

Pest risk assessment made by France on *Metcalfa pruinosa* (Say) considered by France as harmful in French overseas departments of French Guiana, Guadeloupe, Martinique and Réunion¹

Scientific Opinion of the Panel on Plant Health

(Question No EFSA-Q-2006-083)

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PANEL MEMBERS

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SUMMARY

Following a request from the European Commission, the Panel on Plant Health was asked to deliver a scientific opinion on 30 pest risk assessments made by France on organisms which are considered by France as harmful in four French overseas departments, i.e. French Guiana, Guadeloupe, Martinique and Réunion. In particular, the Panel was asked whether these organisms can be considered as harmful organisms for the endangered area of the above departments, in the meaning of the definition mentioned in Article 2.1.(e) of Directive 2000/29/EC and thus potentially eligible for addition to the list of harmful organisms in Directive 2000/29/EC.

This document presents the opinion of the Panel on Plant Health on the full² pest risk assessment conducted by France on *Metcalfa pruinosa* (Say) with French Guiana, Guadeloupe, Martinique and Réunion considered an endangered area.

M. pruinosa (Insecta: Hemiptera: Flatidae), the citrus flatid planthopper or frosted moth-bug, is found on citrus, but also feeds on a wide variety of plant species, including ornamental and tree species traded commercially as hardy ornamental nursery stock. Dense populations of nymphs produce wax and may cause stunting of the shoots, while high densities of adults produce large quantities of honeydew on which sooty mould develops. The organism may reduce the vigour of whole plants, but damage to fruit and flowers on ornamentals or citrus are the main concern, because these can become unmarketable due to cosmetic damage from mould and markings. *M. pruinosa* occurs in Mediterranean areas of Europe, Central and North America.

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² The full pest risk assessments have been made according to the Guidelines for the European and Mediterranean Plant Protection Organisation (EPPO) pest risk assessment scheme in EPPO Standard PM 5/3 (1) (EPPO Bulletin 27, 281-305).

The Panel examined in detail the risk assessment provided, and considered the accuracy and quality of the information provided and methods applied for pest risk assessment purposes. The review was based on the principles of the International Standard on Phytosanitary Measures ISPM No. 11³: Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms (2004) by the International Plant Protection Convention (FAO, 2007).

Many statements in the French document are not referenced or supported by verifiable scientific data. The ratings for the probability of entry, establishment and impact given in the pest risk assessment are difficult to interpret, due to the lack of evidence presented and inconsistent judgments by the assessors. This particularly applies to the potential entry pathways, available strategies to control the pest, and the potential economic impact of the pest in the PRA area⁴.

The conclusion of the French assessment is that *M. pruinosa* qualifies as a quarantine organism for French Guiana, Guadeloupe, Martinique and Réunion. However, the Panel cannot support this conclusion on the basis of the evidence provided in the pest risk assessment.

After seeking additional information, the Panel agrees that the organism can enter and establish in the PRA area. However, the Panel found scarce evidence that the species can cause serious economic impacts once introduced. Negative impacts are not known for large areas where the organism occurs, including regions with similar climates as the PRA area, and in the few areas where they have been reported, they are restricted to temporary effects that occur after the pest has established in the new area.

The Panel, based on the information provided in the document and on additional literature consulted, concludes that *M. pruinosa* is not appropriate for evaluation of pest risk management options for French Guiana, Guadeloupe, Martinique and Réunion and thus is not potentially eligible for addition to the list of harmful organisms in Directive 2000/29/EC.

Key words: French overseas departments, *Metcalfa pruinosa*, pest risk assessment

³ ISPM: International Standard for Phytosanitary Measures. ISPM No. 11: Pest risk analysis for quarantine pests, including analysis of environmental risks and living modified organisms.

⁴ PRA area is the area in relation to which a Pest Risk Analysis is conducted [FAO, 2007a].

