

Ragweed Observatory Letter

Ragweed in the land of our neighbours : Israël



Six ragweed species were detected in Israel in the last 30 years.

Among them, **only one species is considered as invasive exotic : *Ambrosia confertiflora* DC.** (Burr ragweed), which is native from the South West of United States.

A. artemisiifolia L. (common ragweed) and *A. trifida* L. (giant ragweed), are present but are not invasive because of their difficulties to develop under a dry climate in summer. Three others species, rarer, are naturalised in Israel : *A. tenuifolia* Spreng., *A. psilostachya* DC and *A. grayi* A.Nels.⁽¹⁾. A native species exists, *A. maritima* L., but it has not been reported since 1981 and is now considered as an endangered species.

Unlike *A. artemisiifolia*, *A. confertiflora* grows in a mediterranean, arid and semi-arid climate. It is a perennial species and it can reach heights of 3 meters. It develops rapidly, mainly along roadsides, riverbanks and in agricultural areas. Its population in Israël has exploded in 15 years since its discovery in 1990 (Fig. 1). It is mainly located in Hefer valley, but also in Hula valley or in Avdat National Park⁽²⁾. There are now 1120 spots reported of *A. confertiflora* on Israeli territory.

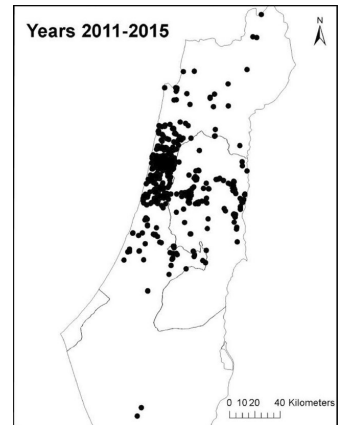


Figure 1 - *A. confertiflora* DC distribution in Israël

Allergy skin Prick tests comparing the four most present ragweed in Israel were realized. **Reactions were three times stronger in *A. confertiflora* pollen than with *A. artemisiifolia* pollen (Fig. 2) !**

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Participants reaction	Number	Proportion (%)
Total number of test participants	163	100
Total number of sensitization reactions	37	22.7
Sensitization reactions to <i>A. confertiflora</i>	28	17.2
Sensitization reactions to <i>A. tenuifolia</i>	13	8
Sensitization reactions to <i>A. artemisiifolia</i> ^a	9	5.5
Sensitization reactions to <i>A. trifida</i> ^a	5	3.1

Figure 2 - Skin tests allergenic reaction results.

A particular vigilance with respect to this species is recommended, the fast pollen dissemination and its allergenic potential present proven risks for public health.

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International Ragweed Day 2019

The International Ragweed Society (IRS) is an international scientific organization that promote the knowledge about ragweed in a purpose of control its invasion in the world.

In 2011, IRS decided that first Saturday of the summer will be the International Ragweed Day. The day was chosen because it is early in the season, the plants are not yet flowering, actions like removing ragweed plants could be programmed. This year, this day was the 22th Of June.

Many events have been organized all over France (more than 70 events). This day is the opportunity to sensitize a large public to ragweed problematic all over the world.

If you want to join the IRS community, please visit the IRS website: internationalragweedsociety.org or the IRS project on ResearchGate : [Join-the-International-Ragweed-Society-lets-talk-about-Ambrosia](https://www.researchgate.net/publication/318111111) and become a member by filling in the [membership form](#).



New mapping of *Ambrosia artemisiifolia* L. across Europe !

