Estimating the economic effects of *Ophraella communa* on common ragweed pollen risks in South-Eastern France

R. Mouttet[1], M. Bonini[2], B. Chauvel[3], E. Gachet[4], T. Le Bourgeois[5], H. Müller-Schärer[6], M. Thibaudon[7], U. Schaffner[8]

[1]*Anses, Montferrier-sur-Lez, France*; [2]*Department of Medical Prevention, Local Health Authority Milano Città Metropolitana, Parabiago (MI), Italy*; [3]*INRA, Dijon, France*; [4]*Anses, Angers, France*; [5]*Cirad, Montpellier, France*; [6]*University of Fribourg, Fribourg, Switzerland*; [7]*RNSA, Brussieu, France*; [8]*CABI, Delémont, Switzerland*

Common ragweed, *Ambrosia artemisiifolia* L. (Asteraceae) is an invasive weed of North American origin that is widespread on other continents, including Asia, Australia and Europe. In Europe, its economic impacts were recently estimated to amount several billion Euros annually. In 2013, the ragweed leaf beetle *Ophraella communa*, which is native to North America and used as biological control agent of *Ambrosia artemisiifolia* in China, was detected at various sites in southern Switzerland and northern Italy. At sites where the beetle was present, up to 100% of the plants were attacked with damage levels high enough to completely defoliate and prevent flowering and seed set of most ragweed plants. Pollen monitoring studies in the Milano area revealed that since the establishment of *O. communa* ragweed pollen concentrations have dropped by approximately 80%. In the frame of a mandate by the French Ministries of Health, Agriculture and Environment, a working group was put together by the French agency for food, environmental and occupational health and safety (Anses) in order to assess both the potential risks and benefits of an establishment of *O. communa* in France. Capitalizing on a unique data set on the number of days with a ragweed pollen risk of > 3 (threshold of pollen concentration at which 100% of sensitive people express symptoms) and on the economic impacts of ragweed pollen in the Rhône-Alpes region in south-eastern France, we extrapolated the results of pollen concentration reduction observed in northern Italy to compare the potential economic effects of an establishment of *O. communa* in the Rhône-Alpes with the current costs inflicted by common ragweed in this heavily invaded region.

Keywords: *Ophraella communa*, *Ambrosia artemisiifolia* L.

www.alphavisa.com/esa/2016

ESA 2016

6th European Symposium on Aerobiology of the European Aerobiology Society

From 18 to 22 July - Lyon, France

Abstracts book

Program - Abstracts - List of participants and exhibitors

AFEDA

RNSA
RÉSEAU NATIONAL DE SURVEILLANCE AÉROBIOLOGIQUE

UNIVERSITÉ LUMIÈRE LYON 2
UNIVERSITÉ DE LYON

UNIVERSITÉ DE LYON

ONLYLYON