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BACKGROUND AS PROVIDED BY THE EUROPEAN COMMISSION⁵

The current Community plant health regime is established by Council Directive 2000/29/EC on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community (OJ L169, 10.7.2000, p. 1), as last amended by Commission Directive 2006/35/EC (OJ L88, 25.3.2006, p. 9).

The Directive lays down, amongst others, the technical phytosanitary provisions to be met by plants and plant products and the control checks to be carried out at the place of origin on plants and plant products destined for the EC or moved within the EC, the list of harmful organisms whose introduction into or spread within the EC is prohibited and the control measures to be carried out at the outer border of the EC on arrival of plants and plant products. A harmful organism is defined in its Article 2.1.(e) as: any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products.

However, the provisions of the Directive are at present not yet applicable to trade in plants and plant products between the French overseas departments and the remainder of the Community. In view of the special nature of the agricultural production of the French overseas departments, additional protective measures justified on grounds of the protection of health and life of plants and plant products therein should be given.

France has therefore prepared for 4 departments (Guadeloupe, Guyana, Martinique and Réunion) 130 pest risk analyses (PRA) on organisms which are considered by France as harmful for the most important crops grown in these departments, such as banana, sugar cane, pine apple, rice, coffee, orchids, Palmae, etc. These PRAs cover a wide range of harmful organisms, such as insects and mites (54), fungi (14), bacteria (20) and virus (42).

In accordance with the discussions on this topic in the meeting of the Standing Committee on Plant Health on 27 and 28 April 2006, it was agreed that in a first phase France would select 30 PRAs among the 130 PRAs initially transmitted. They cover harmful organisms (insects, mites, fungi, bacteria and virus) affecting citrus fruit and bananas grown in the above departments.

Two types of PRA have been made: a full PRA for harmful organisms for which the probability of introduction into the French overseas departments is high with economic important crops and a simplified PRA for organisms for which the probability of introduction is extremely low.

The full PRAs have been made according to the Guidelines for the European and Mediterranean Plant Protection Organisation (EPPO) pest risk assessment scheme in EPPO Standard PM 5/3 (1) (EPPO Bulletin 27, 281-305). This scheme aims at assessing the potential risk of a particular pest (or harmful organism) for a clearly defined area through a quantitative evaluation of that risk based on questions to which replies are given on a 1-9 scale. Expert judgement is used in interpreting the replies. Moreover for each of the 130 harmful organisms a data sheet containing the most important data on the organism has been made according to the EPPO Standard PM 5/1 (1) on Checklist of information required for PRA (EPPO Bulletin 23, 191-198). The guidelines are based on many years experience of EPPO experts in the EPPO Panel on PRA and the EPPO Panel on phytosanitary measures. They conform with the International Standards on Phytosanitary Measures (ISPM) No 11 (Guidelines on PRA for quarantine pests) and use the terms of ISPM No 5 (Glossary of phytosanitary terms).

The simplified PRAs contain in a “synthetic fiche” the information available allowing the assessment of the risk associated with the relevant organism.

⁵ Submitted by the European Commission, ref. SANCO E/1/VE/svi D(2006)510488

TERMS OF REFERENCE AS PROVIDED BY THE EUROPEAN COMMISSION

EFSA is requested, pursuant to Article 29(1) and Article 22(5) of Regulation (EC) No 178/2002, to provide a scientific opinion on 30 PRAs made by France on organisms which are considered by France as harmful in 4 French overseas departments, i.e. Guadeloupe, Guyana, Martinique and Reunion, and in particular whether these organisms can be considered as harmful organisms for the endangered area of the above departments in the meaning of the definition mentioned in Article 2.1.(e) of Directive 2000/29/EC and thus potentially eligible for addition to the list of harmful organisms in Directive 2000/29/EC.

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ASSESSMENT

1. Introduction

This document presents the opinion of the Panel on Plant Health on the pest risk assessment conducted by France on *Metcalfa pruinosa* with French Guiana, Guadeloupe, Martinique and Réunion considered as endangered area.