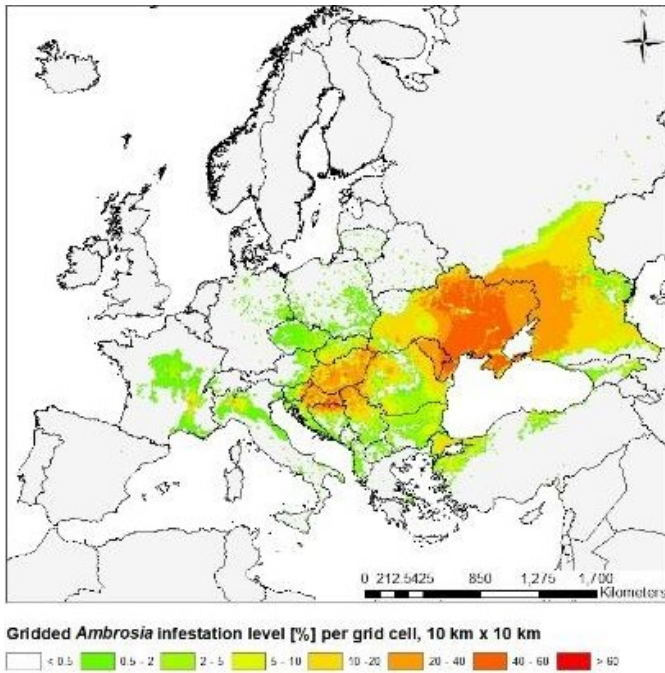


Figure 3 - Ragweed abundance map in Europe—
Skjøth et al. 2019

A team of 7 European scientists published for the first time ever a study⁽³⁾ showing the mapping of *Ambrosia artemisiifolia* L. across Europe. **Two maps of its repartition all over Europe have been created**, with resolutions of 10 km grid and 1 km grid. After validating their model in two countries (Austria and Serbia) the authors extrapolated the model to entire Europe to create the maps. Combining airborne pollen data and land cover types identified as having the potential for ragweed invasion the authors were able to generate inventories of ragweed abundance, even inferring the abundance in places where pollen sensor were absent.

This method has the advantage of being transposable to other anemophilous species, other sampling periods and other region with different land cover.

According to this model, the most heavily invaded regions are the Rhône Valley (France), Northern Italy, the Pannonian plain, parts of Turkey, parts of Russia as well as most of Ukraine.

This model can provide information regarding the effects of climate change on species distribution and it can also help convince decision-makers to set political and administrative actions against invasive species.

Fight against ragweed: what regulation in France ?

There is no specific regulation in Europe about ragweed management. The only official text that mention *Ambrosia* spp. is the Directive 2002/32/EC⁽⁴⁾ on undesirable substances in animal feed. **It says that the maximum content of *Ambrosia* spp. authorised in animal feed materials is 50mg/kg (around 15 seeds).**

Apart from that, each country has to create its own regulation. **In France, the 26th of April 2017, have been published two national texts** (a decree and a ministerial order), both relative to the fight against *A. artemisiifolia* L., *A. trifida* and *A. psilostachya* DC. Those texts have a pedagogic and incentive goal for all the citizens. The order forbid intentional introduction, intentional transport, use, sale or buying for the three ragweed targeted in the decree.

Each French department have to publish its own decree to specify which measures should be set up in to stop ragweed proliferation in their territory. 41 departments have currently published an decree. Some other departments published decrees before the publication of the two national texts in 2017 and they should now update them (See Fig.4).

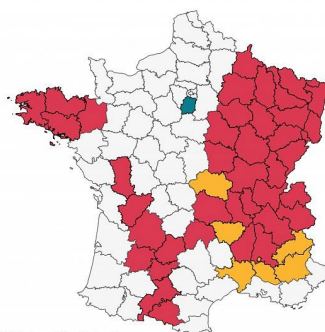


Figure 4 - Map of departments in October 2019 with actualized decrees (in red) and to update decrees (in orange).

Information sources

- (1). **Yair et al. 2018** Ragweed species (*Ambrosia* spp.) in Israel : distribution and allergenicity
- (2). **Yair et al. 2017** Four *Ambrosia* species in Israel : invasive, naturalized and casual alien plants.
- (3). **Skjøth et al. 2019** Predicting abundance of invasive ragweed across Europe using a "top-down" approach.
- (4). **Directive 2002/32/EC of the European parliament and of the council of 7 May 2002 on undesirable substances in animal feed** <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02002L0032-20150227&from=FR>

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The issues of ragweed Observatory letter can be consulted [here](#).

Ambrosia in Europe : Poland

During the international conference **EMAPI 2019 Prague**, the French Ragweed Observatory interviewed some researchers about *Ambrosia* species in their country.

The first person interviewed is from Poland : **Katarzyna Bzdega** Ph.D. Department of Botany and Nature Protection Faculty of Biology and Environmental Protection University of Silesia :

<http://internationalragweedsociety.org/>

