

IDENTIFICATION OF APHIDS ATTACKING STRAWBERRIES IN BELGIUM

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INTRODUCTION

Several aphid species are considered as strawberry pest. A long list of species is known on strawberries, but the main problems are related to a limited number of species, as *Acyrtosiphon rogersii*, *Aphis gossypii*, *Aulacorthum solani*, *Chaetosiphon fragaefolii*, *Macrosiphum euphorbiae* and *Myzus persicae* (Sterk & Meesters, 1997, Robbe, 2001, Marrec *et al.*, 2002, Trouve *et al.*, 2002). *Rhodobium porosum* has also be mentioned in France in 2002 (Trotin-Caudal, 2002). In 2003, strawberry producers of the South part of Belgium have encountered severe aphid problems despite of repeated applications with pirimicarb, lambda-cyhalothrine and bifenthrine, the three insecticide registered in Belgium to control aphids in strawberries. A possible resistance to insecticide of one or more aphid stawberry species was suspected and as little information was available on species encountered, an identification program was initiated in 2004 to identify aphid species and especially those than cannot be successfully controlled by insecticides, in order to adapt chemical control methods and/or develop alternative aphid control programmes.

MATERIAL AND METHODS

Samples were taken in April by C. Mellin and A. Robbe from the GFW asbl (Walloon strawberry producers association) from producers located in Wallonia that have declared to encountered aphid problems.

RESULTS AND DISCUSSION

A total of 23 samples were analysed and 7 aphid species were identified. They are listed in Table 1. All these species were previously found by cited authors, except *Macrosiphum rosae* that was found in one sample, but only in small numbers. Most of these aphid infestation were solved by classical insecticide application, except all the samples containing *R. porosum*. There was a clear relation between infestation by *R. porosum* and insecticide inefficacy reports. Furthermore, repeated application of pirimicarb, bifenthrine and lambda-cyhalothrine have probably eliminated all aphid natural enemies as parasitic wasp, ladybirds, syrphids or lacewings and allow this aphid to reach high population levels. Several trials realised in 2004 showed that it was possible to increase insecticide efficacy by changing application techniques, moving from classical spray equipment to atomizer that allow to reach aphids protected in the heart of plants (Mellin, 2005). However, even with these techniques, efficacy of registered products was low compare to

other aphid species and not sufficient to eradicate this pest, indicating a possible genetic resistance or insensitivity of *R. porosum* to actual insecticides.

Table 1. List of aphid species identified in strawberry producers in the Walloon area of Belgium in 2005

<i>Acyrtosiphon rogersii</i> (THEOBALD) (syn= <i>Acyrtosiphon pelargonii</i>)
<i>Aphis gossypii</i> group
<i>Chaetosiphon fragaefolii</i> (COCKERELL)
<i>Macrosiphum euphorbiae</i> (THOMAS)
<i>Macrosiphum rosae</i> (L.)
<i>Myzus persicae</i> (SULZER)
<i>Rhodobium porosum</i> (SANDERSON)

CONCLUSIONS

The identification program has put in evidence the resistance or insensitivity of *R. porosum* to actual insecticides, including pirimicarb and pyrethroids. According to this fact, there is a need to consider this aphid separately from the other strawberry aphids and to develop specific control programmes, including use of new insecticides and/or IPM with the help of beneficial insects.

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