1.1. General introduction to *Metcalfa pruinosa*

M. pruinosa (Insecta: Hemiptera: Flatidae), the citrus flatid planthopper or frosted moth-bug, feeds on a wide variety of plant species, in addition to citrus. Additional hosts include ornamental and tree species traded commercially as hardy ornamental nursery stock. Dense populations of nymphs produce copious quantities of wax and may cause stunting of the shoots, while high densities of adults produce large quantities of honeydew on which sooty mould develops. The organism may reduce the vigour of whole plants, but damage to fruit and flowers on ornamentals or citrus are the main concern, because these can become unmarketable due to cosmetic damage from mould and markings (CABI, 2001; 2007). *M. pruinosa* occurs in Mediterranean areas of Europe and Central and North America (CABI, 2001; 2007)

1.2. The document under scrutiny

The assessment of risks of the organism in subject is presented by the French risk assessors in a “full” pest risk assessment made according to the Guidelines for the European and Mediterranean Plant Protection Organisation (EPPO) pest risk assessment scheme [EPPO Standard PM 5/3 (1) of the EPPO Bulletin 27, 281-305].

Based on this document France requested *M. pruinosa* to be added to the list of harmful organisms in Directive 2000/29/EC.

1.3. Evaluation procedure

The Panel examined in detail the documents provided, and considered the accuracy and quality of the information provided and methods applied for pest risk assessment purposes. The review was based on the principles of the International Standard on Phytosanitary Measures ISPM No. 11: Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms (2004) by the International Plant Protection Convention (FAO, 2007b).

The evaluation of the French document was conducted on the basis of an English translation from an original submission in French, which remains the reference language.

1.4. General comments on the document

The document comprises 30 pages and is divided into two parts:

- Part I is based upon EPPO standard PM 5/1(1) and provides background information on the biology, distribution, host plants, pathways of introduction, establishment potential, control and impact of the organism. The organisation of the information provided in Part 1 could be considerably improved. Important information is not provided and is completely lacking in several places. Some of the information provided is not relevant to the species in question, and the cross-referencing given is not always correct or relevant.

- Part II consists of a risk assessment based on the EPPO standard PM 5/3 (1) (intermediate version 2003). It was difficult for the Panel to evaluate the accuracy of many of the estimates and ratings in the pest risk assessment, as there is often no justification for the ratings given, and if provided it is occasionally unrelated to the information given in Part 1. The ratings for probability of establishment and economic impact differ throughout the document.

The document includes 47 references. In some areas references are incorrectly cited and interpreted.

The document was compiled in 2003 and therefore new information was reviewed and updated where relevant to the risk assessment. During the preparation of this opinion, the Panel has sought and evaluated publications on *M. pruinosa* in the literature. The large majority of these publications presented results of studies on *M. pruinosa* in Italy. New information found in these papers has been included in this opinion, as well as information obtained from specialists on *M. pruinosa*.

Many issues have not been dealt with in detail, despite the availability of relevant information at the time of conducting the original assessment. Many statements in the French document are not referenced or supported by verifiable scientific data, and as a consequence, important information is insufficiently provided. This particularly applies to: the possible entry pathways, available strategies to control the pest, and the potential economic impact of the pest in the PRA area, where the ratings for the probability of entry and establishment given in the pest risk assessment are difficult to interpret by the Panel given the provision of limited or conflicting information.

The Panel reviewed a translation of the original French document. In cases of doubt concerning the accuracy of the translation, the Panel has referred to the original French text.

