Panel on Phytosanitary Measures discussed the document in 2024-10 and 2025-04. The EPPO Working Party on Phytosanitary Regulations (2025-06) and Council agreed that *R. citrifrugis* should be added to the EPPO A1 List of pests recommended for regulation as quarantine pests in 2025.

Cite this document as:
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https://gd.eppo.int/taxon/RESSCI/documents

Based on this PRA report, measures for *Citrus* fruits and *Citrus* plants for planting (except seeds, tissue culture, pollen) are recommended.

STAGE 1: INITIATION	
Reason for doing PRA:	*Resseliella citrifrugis* is an economically important *Citrus* pest in China which was identified in 2016 in the DROPSA Project as a pest of orange (*Citrus x aurantium* var. *sinensis*) and mandarin (*Citrus reticulata*) fruit with high economic importance and likely to transfer. Live larvae have been intercepted several times by the Dutch NPPO on pummelo (*Citrus maxima*) fruit imported from China (in 2020-2023). Following first interceptions, the EFSA pest categorization and the Dutch quickscan were performed in 2020-2021, and the pest was added to the EPPO Alert List in 2022. Temporary prohibition measures were taken in 2022 in the EU (Commission Implementing Regulation EU 2022/1941) and an EFSA quantitative risk assessment was performed in 2023 in view of its potential permanent inclusion in the EU quarantine pest list.
Taxonomic position of pests:	*Resseliella citrifrugis* Jiang (1994) Diptera, Cecidomyiidae Common name: citrus fruit midge EPPO code: RESSCI Note: there is nomenclature uncertainty because a proper pest description is not available yet.

An Alert list datasheet for *R. citrifrugis* is available at:
https://www.eppo.int/ACTIVITIES/plant_quarantine/alert_list_insects/resseliella_citrifrugis
A mini datasheet prepared in the framework of the DROPSA Project is available at:
https://gd.eppo.int/download/doc/1226_minids_RESSCI.pdf

STAGE 2: PEST RISK ASSESSMENT

PROBABILITY OF INTRODUCTION

Entry

Geographical distribution:
(Source: EPPO Global Database last consulted 2024-07-05)

R. citrifrugis occurs in China (in the provinces Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi and Sichuan). An updated distribution for *R. citrifrugis* can be found in the EPPO Global Database.

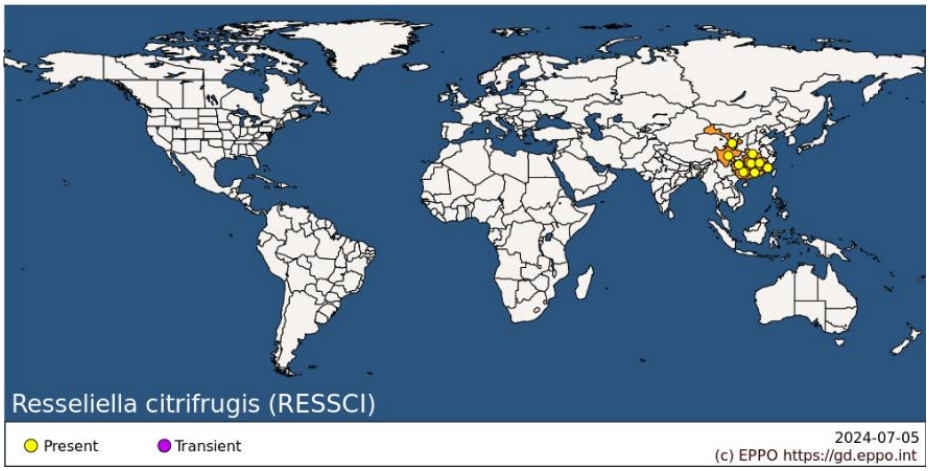

Figure 1. Geographical distribution of *R. citrifrugis*

Major host plants:

The pest is feeding on Rutaceae of the genus *Citrus* such as pummelo (*Citrus maxima*) and grapefruit (*Citrus x aurantium* var. *paradisi*) (EFSA, 2021). The pest has also been reported on mandarin (*Citrus reticulata*), sweet orange

(*Citrus x aurantium* var. *sinensis*) and trifoliate orange (*Citrus trifoliata*) (EFSA, 2023; Xia *et al*., 2021). A full list of host plants can be found in the EPPO Global Database (https://gd.eppo.int/taxon/RESSCI/hosts).

