



Program PETAAL: a biocontrol strategy of the sycamore lace bug *Corythucha ciliata* (Say)(Hemiptera: Tingidae) in urban areas

Submitted by Emmanuel Lemoine on Thu, 01/30/2014 - 15:34

Titre Program PETAAL: a biocontrol strategy of the sycamore lace bug *Corythucha ciliata* (Say)(Hemiptera: Tingidae) in urban areas

Type de publication Communication

Type Communication avec actes dans un congrès

Année 2012

Langue Anglais

Date du colloque 2012

Titre du colloque 2nd Symposium on Horticulture in Europe

Titre des actes ou de la revue Book of abstracts

Pagination p. - 176

Auteur Verfaille, Thibaut [1], Piron, Mireille [2], Gutleben, Caroline [3], Jaloux, Bruno [4], Hecker, Christian [5], Maury-Robert, Anne [6], Chapin, Eric [7], Clément, Alain [8]

Pays France

Ville Angers

Mots-clés Biological [9], Chrysoperla [10], *Corythucha* [11], colour [12], entomopathogenous [13], foliar [14], Plane [15], urban [16]

The sycamore lace bug, *Corythucha ciliata* (Say) has been identified as one of the main pests in green spaces of France and Mediterranean countries, causing aesthetic damages on plane trees and public nuisances (honeydew production, house invasions, etc.). In a context where regulation and environmental issues are in favour of new environmentally friendly solutions' development, a biological control strategy against this pest is expected by professional as a major innovation. This is the aim of the PETAAL Program (2008-2012) labelled by Vegepolys, the international plant cluster, and involving six partners from biocontrol industry, scientific and technical community. During this four-year project, the potential efficiency of several biocontrol agents has been tested in laboratory assays and experimental trials, carried out in several French cities. Entomopathogenous nematodes of the *Steinerneima* gender were tested at different seasons, different doses and with the addition of an adjuvant or not. Trials with the generalist predatory insect, *Chrysoperla lucasina*, were carried out to identify the best period of application, stages to be applied, doses and its predation potential and dispersal capacity in the trees. Observations and monitoring of the pest activity, such as the wintering adults' migration from trunk to leaves and the pest dynamics in the foliage, were done upstream from the different experiments. As a tool for the experiments, a colour image analysis software package has been developed in order to measure quantitatively foliar bleaching due to the sycamore lace bug as an indicator of the treatments' efficacy. The interest of this tool is the possibility to analyse automatically a large amount of plane tree's leaves pictures, producing accurate, reliable, repeatable and non-subjective quantitative measurements. This tool, built up with a data capture bench and software, is already operational and usable in routine by non-specialists of picture analysis. The results of the assays and experiments showed the interest to use entomopathogenous nematodes for controlling wintering and summer sycamore lace bug populations, and *Chrysoperla lucasina* for controlling spring larvae population. Moreover, they highlight that spraying conditions and intervention planning are key factors to guarantee the efficiency of biocontrol agents. In 2011, a global strategy combining the biocontrol agents has been implemented in order to propose an affordable and efficient solution. The PETAAL Program was a large-scale experience of biocontrol research actions in green spaces. It has enabled to describe components and steps of a global strategy to control sycamore lace bug populations with three biocontrol agents. The conclusions of the project enabled to provide to green spaces managers technical responses (alternative products and tools) and new perspectives for a safety management of urban trees in order to reduce the use of pesticides in urban areas.

Résumé en
anglais

Notes

Date du colloque : 07/2012

URL de la
notice

<http://okina.univ-angers.fr/publications/ua1871> [17]

Lien vers
le
document
en ligne

http://www.dgg-online.org/tagungsbaende/Tagungsband_47SHE_2012.pdf#page=176
[18]

Liens

[1] [http://okina.univ-angers.fr/publications?f\[author\]=2465](http://okina.univ-angers.fr/publications?f[author]=2465)

[2] [http://okina.univ-angers.fr/publications?f\[author\]=2466](http://okina.univ-angers.fr/publications?f[author]=2466)

[3] [http://okina.univ-angers.fr/publications?f\[author\]=2467](http://okina.univ-angers.fr/publications?f[author]=2467)

[4] [http://okina.univ-angers.fr/publications?f\[author\]=2468](http://okina.univ-angers.fr/publications?f[author]=2468)

[5] [http://okina.univ-angers.fr/publications?f\[author\]=2469](http://okina.univ-angers.fr/publications?f[author]=2469)

[6] [http://okina.univ-angers.fr/publications?f\[author\]=2470](http://okina.univ-angers.fr/publications?f[author]=2470)

[7] [http://okina.univ-angers.fr/publications?f\[author\]=2471](http://okina.univ-angers.fr/publications?f[author]=2471)

[8] <http://okina.univ-angers.fr/alain.clement/publications>

- [9] [http://okina.univ-angers.fr/publications?f\[keyword\]=212](http://okina.univ-angers.fr/publications?f[keyword]=212)
- [10] [http://okina.univ-angers.fr/publications?f\[keyword\]=4584](http://okina.univ-angers.fr/publications?f[keyword]=4584)
- [11] [http://okina.univ-angers.fr/publications?f\[keyword\]=4585](http://okina.univ-angers.fr/publications?f[keyword]=4585)
- [12] [http://okina.univ-angers.fr/publications?f\[keyword\]=4586](http://okina.univ-angers.fr/publications?f[keyword]=4586)
- [13] [http://okina.univ-angers.fr/publications?f\[keyword\]=4587](http://okina.univ-angers.fr/publications?f[keyword]=4587)
- [14] [http://okina.univ-angers.fr/publications?f\[keyword\]=4588](http://okina.univ-angers.fr/publications?f[keyword]=4588)
- [15] [http://okina.univ-angers.fr/publications?f\[keyword\]=4589](http://okina.univ-angers.fr/publications?f[keyword]=4589)
- [16] [http://okina.univ-angers.fr/publications?f\[keyword\]=4590](http://okina.univ-angers.fr/publications?f[keyword]=4590)
- [17] <http://okina.univ-angers.fr/publications/ua1871>
- [18] http://www.dgg-online.org/tagungsbaende/Tagungsband_47SHE_2012.pdf#page=176

Publié sur *Okina* (<http://okina.univ-angers.fr>)