1.5. Methodology applied for the risk assessment

The Panel considered the methodology used in the risk assessment provided in Part 2 of the document and concluded that:

- The document does not take into account the new situation in the pest risk assessment area in the absence of the current regulations.
- The probabilities of entry, establishment and spread and the potential impacts (economic, social, environmental) of the pathogen in the pest risk assessment area should be clearly outlined for each of the French overseas departments, due to their specific characteristics related to their geographic location and the differing importance of the host plants in each region.
- Probabilities of entry and establishment, and impacts and an overall risk rating are expressed in qualitative terms such as “low” “moderate” “high” etc. However, the numeric and descriptive ratings used in the document are not explained, and thus do not allow for accurate interpretation.
- A number of the estimates provided in Part 2 cannot be justified or substantiated by the information provided in Part 1 of the document.
- The method of combining risk ratings and ascribing an overall risk rating is not defined and assumes equal weighting to the questions.

2. Evaluation of the pest risk assessment

2.1. Pest categorisation

2.1.1. Identity of pest

M. pruinosa can be readily identified, based on morphological characteristics (CABI, 2001; Caldwell and Martorell, 1951). However, the species cannot be reliably identified on the basis of the descriptive information provided in the French document.

2.1.2. Presence or absence in PRA area

M. pruinosa is not present in the areas of French Guiana, Guadeloupe, Martinique and Réunion under consideration.

2.1.3. Regulatory status in PRA area

The French document states that there is no reference to *M. pruinosa* in the current phytosanitary regulations for the French overseas departments, but states that *M. pruinosa* is listed in Annex A (list of organisms subject to mandatory and permanent control throughout the territory) for Réunion, in the Decree of 31 July 2000, which lists organisms which are harmful to plants, plant products and other objects subject to mandatory control measures.

M. pruinosa is not listed in EU legislation.

2.1.4. Potential for establishment and spread in PRA area

Considering the presence of suitable host plants (including *Citrus* spp.) in the PRA area and the current geographical distribution of the pest in areas with similar climates, the Panel agrees that *M. pruinosa* has a potential for establishment and spread in the PRA area.

2.1.5. Potential for economic consequences in PRA area

M. pruinosa feeds on a wide range of host plants and has been reported as damaging in some areas of its distribution, for example in Italy (Duso, 1984). Although these effects are noted to have been temporary, they indicate a potential for economic consequences in the PRA area.

2.1.6. Conclusion of pest categorisation

M. pruinosa is a distinct species, is absent from the PRA area and has the potential for establishment and spread and a potential for economic consequences in the PRA area.

2.2. Assessment of the probability of introduction and spread

2.2.1. Probability of entry of the pest

2.2.1.1. Identification of pathways

The French document identifies a) planting material of citrus or other fruit species b) ornamental plants in pots or for planting and c) cut flowers and foliage, and mentions tourists importing ornamental plants but provides no ranking of pathways or quantification of imports. Windborne dispersal is not included in the French document but the Panel identified this as an

additional potential pathway, because insects can disperse over hundreds of kilometres (Compton, 2002). This is of particular importance in the Caribbean for Martinique and Guadeloupe, as *M. pruinosa* is known to be present in neighbouring Caribbean islands such as Cuba (CABI, 2007). Only the citrus planting material and ornamental plants pathways are considered further in the assessment. The fruit pathway is also not included in the assessment, although this was discussed earlier in Part 1 of the document. Citrus planting material from non-EU sources is prohibited by current EC regulations (2000/29/EC) and therefore this is not considered a pathway.

2.2.1.2. Probability of the pest being associated with the pathway at origin

M. pruinosa is widely distributed in Europe and the French document notes in Part 1 that since it was first found in 1979 in Italy (Zangheri and Donadini, 1980), it is now rapidly invading all of Italy's neighbours: the south of France, north-eastern Spain (Catalonia), Switzerland, Sicily, Slovenia, and so on. This is important new information and references should be provided. Since the preparation of the French risk assessment, the Panel confirmed that *M. pruinosa* has been reported from Austria (Kahrer, 2005), Bulgaria (Trenchev *et al.*, 2006), the Czech Republic (Lauterer and Malenovsky, 2005), Greece (Drosopoulos *et al.*, 2004); and Serbia and Montenegro (Glavendekic *et al.*, 2005). The CABI Crop Protection Compendium (2007) does not list new countries with respect to the version of 2001 which was used for the pest risk assessment. The Metcalf and Bruner (1948) reference cited in the French document was not found in the list of references in Part 1 of the document.