Which pathway(s) is the pest likely to be introduced on:

EFSA (2023) reports that no reliable data were found on differences in prevalence on different *Citrus* spp. and varieties (laboratory and field studies of host preferences are not consistent); thus, all *Citrus* spp. and varieties were considered together.

Adults lay eggs on the peduncle and calyx or inside the albedo (pith) of the fruit. Larvae are mainly found in fruits. The pest pupates in the fruit or soil. Adults are unlikely to be carried by plants for planting, flowers or fruit because they would fly off when disturbed (EFSA, 2020). Considering these elements of biology, the following pathways have been identified:

***Citrus* fruit** is considered to be the most likely pathway and can harbour eggs, larval stages and pupae (EFSA, 2021; 2023; Grousset *et al*., 2016; NVWA, 2020). The volume of *Citrus* fruits imported from China into the EPPO region is high (e.g. 103 000 tonnes per year, on average, into the EU, during 2016-2020); Russia being with the European Union in the top 3 importers of *Citrus* fruit worldwide (Aydeniz-Gunezer & Gunezer, 2020; USDA, 2023). Several interceptions of larvae have been reported on pummelo (22 interceptions in the EU between 2020-12 and 2023-02; EFSA, 2023). Although infested fruit can be rejected at post-harvest or detected e.g. during inspections for other pests, the pest is considered likely to escape sorting/inspection (EFSA, 2023). Although not mentioned in the risk assessments, fruit can also be brought back in traveler's luggage. Despite the lack of scientific studies on its natural dispersal capacity (see Spread), EFSA (2023) considered that the probability of transfer would be facilitated by the proximity between packing houses and orchards (as in Spain) and the high level of imports during early autumn when *Citrus* fruit are not yet harvested and temperatures are suitable for pest development. *Citrus* producers sometimes import *Citrus* fruits, as is the case in Spain, facilitating transfer (B. Martinez Martinez, pers. comm., 2024). It was also considered that the pest could survive in fruit waste from winter to spring and transfer.

***Citrus* plants for planting with fruit** or **with soil/growing media** have been identified as potential pathways for eggs, larval stages and pupae (Grousset *et al*., 2016). Although import of *Citrus* plants for planting is prohibited in several EPPO countries (e.g. in Azerbaijan, the EU, United Kingdom), this is not the case for all EPPO countries (e.g. in the Eurasian Economic Union; EEC, 2016). *Citrus* plants for planting for ornamental or fruit production could be traded with fruit or soil/growing media.

Soil/growing media as such has been identified as a potential pathway for pupae (EFSA, 2021; 2023; Grousset *et al*., 2016; NVWA, 2020), in particular if infected plants were previously grown or composted in it. However, such import from China is prohibited in several EPPO countries (e.g. for the EU, United Kingdom). The Panel considered that such soil/growing media for professional use was a very unlikely pathway for entry at international level.

Used vehicles and machinery, with soil/growing media attached, has also been identified as a possible pathway (EFSA, 2021; Grousset *et al*., 2016; NVWA, 2020). However, in several EPPO countries (e.g. EU countries) import requirements already exist for soil attached to machinery (EFSA, 2021). Considering the lack of strong evidence of association, the Panel considered it was a very unlikely pathway for entry at international level.

Establishment

Plants at risk in the PRA area:

In the EPPO region, *Citrus* production is mainly located in the Mediterranean countries (Figure 2); 70% of the Euro-Mediterranean *Citrus* fruit production being concentrated in four countries: Spain (27%), Italy (16%), Egypt (15%) and Türkiye (10%) (Siverio *et al*., 2017; citing EPPO, 2020a).

