



About this issue

This is a single article issue of eConnection to advise on the developing resistance situation with neonicotinoids and *Myzus persicae* in stone fruit in Southern France, Northern Spain and the Emilia-Romagna region of Italy. IRAC presents the results from a survey in these areas and provides important resistance management recommendations.

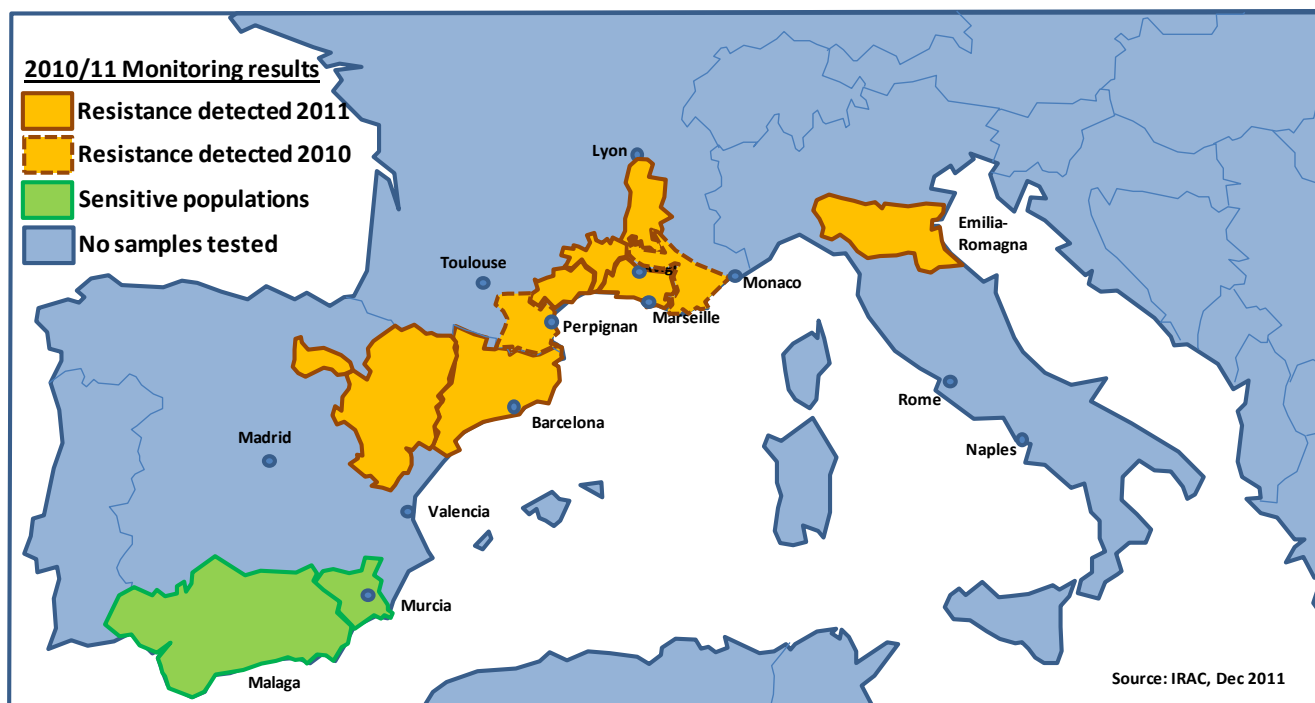
Update on green peach aphid resistance to neonicotinoids

In March 2011, IRAC issued a ‘resistance alert’ to inform of the discovery of neonicotinoid resistant green peach aphid (*Myzus persicae*) in the peach orchards of southern France and north-eastern Spain. To gain further insights into the distribution and potential impact of these aphids, collaboration between IRAC and Rothamsted Research was established to collect green peach aphid samples from stone fruit orchards and other crops in Southern Europe and determine their resistance status. The resistance is based on a target-site mutation which strongly affects neonicotinoid efficacy. Individuals of all samples collected were analyzed for the mutation by molecular diagnostics. A total of 93 populations were sampled from peaches and nectarines in 3 countries (22 in Italy, 57 in Spain and 14 in France).

Results:

The results of the survey confirm the presence of neonicotinoid-resistant aphids in many of the stone fruit orchards of southern France and North East Spain as well in the Emilia-Romagna region of Italy. The surveys have yet to identify any resistant aphids in other crops.

Map of the region showing areas where target site resistance to neonicotinoids was detected in *Myzus persicae* collected from stone fruit orchards in 2010 and 2011.