No information is provided about interceptions of the organism in the PRA area to assist in assessing the probability of entry. The pattern of international trade is considered in the French document as not relevant due to too many host plants. Although the Panel agrees that *M. pruinosa* is highly polyphagous, it considers it very important to know the nature and quantity of host plant material moving into the PRA area in order to determine the probability of unintentional introduction of the organism. This is particularly the case as *M. pruinosa* is present and widespread in many areas of Central and North America. Additional information about pathways was obtained from the French assessments on other organisms including *Brevipalpus* spp. from which it was determined that almost half of the citrus fruit (for consumption) imported to Guadeloupe and Martinique comes from Cuba, where *M. pruinosa* occurs.

Little information is provided to substantiate the ratings given in the document. However, the widespread distribution and polyphagous nature of the pest suggest that *M. pruinosa* can be associated with the pathways identified, including plants for planting, ornamental plants and fruit. Similarly, the Panel cannot evaluate the estimate for concentration of pest on pathway at origin as likely to be high as no information is provided about pathways and phytosanitary measures.

2.2.1.3. Probability of survival during transport or storage

The French document states that *M. pruinosa* can survive during transport. This statement is justified by a reference to Part 1 of the assessment. However, this section does not provide any information that can substantiate the positive response given. However, the Panel agrees that life stages of the pest are likely to survive transport and storage.

2.2.1.4. Probability of pest surviving existing pest management procedures

In the absence of the current French regulations, import of citrus plants for planting is prohibited from non-EU countries under Council Directive 2000/29/EC, reducing the

probability of entry of *M. pruinosa* on this pathway. Movement of citrus planting material within the EU is subject to inspection procedures (plant passporting).

All life stages of *M. pruinosa* can be present on plant material. Although eggs are not likely to be detected, adult and larval stages are conspicuous and are likely to be detected, except at low pest densities. Similarly adult and larval stages may be found on the outside of the citrus fruit but are easily detected and unlikely to survive routine packinghouse procedures (washing, waxing, grading) (CABI, 2001), thus reducing the probability of entry via the fruit pathway. However, local citrus fruit movements from one Caribbean island to another may not necessarily undergo these procedures.

For citrus fruit, the removal of peduncles and leaves as required under Council Directive 2000/29/EC will further minimise the probability of entry on fruit.

2.2.1.5. Probability of transfer to a suitable host

The Panel agrees with the high rating given for planting material and ornamental plants, as transfer to a suitable host is assured, given the polyphagous feeding habits of the pest and the widespread presence of suitable host plants in the PRA area.

2.2.1.6. Conclusion on the probability of entry

The Panel agrees with the French document which rates the probability of entry as “moderate” with the ornamental pathway representing the most likely pathway. The Panel judges the probability of entry on the fresh fruit pathway to be low and moderate for citrus plant material in the absence of the current regulations.

2.2.2. Probability of establishment

2.2.2.1. Availability of suitable hosts, alternate hosts and vectors in the PRA area

The area of citrus production is reported as 301 ha in Réunion, 1100 ha in French Guiana, 327 ha in Martinique and 360ha in Guadeloupe (Agreste, 2007a, b and c). In Réunion, the closely related *Murraya paniculata* (L) Jacq., is widely used as ornamental plant as well as in hedges. Citrus are grown in family gardens in the French overseas departments for household consumption. In 2006 family gardens occupied 1080 ha in Martinique, 615 ha in Guadeloupe and 2890 ha in Réunion (Agreste, 2007a, b and c).