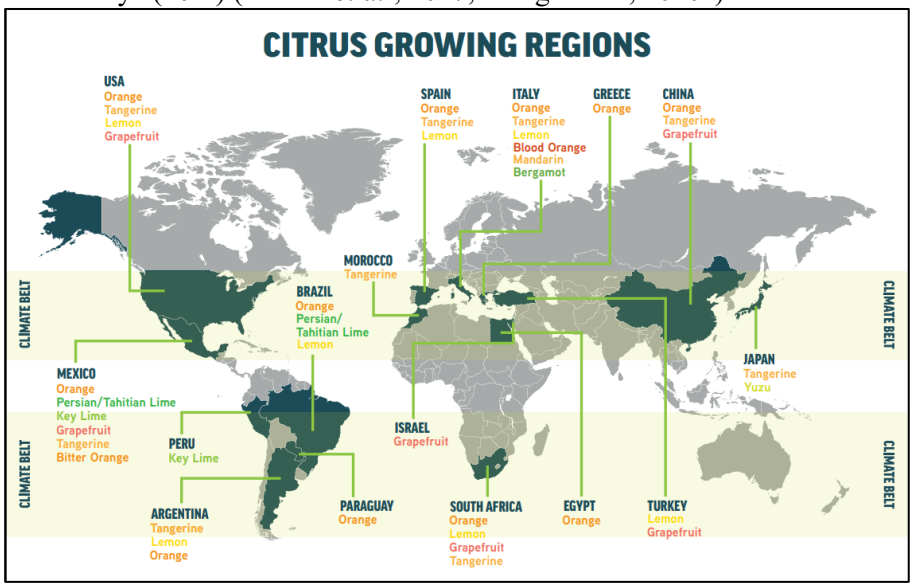

Figure 2. Citrus growing regions (source: treatt.com)

More details on the area of *Citrus* production in the EPPO region are provided in the EPPO PRA for *Gymnandrosoma aurantianum* (EPPO, 2020b).

Climatic similarity of present distribution with PRA area (or parts thereof):

Climates in the citrus-growing areas in China with reports of the pest are mostly temperate. In China, *R. citrifrugis* occurs in areas included in the 8–10 cold-hardiness zones. By analogy, EFSA (2023) considered that in the EU, the pest could occur in the citrus-growing area of e.g. Cyprus, Greece, Italy, Malta, Portugal and Spain, where the same cold-hardiness zones are found and, as a consequence, citrus is grown. The main non-EU EPPO countries producing *Citrus* in the Mediterranean area are also included in the same zones, e.g. Algeria, Egypt, Israel, Morocco, Tunisia, Türkiye (Magarey *et al*., 2008). The use of other methods to assess climatic suitability, such as Köppen-Geiger climate comparison and lower development temperature thresholds, were investigated by EFSA (2023), but were considered to provide misleading results or not being straightforward to interpret. Nevertheless, as the sum of degree day (without thermal threshold, base temperature = 0°C) computed in EU and in citrus-growing areas in China are similar in some regions (cf. Figure 3 below), at least as many generations in the EU (and EPPO) citrus-growing area are expected as in China (EFSA, 2023).

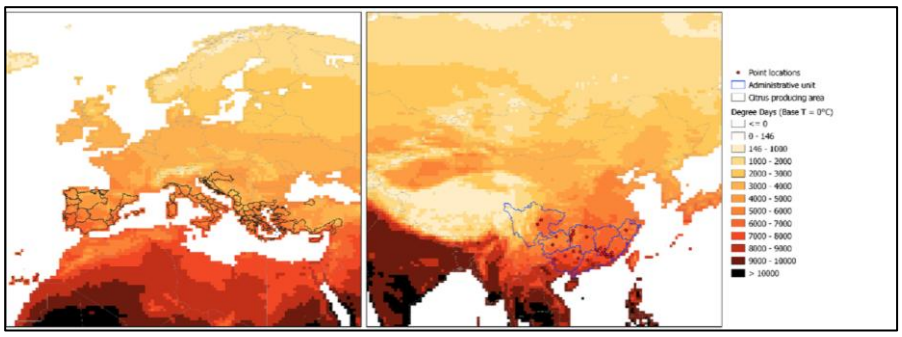

Figure 3: Comparison of sum of degree days (base temperature = 0°C) between the regions with reports of *R. citrifrugis* in China (red dots, right-hand panel) and the EU citrus growing area (left-hand panel) (EFSA, 2023).