Recommendations

IRAC have worked with local agricultural ministry officials, and entomological experts from Spain, France, Italy and the UK, to provide the following advice for the 2012 season in stone fruits, notably peaches:

It is recommended that growers in regions where resistance to neonicotinoids has been identified, do not continue to use this group of insecticides*. It is recommended that control of pre-flowering pests in these regions is managed with mineral oils combined with or without insecticides of a different mode of action (note that pyrethroids in some areas are also affected by resistance). Where no loss of performance to neonicotinoids has been experienced, it is recommended to use a maximum of one neonicotinoid application per crop cycle against *Myzus persicae* to minimise the further spread and intensification of the resistance and maintain effectiveness of the neonicotinoids. Depending on crop and country and local guidelines, this single spray may be pre-flowering (e.g. Spain) or post-flowering (e.g. France) or a single spray at some point, except at flowering, during the whole crop cycle, fitting with local IPM recommendations (e.g. Italy).

As an alternative it is recommended to use other aphicides, according to local registrations, with a different mode of action not affected by resistance**; as shown in the examples below:

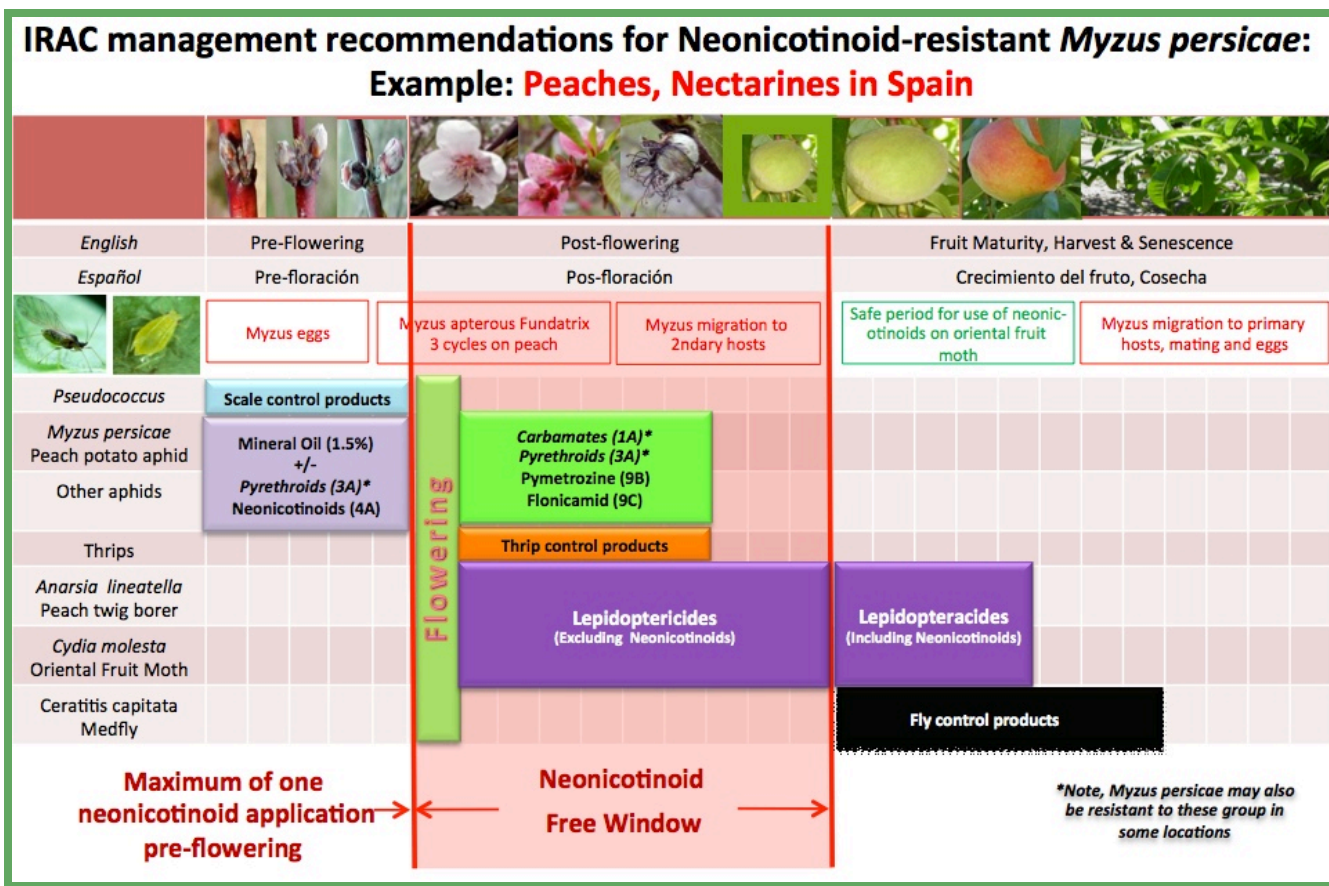
*Consult local advisors for advice on which aphicides are affected by resistance in your locality.