The Panel agrees that due to the wide host range of *M. pruinosa*, there might be suitable alternative host plants in the PRA area. However, no information is provided to support the alleged likelihood that wild tropical plants are significant for the dispersal or maintenance of populations of the pest organism.

Additional information about the presence and suitability of *M. pruinosa* host plants would be needed to judge the rating (“very likely”).

2.2.2.2. Suitability of environment

The Panel agrees that the area of the French overseas departments can be considered “very similar” based on climatic similarity with areas where the organism already occurs.

2.2.2.3. Cultural practices and control measures

The document does not provide any information on current pest management strategies employed in citrus cultivation in the PRA area, but the Panel considers it unlikely that measures undertaken in commercial citrus would prevent establishment of the pest.

2.2.2.4. Other characteristics of the pest affecting the probability of establishment

Regarding the reproductive strategy of the pest and duration of life cycle, no specific data are presented and thus the estimate that these would “fairly likely” contribute to establishment is difficult to judge. The Panel suggests a lower rating would be more appropriate, because the species produces a relatively small number of eggs (ca. 60) and has a long life cycle (about 1 year) (Lucchi and Santini, 1993; d’Arcier *et al.*, 2001).

A high score is given for adaptability of the pest, but this is not supported by any evidence. The remark that the organism might develop into a strain with more than one generation per year is very speculative and is not supported by evidence.

2.2.2.5. Conclusion on the probability of establishment

The French document states that the probability of establishment is “high”. Taking into account the information provided in Part 1 of the assessment and the responses in the establishment section, the Panel agrees with this rating.

2.2.3. Probability of spread after establishment

The potential for spread is not analysed in detail in the assessment. Natural spread of *M. pruinosa* is stated as likely to occur rapidly and spread by human assistance considered to occur very rapidly. Based on the broad host range of *M. pruinosa*, and the widespread presence of both citrus and additional host plants in the PRA area, these high ratings may be justified.

2.2.4. Conclusion on probability of introduction and spread

The French document concludes that the probability of entry is “moderate”, the probability of establishment is high and spread after establishment is rapid. Although supported by very limited information, after taking into account additional information, the Panel agrees with this conclusion.

2.3. Assessment of potential economic consequences

2.3.1. Direct pest effects

2.3.1.1. Crop quality and/or yield losses

Dense populations of nymphs produce wax and may cause stunting of the shoots, while high densities of adults produce large quantities of honeydew on which sooty mould develops. The organism may reduce the vigour of whole plants, but damage to fruit and flowers on ornamentals or citrus are the main concern, because these can become unmarketable due to cosmetic damage from mould and markings.

The Panel agrees with the assessment which states that in most cases the damage caused is aesthetic, due to copious wax and honeydew production. Very few publications provide

information on economic damage. Ciampolini *et al.* (1987) found 30-40% crop loss on soya bean in Italy in 1986.

In the USA, the organism seldom causes economic damage to most plants except to those weakened by some other factor such as freeze damage (Mead, 2004). In Bulgaria, Italy, France and Spain, where the organism created concern shortly after its arrival and establishment, it is now no longer considered of economic importance (Alma *et al.*, 2005; Girolami and Mazzon, 1999; Pellizzari and Vacante, 2005; Trenchev *et al.*, 2006). In Greece, the organism was first found in 2001 (Drosopoulos *et al.*, 2004) and may cause damage, in which case chemical control is applied (Souliotis *et al.*, 2008; Navrozidis *et al.*, 2008).

The assessment includes speculation regarding the role of *M. pruinosa* in vectoring diseases: the information about the presence of phytoplasmas in the organism presented under this heading is conflicting. The organism is not reported as a vector of pathogens.