Characteristics (other than climatic) of the PRA area that would favour establishment:	Seasonality in imports can play a role (e.g. import is considered in early autumn more favourable for establishment than during winter).
Which part of the PRA area is the area of potential establishment:	The Mediterranean area and Central Asia where *Citrus* is grown, are considered as the areas of potential establishment. However, *Citrus* production is considered more limited in central Asia. The pest has not been reported as a greenhouse pest. NVWA (2020) rated the likelihood of establishment in the Netherlands as 'low' since *Citrus* species were only locally present in glasshouses, at retail outlet and at the consumer place.
Spread	The adults of *R. citrifrugis* are short lived (< 5 days). They have been reported to have limited flight ability (up to 10–15 m per flight, without any wind), mostly aided by air currents (EFSA, 2021; Huang *et al*., 2001. Estimation of less than 1 km/year natural spread in table A2 of EFSA, 2023); whereas Xia *et al*. (2021) and EFSA (2023) refer to possible 'long-range migration', also indicating that no rigorous dispersal studies are available. This species can passively spread over long distances via human assisted spread with the trade of infested fruit, plants for planting (with fruit or soil/growing media), soil/growing media as such, or used vehicles and machinery (with soil/growing media attached).

POTENTIAL ECONOMIC CONSEQUENCES

How much economic impact does the pest have in its present distribution:	*R. citrifrugis* is a major pest of *Citrus* in China, with conflicting laboratory and field studies on reports of host preferences (EFSA, 2023; Xia *et al*., 2021). Fruit infestation rates of 10–50% were common in the poorly managed groves, with reports of up to 100% (Xia *et al*., 2021). The pest causes serious fruit drop and can affect yield and storage quality, causing economic losses. Yield losses range from 10 to 40% or more (DROPSA, 2016; EFSA, 2021). The quality of the fruit is affected (see damage in the samples received by the Dutch NPPO; NVWA, 2020). Control programs are implemented in China, including application of plant protection products to the soil surface and tree canopies, fruit bagging and cultural control (EFSA, 2021).
Describe damage to potential hosts in PRA area:	Similar damage to that observed by the Dutch NPPO on imported fruit are foreseen: samples showed brown circular spots and exit holes on the skin (i.e. exocarp and mesocarp), tunnels in the white mesocarp turning dark brown, and discoloration of fruit flesh. In one interception, about 25 live larvae were observed (NVWA, 2020), but several hundred larvae can be observed in a single fruit (EFSA, 2023). Other damage (e.g. fruit drop) are described in the previous section.
How much economic impact would the pest have in the PRA area:	*R. citrifrugis* has the potential to cause economic impacts in *Citrus* growing countries of the Mediterranean area. In the EPPO region, Türkiye (249 000 tonnes), Israël (149 000 tonnes) and Tunisia (109 000 tonnes) are within the 12 leading world producers of grapefruit/pummelo (TRIDGE, 2021). The pest would affect yield (e.g. causing fruit drop) and quality. In an assessment for the continental US, it was concluded that when fruit-infesting cecidomyiid flies are not among the important pests of *Citrus* in an area, *R. citrifrugis* may require control measures in addition to those already in place (EFSA, 2023). In Spain, there are no-records on Cecidomyiidae flies occurring in *Citrus* orchards as pests, and it is also considered to be the case for the EPPO region.

Aphidoletes aphidimyza and *Feltiella acarisuga*, are present in *Citrus* crops as beneficial insects and useful for IPM, consequently insecticide treatments are currently not used against Cecidomyiidae flies in *Citrus* orchards in Spain (B. Martinez Martinez, pers. comm., 2025). This conclusion, used for the impact assessment in the EU, is also considered valid for the rest of the EPPO region. Uncertainties are noted in the section 'degree of uncertainty'.