** See IRAC guidelines on *Myzus persicae* resistance management on the IRAC website

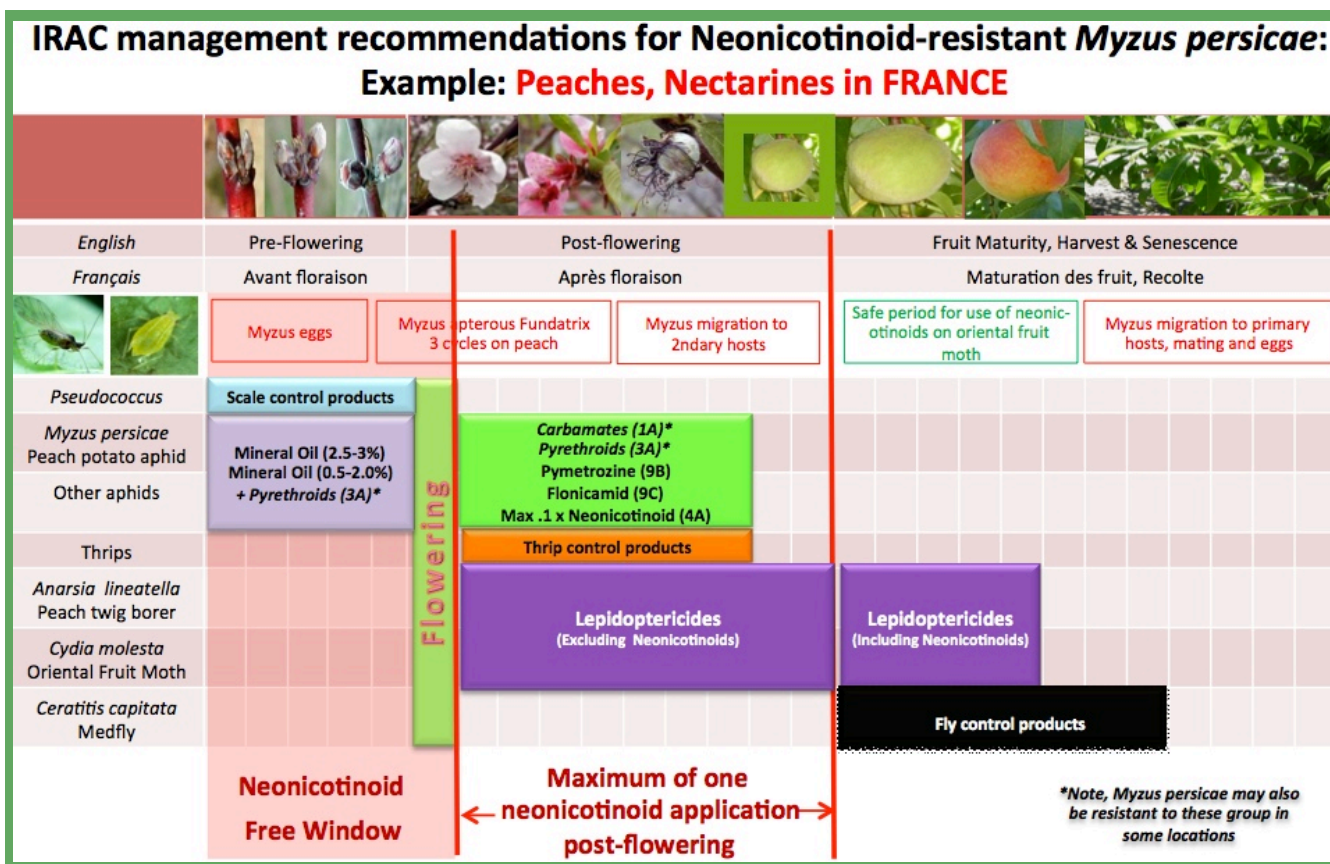
Acknowledgements:

Many thanks to representatives of Rothamsted Research, University of Piacenza, Italy, University of Cartagena, Spain, Chamber of Agriculture in Catalunya and Aragon in Spain and DRAAF, Toulouse, France and the IRAC Sucking Pest Working group for inputs into these IRM recommendations.

