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INTERNATIONAL RAGWEED DAY (IRD) 2020

The **International Ragweed Society**, which proclaimed the first Saturday of the summer to be the IRD, list the events around the world on his website : internationalragweedsociety.org

In **France**, because of the sanitary crisis, there were slightly fewer events than the previous years, but still around **40 different events** were organized throughout the whole territory. In collaboration with the National Centre for Territorial Public Services and the Health Ministry, the French Ragweed Observatory organised a series of webinars every day from June 15th to 30th. They were led by experts in different subjects (RNSA, DGS, INRAE, allergists, etc) and 530 persons did participate online.

In **Belgium**, the Walloon Ragweed Observatory also organized a series of 5 webinars "Know to better manage: *Ambrosia*".



The **Romanian** Society of Allergology and Clinical Immunology also hosted an online presentation entitled: "*Ambrosia* in Southeast Romania - distribution and consequences".

In **Germany**, there was an "Ambrosia action day" in Vetschau, East Germany, on June 20, where citizens were invited to pull out ragweed plants.

This day was chosen because it is early in the growing season of the plant thereby gives enough time for preparations and actions.

SURVEY ON HERBICIDE-TOLERANT VARIETIES (HTVs)

In France, the use of herbicide-tolerant varieties (HTVs) is more and more widespread in agricultural field. The ANSES (French Agency for Food, Environmental and Occupational Health & Safety) has conducted the investigation .

In order to fight against ragweed, the use of synthetic herbicides is commonly used in large agricultural fields. **HTVs are crop varieties that have been developed to be tolerant to a specific herbicide through conventional variety selection or random mutagenesis.** (In France, the cultivation of transgenic HTVs is prohibited). When the herbicides are used, HTVs are not impacted while weeds are eliminated. In 2015, the ANSES has been asked by the Ministry of Ecology, to lead an expertise about the impact of the use of HTVs in France. March 2020, the **Anses opinion & revised REPORT on the use of plant varieties grown in France that have become tolerant to herbicides [1]** has been published.

What is the state of play concerning this varieties in France ?

The two main HTVs used in France are sunflower (27%) and rapeseed corps(2%). Both varieties are tolerant for acetolase synthase (ALS) inhibitors. In areas where ragweed is prolific, HTV sunflower is widely used as in ex-Rhône-Alpes region (more than half of the sunflower cultivated surface is with HTV sunflower). Indeed, the control of ragweed in sunflower crops is difficult because both plants are *Asteraceae*.

What are the risks with the use of HTVs ?

Anses highlights the risks of an increase of the use (quantity and frequency) of herbicides in agricultural fields, witch will led to the development of weed herbicide resistance and the contamination of environments by herbicides.

Anses points out the lack of data available. Indeed, these varieties are not submitted to side effect evaluations before using, showing a lack of traceability and complexifying studies.

Finally, the French agency preconised to lead specific studies on HTVs and to teach farmers on the risk of using herbicides.



ANSES OPINION & revised REPORT on the use of plant varieties grown in France that have become tolerant to herbicides (in French)

APPEARANCE AND DISAPPEARANCE OF *OPHRAELLA COMMUNA* IN EUROPE

Accidentally introduced in Europe in 2013 in the north of Italy, the leaf-beetle *Ophraella communa* was responsible for a great reduction of *Ambrosia* pollen concentration in the air in this region.

A recent study by Schaffner et al. (2020) [2], revealed that some **13.5 million persons in Europe** suffered from *Ambrosia*-induced allergies, causing costs of **7.4 billion € annually**. Their projections showed that using *O. communa* as biological control of *A. artemisiifolia* will reduce the number of patients by 2.3 million and the health costs by Euro 1.1 billion € per year.

However, in 2019 occurs an increase of *Ambrosia* pollens in the air as shown on the Fig1. The hypothesis that was given by experts on the field was that a large amount of *O. communa* disappeared. One of the reason may be an important consumption of *Ambrosia* leaf by the insect the previous years inducing no more suitable habitat for it and its decline. **This would have allowed ragweed to develop well and produce its pollen in the year 2019.** This is too soon to know what will happen in 2020 but we know from experts in the field that many beetles have been seen in the start of the season (see picture beside).