The establishment of *R. citrifrugis* in the EPPO area could have a negative impact on trade, because the pest has a quarantine status in countries such as the USA and Mexico (NVWA, 2020).

In areas where outdoor populations are present, the pests may enter greenhouses and potentially cause damage. However, *Citrus* fruit production under greenhouse does not occur in Spain, and occurs mostly in countries with suboptimal conditions e.g. as is the case for lemon in Uzbekistan and Tajikistan (EastFruit, 2024).

The pest could trigger treatments in citrus groves and impact citrus plants in residential properties, causing potential environmental impact (CDFA, 2022).

CONCLUSIONS OF PEST RISK ASSESSMENT

Summarize the major factors that influence the acceptability of the risk from this pest:

Estimate the probability of entry:

All the PRAs identified *Citrus* fruit as the main pathway for entry. Volume of import for *Citrus* fruit from China is high and clear association has been shown with this pathway in the EU with multiple interceptions reported. However, transfer from this pathway is somehow limited: EFSA (2023) elicited the median probability of transfer from one disaggregated batch of *Citrus* fruits to suitable hosts at about 0.1% (90%-uncertainty range between 0 and 2.9%).
Overall, the probability of entry is assessed to be moderate with a high uncertainty (transfer, *Citrus* species presenting a risk at entry).

Estimate the probability of establishment:

Due to the lack of data on *R. citrifrugis*, on exact distribution and on temperature requirements (EFSA, 2023), there is uncertainty about the exact area of potential establishment in the EPPO region. Given the availability of suitable hosts and the climatic suitability of the Mediterranean area, the likelihood of establishment of *R. citrifrugis* outdoors in this area is considered to be very high with low uncertainty.

Estimate the magnitude of spread:

EFSA (2023) considered that after a lag period for the population to build up, the median spread rate by natural means (flying), due to transport of harvested *Citrus* fruit from orchards to packinghouses and due to the marketing of fruits would be about 100 km/year (90%-uncertainty interval between about 40 and 500 km/year). Although natural spread is limited (estimated as being less than 1km/year when there is only one generation per year because each midge would live maximum 5 days; EFSA, 2023), the rate of spread with fruit transportation is estimated to be very high with a low uncertainty.

Estimate the potential economic impact:

R. citrifrugis has the potential to cause economic impact in *Citrus* growing countries of the Mediterranean area. EFSA (2023) elicited the median impact of *R. citrifrugis* in the EU *Citrus*-growing area as the proportion of infested *Citrus* fruit among the harvested (i.e. harvestable) *Citrus* fruit. It was estimated at about 10% (90%-uncertainty range between about 2% and 25%). With an average price of 698.67 USD per tonne over the past five years, a 10% yield loss equates to an annual loss of 763,909,569 USD, based on the EU's average fruit production of 10,933,768 tonnes per year during the same period (B. Martinez Martinez, pers. comm., 2025). The Panel highlighted that

this was a roughly estimate: percentage of potential yield loss may vary across different areas within the EPPO region, and in some cases infested fruit might go to juice production with a lower price. Considering the estimated proportion of infested fruits, the economic value of the crop and its significance in the area of potential establishment of the pest, impact is expected to be high on *Citrus* cultivated in the EPPO region with a moderate uncertainty (see uncertainties noted in the impact section).

Degree of uncertainty

Although *R. citrifrugis* is a major pest, there are large knowledge gaps and uncertainty about its biology (Xia *et al*., 2021; EFSA, 2023), in particular about:

- the host range within the *Citrus* genus,
- climatic requirements for the pests: this has consequences on the delimitation of the endangered area, and on the effect of the *Citrus* fruit harvesting season in EPPO (mainly winter, which is most probably the less suitable season for the pest),
- host preference for different *Citrus* species,
- natural dispersal capacity,

EFSA (2023) also noted uncertainties in differences of potential yield loss between fresh fruit and juice production.