Based on the limited information on *M. pruinosa* (see reference list in the background information, part 1 of the document and the references added to this opinion), the Panel disagrees with the high rating given in the document concerning direct effects on yield and quality in the PRA area. The Panel considers that a much lower rating would be appropriate, because in the few countries from where limited yield or economic data are available (Italy, Greece), *M. pruinosa* caused only temporary effects (Frilli *et al.*, 2001; Mazzon *et al.*, 2003). As only temporary effects have been observed after introduction and establishment of *M. pruinosa* in new areas, the Panel believes that potential impacts will be more limited than estimated in the assessment.

There are very few reports about economic damage in its existing distribution range. The few reports are limited to Mediterranean countries (mainly Italy, see e.g. Duso, 1984) and whilst an economic impact was noted in the first years following introduction into a new area, damage or impact is temporary. The organism is not considered of economic importance in areas with climate similar to the French overseas departments, such as Central America and several Caribbean islands. Thus, the Panel suggests that the rating “important” is too high.

There is no information provided in the assessment on the effect on producer profits. Consequently, the Panel cannot judge the estimate that such an effect would be “likely”. However, based on data presented in Part 1 of the document which confirms that citrus production in the French overseas departments is mainly intended for the local market and the requirements concerning the appearance of the fruit are less strict than for international trade, the score seems to be too high.

As the document provides no information on the effect of the pest on consumer demand, the Panel cannot properly judge the estimate given. However, based on data presented in Part 1 of the French document suggesting that the aesthetic damage caused by *M. pruinosa* may be expected to have a relatively low impact on the local market for citrus fruits, the score is judged to be too high.

2.3.1.2. Control measures and their efficacy

The French document suggests that natural enemies already present in the PRA area, are unlikely to affect populations of the pest, but acknowledges that exotic natural enemies may be successful. However, no information about potential native natural enemies is provided. There are no reports of *M. pruinosa* as a pest in Cuba, or other Caribbean Islands, where it has been present for many years (CABI, 2001), which may be attributed to the presence of natural enemies. The Panel considers that biological control (i.e. control by either native or imported natural enemies) is likely to be successful under the climatic conditions present in the French overseas departments. The Panel does not agree with the comments which suggest that the pest

is controlled “with difficulty”, as the effective natural control observed in Cuba and the successful classical biological control in Italy (Frilli *et al.*, 2001; Mazzon *et al.*, 2003) and France (Waligora, 2003) suggest that biological control is a realistic option.

The information relating to costs of control does not address the topic. The general remarks about biological control are speculative, because classical biological control can be two orders of magnitude cheaper than chemical control and does not take more time to develop and implement than chemical control (Bale *et al.*, 2008).

Chemical control has also been effective against *M. pruinosa* in some areas of its current distribution (d’Arcier *et al.*, 2001; Kahrer, 2005).

2.3.2. Indirect pest effects

2.3.2.1. Export markets

M. pruinosa is unlikely to affect export markets as citrus is produced for local consumption in the PRA area.

2.3.2.2. Impacts on other sectors

The French document suggests that there may be economic effects for beekeepers due to bees using *M. pruinosa* honeydew, but indicates that there may be both positive and negative impacts if the organism establishes itself in new areas (Lucchi, 1997). The Panel acknowledges that beekeeping is practised on several Caribbean islands (McLaren, 2005). It remains, however, unclear what the effects might be for the PRA area as no information about beekeeping and honey production is provided.

Undesirable side effects are identified which relate to honey production, and potential negative effects on biodiversity and the environment are not mentioned. The Internet reference given in the document⁶ does not give any information about biodiversity or beekeeping. It is difficult to evaluate the negative effect on beekeeping of chemical control as no information on the economics of beekeeping in the PRA area is provided.

2.3.2.3. Social consequences

The document does not address any potential social consequences as a result of the establishment of *M. pruinosa* in the PRA area but then states that social effects are quite important, indicating that damage occurring in private gardens is considered within social effects. The Panel considers this comment to be unsubstantiated by any data.