Ophraella communa in Italy (2020)
by H. Mueller-Schaerer

Even so, the insect is spreading in Europe : a study from Zandigiaco et al. (2020) [3] witch began in 2017 showed that **70 new colonized sites in Croatia, Italy and Slovenia have been discovered.**

Only on 4 sites, the insect has been viewed on other *Asteraceae* (*Xanthium italicum* Moret., *Helianthus annuus* L. and *Erigeron canadensis* L.)

Before the insect can be used as a biocontrol agent where it is not present, it is necessary to carry out other host specificity studies.

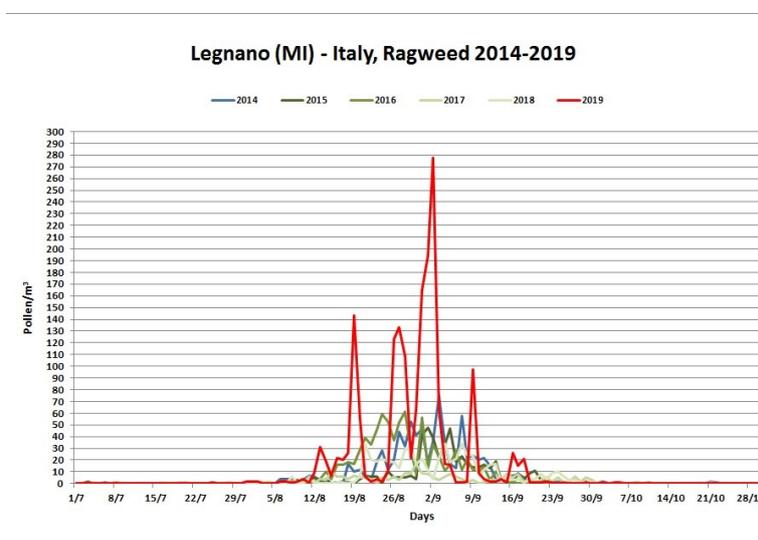


Figure 1 - Evolution of the number of pollen grains/m³ air in the Legnano region (Italy) between 2014 and 2019 - source: Regione Lombardia.
The red curve shows a spectacular increase of pollens for the year 2019 in comparison with the other years

Ambrosia in Europe : Hungary

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

The third person interviewed is from Hungary : **Zoltán Botta-Dukát** D.Sc. From the Centre for Ecological Research, Institute of Ecology and Botany, Vácrátót : <http://internationalragweedsociety.org/>



Sources d'information

- (1) **ANSES OPINION & revised REPORT** on the use of plant varieties grown in France that have become tolerant to herbicides (in French) : <https://www.anses.fr/en/system/files/UPO2015SA0063Ra.pdf>
- (2) **Schaffner U., et al. (2020).** Biological weed control to relieve millions from *Ambrosia* allergies in Europe. Nature Communications **11**:1745
- (3) **Zandigiaco P. et al. (2020).** Occurrence of the non-native species *Ophraella communa* on *Ambrosia artemisiifolia* in north-eastern Italy, with records from Slovenia and Croatia. Bulletin of Insectology **73** (1): 87-94

AGENDA

- **International Ragweed Society (IRS) general assembly and Symposium** - September 14th 2020 - Vodice (Croatia) - The general assembly and symposium of IRS will stand on September 14th, before Neobiota. There will be some presentations about ragweed (during 2-3 hours) : you can find on the [IRS website](#) the [call for abstracts](#) and the [registration form](#). **FREE REGISTRATION**

- **NEOBIOTA congress** : September 15-18th 2020 - Vodice (Croatia) - 11th International Conference on Biological Invasions : The Human Role in Biological Invasions: a case of Dr Jekyll and Mr Hyde? [Website of the congress](#)

- **7th European Symposium on Aerobiology (ESA)** - November 16th to 20th 2020 - Córdoba (Spain) - [Website of the congress](#). A IRS Committee Meeting will take place at this occasion the 16th of November, 2020, 11.30am.

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