The lack of a proper description of *R. citrifrugis* should also be noted but this was not considered as affecting the PRAs studied.

OVERALL CONCLUSIONS

R. citrifrugis meets all the criteria to qualify as a quarantine pest. In particular, this pest is absent from the EPPO region and could cause significant damage on *Citrus* crops if it were to be introduced. The pest would be difficult to eradicate or contain if introduced (fruits is a difficult pathway to regulate after introduction). It poses a risk to the EPPO region and risk management options should be considered.

STAGE 3: PEST RISK MANAGEMENT

IDENTIFICATION OF THE PATHWAYS

The pest is feeding on Rutaceae of the genus *Citrus* spp. Interceptions have only been reported on pummelo in the EPPO region. Because of the uncertainty about what the most important *Citrus* species are in terms of pathways, and because several of these species can be hybridized, measures are recommended on all *Citrus* species (and their hybrids).

Pathways studied in the pest risk management

The most important identified pathways for the introduction of *R. citrifrugis* are:

- *Citrus* fruit
- *Citrus* plants for planting with fruit or with soil/growing media

IDENTIFICATION OF POSSIBLE MEASURES

Inspection of consignments would not be fully effective since the pest is small and difficult to detect.

Possible measures for all pathways

- Pest free area (PFA)
- Pest free place/site of production established according to EPPO Standard PM 5/8 *Guidelines on the phytosanitary measure 'Plants grown under physical isolation'*
- Pest-free place/site of production with an appropriate buffer zone
- Systems approach (in the framework of a bilateral agreement) combining measures related to the place/site of production (treatment(s), no signs observed) and measures related to the consignment (inspection) (only for fruit)
- Post harvest treatments (only for fruits, see remarks below)
- Post-entry quarantine (only for plants for planting)
- Import for processing or direct consumption (only for fruit) (in the framework of a bilateral agreement).

Remarks.

- **Treatments:** Cold treatment and irradiation may be used to manage the pest.
  - Efficacy of different **cold treatment** schedules is discussed in EFSA (2023), but there are limitations because of the low number of larvae and pomelo fruit used in the scientific studies. More data should be produced before this is considered as an acceptable standalone option for post-harvest treatment.
  - **Irradiation** at 150 Gy is approved for all Tephritidae by USDA. See also ISPM 28 PT 7. Although, no information is available on the efficacy of this treatment dose against *R. citrifrugis*, USDA has a standard of 400 Gy for irradiation for all insects except Lepidoptera (https://acir.aphis.usda.gov/apex/CIRD_Print_Document_Detail?rowId=a0j3d000000IxjU&Document_Type=Procedures)
- **Trapping:** attraction of *R. citrifrugis* to the essential oils of different *Citrus* species was studied. However, this research did not result in the development of a trap that could be used to detect or monitor this species. Trapping is therefore not part of the requirements for establishing a PFA (see below).

EVALUATION OF THE MEASURES IDENTIFIED IN RELATION TO THE RISKS PRESENTED BY THE PATHWAYS

The trade in the *Citrus* fruit from China is important so impact on trade could be major.

Degree of uncertainty Uncertainties in the management part are:

- Variability in the prevalence in Chinese orchards depending on the host species,
- Detailed protocols for effective post-harvest treatments (cold treatment, lower effective dose than 400 Gy for irradiation),
- Whether the pest oviposits on young green fruit,

- Determination of specified pest levels for an area of low pest prevalence,
- Natural dispersal capacity of adults,
- Effective trapping systems for surveillance.