2.3.2.4. Environmental consequences

The document does not analyse potential environmental consequences, yet gives a high rating. The statement in the document that the species’ polyphagous nature suggests that it may be able to harm ecosystems in the PRA area is speculative and conflicts with information provided under the final evaluation. As *M. pruinosa* feeds on many plant species, the impact on biodiversity is expected to be dispersed. The high rating is not substantiated with supporting evidence and in the absence of evidence the Panel notes that there is uncertainty relating to the potential environmental consequences.

⁶ <http://www.acta.asso.fr/cr/cr0007.htm>, page not available anymore.

2.3.3. Conclusion of the assessment of economic consequences

The document concludes that the economic consequences as a result of the introduction of *M. pruinosa* into the PRA area would be serious, but this estimate is not supported by the limited information provided in the document. The conclusion of the assessment appears to contradict statements made earlier in the assessment which indicate that the aesthetic damage caused by *M. pruinosa* may be expected to have a relatively low impact on the local market for citrus fruit. The Panel, therefore, consider the economic impact of the pest in the PRA area to be over-rated, based on (1) the very few reports on economic consequences in the area of the pest's current distribution, (2) the fact that only transient economic consequences are documented for Italy in the period shortly after introduction of the organism (e.g. Duso, 1984), and (3) that no economic consequences are known for other, large areas where the organism occurs, including regions with a climate similar to that of the PRA area.

2.4. Comments on the conclusion of the pest risk assessment

The information provided under the heading "Final evaluation" is unclear and speculative, and several ratings in this section differ from those given earlier in the assessment. This makes it difficult to reliably judge the ratings given here.

The document concludes that *M. pruinosa* should be classified as a quarantine organism for the endangered area of Martinique, Guadeloupe, Réunion and French Guiana.

Although the Panel agrees that *M. pruinosa* can enter and establish in the PRA area, it considers the economic impact to be lower than stated in the French document.

2.4.1. Degree of uncertainty

Uncertainties are not discussed in the assessment. The degree of uncertainty is considered low, as *M. pruinosa* is a well-characterised species. Uncertainties are noted in relation to potential impact on other crops and indirect effects including social and environmental impacts and effects on beekeeping. These uncertainties are not expected to affect the conclusions reached by the Panel.

CONCLUSIONS AND RECOMMENDATIONS

Many statements in the French document are not referenced or supported by verifiable scientific data. The ratings for the probability of entry, establishment and impact given in the pest risk assessment are difficult to interpret, due to the lack of evidence presented and inconsistent judgments by the assessors. This particularly applies to the potential entry pathways, available strategies to control the pest, and the potential economic impact of the pest in the PRA area⁷.

The conclusion of the French assessment is that *M. pruinosa* qualifies as a quarantine organism for French Guiana, Guadeloupe, Martinique and Réunion. However, the Panel cannot support this conclusion on the basis of the evidence provided in the pest risk assessment.

After seeking additional information, the Panel agrees that the organism can enter and establish in the PRA area. However, the Panel found scarce evidence that the species can cause serious economic impacts once introduced. Negative impacts are not known for large areas where the organism occurs, including regions with similar climates as the PRA area, and in the few areas

⁷ PRA area is the area in relation to which a Pest Risk Analysis is conducted [FAO, 2007a].

where they have been reported, they are restricted to temporary effects that occur after the pest has established in the new area.

The Panel, based on the information provided in the document and on additional literature consulted, concludes that *M. pruinosa* is not appropriate for evaluation of pest risk management options for French Guiana, Guadeloupe, Martinique and Réunion and thus is not potentially eligible for addition to the list of harmful organisms in Directive 2000/29/EC.

DOCUMENTATION PROVIDED TO EFSA

1. Letter, dated 14 July 2006 with ref. SANCO E/1/VE/svi D(2006) 510488 from P. Testori Coggi to C. Geslain-Lanéelle.
2. Analyse du Risque Phytosanitaire AGR –a3 : *Metcalfa pruinosa*. Rédaction : S. Quilici / CIRAD – Août 2003.

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