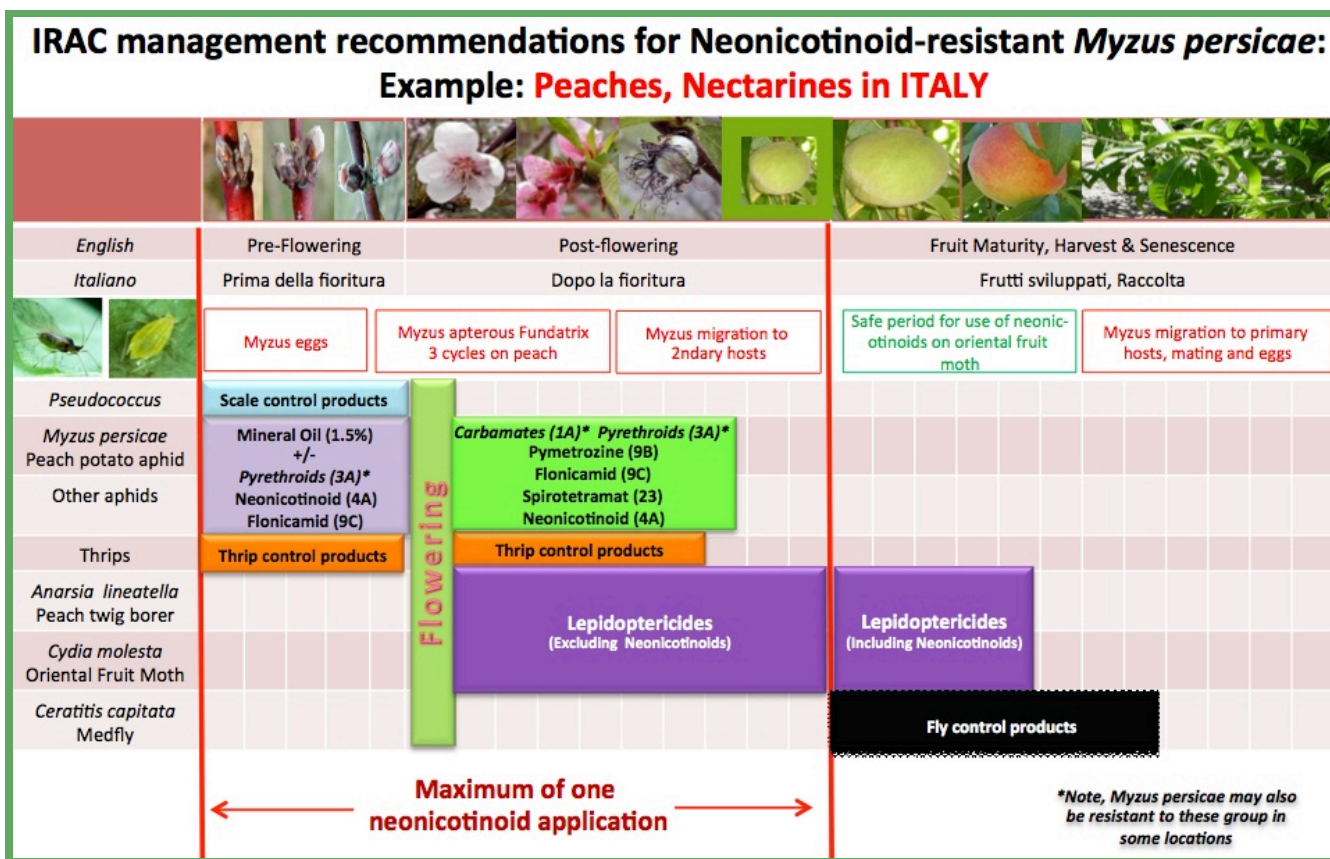
Example 1:



Example 2:



Example 3:





Feedback

The eConnection is prepared by the IRAC International Communication & Education Working Group and supported by the 15 member companies of the IRAC Executive. If you have information for inclusion in the next issue of eConnection or feedback on this issue please email aporter@intraspin.com

Disclaimer

The Insecticide Resistance Action Committee (IRAC) is a specialist technical group of CropLife. Information presented in this newsletter is accurate to the best of our knowledge but IRAC and its member companies cannot accept responsibility for how this information is used or interpreted. Advice should always be sought from local experts or advisors and health and safety recommendations followed.

Further Information

- The eConnection is the newsletter of IRAC International.
- Subscription is free via the IRAC website
- Editor is Alan Porter, IRAC Coordinator
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