IDENTIFICATION OF POSSIBLE MEASURES

Pathway	Measures identified for the exporting country
***Citrus* fruit**	Pest free area (PFA) (ISPM 4, ISPM 29) *(see requirements below)* OR Pest-free production site/place for *R. citrifrugis*, established according to EPPO Standard PM 5/8 *Guidelines on the phytosanitary measure 'Plants grown under physical isolation'* OR Pest-free production site/place[1] for *R. citrifrugis* with an appropriate buffer zone (ISPM 10) *(see requirements below)*, OR Appropriate post-harvest treatment by irradiation (ISPM 18)[2], OR Systems approach combining all three of the following measures (in the framework of a bilateral agreement): • Appropriate treatment(s) of the place/site of production to ensure freedom from the specified pest, • Inspection at the place/site of production (with cutting of representative samples of fallen fruits) and absence of the specified pest, • Inspection of the lot prior to export (with cutting of representative samples of fruit) and absence of the specified pest OR Import for processing or direct consumption at specific time of the year (in the framework of a bilateral agreement)
***Citrus* plants for planting (except seeds, tissue culture, pollen)**	Pest free area (PFA) (ISPM 4, ISPM 29) *(see requirements below)* OR Pest-free production site/place for *R. citrifrugis*, established according to EPPO Standard PM 5/8 *Guidelines on the phytosanitary measure 'Plants grown under physical isolation'* OR Pest-free production site/place[1] for *R. citrifrugis* with an appropriate buffer zone (ISPM 10) *(see requirements below)*, OR Plants for planting without soil or growing media attached, and without fruit

	OR Young plants for planting with/without soil or growing media attached (plants too young to fruit) OR Post-entry quarantine (in the framework of a bilateral agreement)

[1]: The choice between pest free place of production and pest free production site is a decision to be taken by the NPPO based on the operational capacities of the producers and biological elements.
[2] More data should be produced before cold treatment is considered as an option for post-harvest treatment (see ISPM 42). Additional post-harvest treatments should be considered if data becomes available for this specific pest.

Requirements for establishing a PFA:
PFAs could be established in areas where the pest has not been recorded. The following conditions should be fulfilled:

- Establish a buffer zone adapted to the flying ability of the pest (i.e. minimum 2 km in conditions where there is one generation a year), the potential existence of natural barriers, and the presence of hosts.
- Establish and maintain the PFA: a general surveillance in the area in the 2 years prior to establishment of the PFA and continued every year may be sufficient. In specific cases, specific surveillance should also be carried out in the zone between the PFA and known infestation to demonstrate pest freedom. The detection surveys to establish and maintain the PFA should be targeted for the pest and should be based on visual examination of fruit with cutting of representative samples e.g. of fallen fruit.
- There should be restrictions on the movement of host material (originating from areas where the pest is known to be present) into the PFA, and into the area surrounding the PFA, especially the area between the PFA and the closest area of known infestation. Movement of soil/growing media (as such, with machinery/vehicles potentially contaminated or with *Citrus* plants for planting) should also be regulated.

Requirements for establishing a pest free production site/place:

- Establish a buffer zone adapted to the flying ability of the pest (e.g. 1 km in conditions where there is one generation a year), the potential existence of natural barriers, and the presence of hosts.
- Examination for absence of signs of the pest on the fruit before harvest at the site/place of production and in the buffer zone should take place under the authority of the NPPO.
- Appropriate treatments of the crop during production.
- Sanitation with the removal of fallen fruit should be mandatory in the site/place of production as well as in the buffer zone.
- Measures to prevent entry of the pest at the place of production/production site with soil/growing media (as such), as contaminant (on machinery, vehicles), or with *Citrus* plants with soil or fruit.

Additional risk management options considered but not retained:

The Panel on Phytosanitary Measures considered system approaches combining area of low pest prevalence (ALPP, ISPM 22) with early fruit bagging and inspection of the lot (cutting fruits) prior to export. A similar system approach was considered effective at preventing fruit fly infestations in citrus fruit imported from China into the US (USDA, 2020).

Such system approaches were not retained by the Panel because of the difficulty to establish an ALPP in absence of effective trapping system (need to cut fruits) and the absence of data on what level of pest presence would be considered acceptable. In the case of USDA, a main difference is that places of production should be approved in advance, allowing to check how the ALPP is established and that the timing of the bagging is early enough to successfully manage the risk with *R. citrifrugis*.

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