



**IRS 2022**

INTERNATIONAL RAGWEED SOCIETY  
CONFERENCE

BUDAPEST, HUNGARY



# How to stop the spread of *Ambrosia* seeds in sowing material (crop seeds) throughout Europe ?

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## THE RAISON D'ETRE THAT IDENTIFIES US

Take good care of the plant world  
for our health and a healthy environment

- **1<sup>st</sup>** network in France of experts for plant, environment and people health
- **89** years of expertise
- **1** national federation
- **70** sites in France
- **400** employees



# WHO ARE WE ?

## OUR MISSIONS 3 field of activities



**VEGETAL HEALTH**



**ENVIRONMENTAL HEALTH**

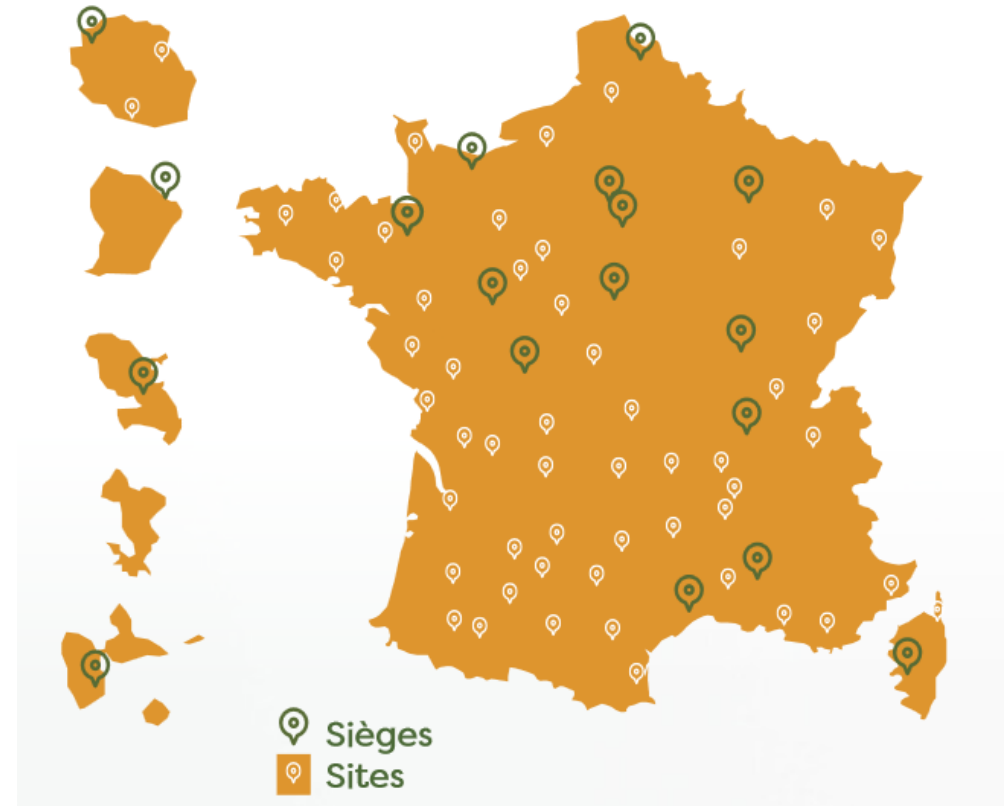


**HUMAN HEALTH**



**One Health  
approach**

# OUR PRESENCE IN FRANCE



# WHO ARE WE ?

French Ministry of



Ragweed Observatory  
FREDON France



**MINISTÈRE  
DE LA SANTÉ  
ET DE LA PRÉVENTION**

*Liberté  
Égalité  
Fraternité*



**FREDON**  
FRANCE



OBSERVATOIRE  
DES  
AMBROISIES

# WHO ARE WE ?

Others ministries



French Ministry of



Ragweed Observatory  
FREDON France



# WHO ARE WE ?

Others ministries



French Ministry of



Ragweed Observatory  
FREDON France



Partners





International movement of  
seed counted for

**8.3 billion USD**

and

**5.3 million metric tons  
of seeds exported in  
2019**

and many additional seed  
exchanges happen for  
research and development  
purposes.

Source :

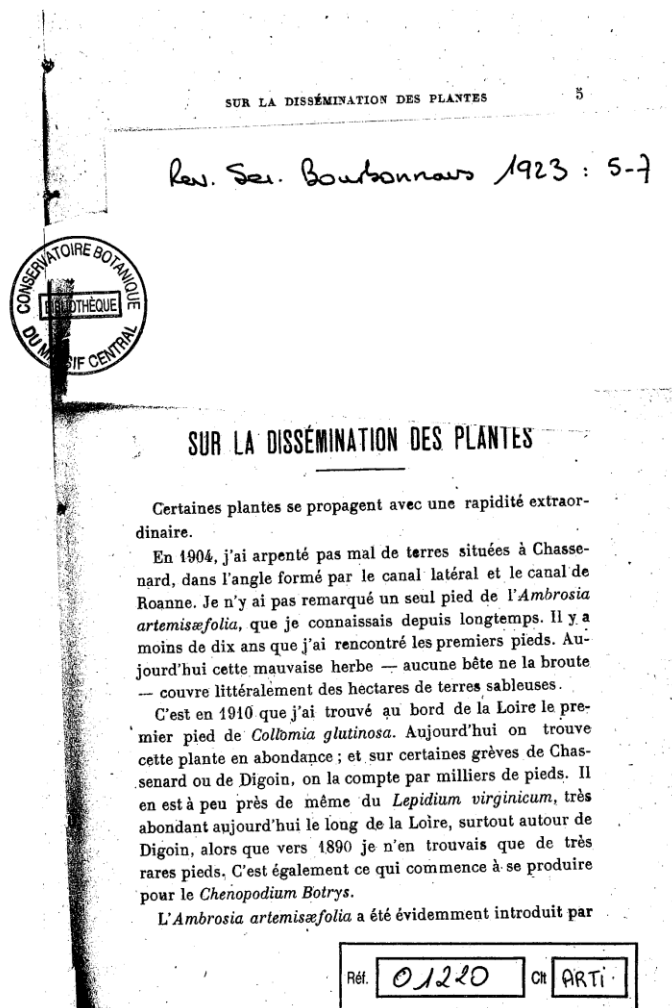
<https://www.worldseed.org/resources/seed-statistics/>



# DISPERSAL OF *AMBROSIA* SEEDS WITH CROP SEEDS: OLD FRENCH REFERENCES



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1923

Ann. Agron, 1929, 176-177  
16<sup>e</sup> année

## LES SEMENCES DES PLANTES ADVENTICES DANS LES CÉRÉALES

PAR  
Louis FRANÇOIS  
DOCTEUR ÈS SCIENCES, CHEF DE TRAVAUX À LA STATION D'ESSAIS DE SEMENCES

(Suite) (1).

I. d. : 63.195.1

### ÉTUDE DES SEMENCES D'IMPORTANCE CAPITALE DANS LA DÉTERMINATION DE LA PROVENANCE

Les semences suivantes doivent retenir tout particulièrement notre attention par suite de l'importance qu'elles présentent dans la détermination de la provenance des échantillons de céréales.

Nous allons, comme précédemment, suivre l'ordre habituel adopté dans les flores, sans revenir sur les caractères généraux des semences, ces caractères ayant déjà été examinés.

Famille des Crucifères.

Deux groupes de semences retiendront ici notre attention : le Vêlar d'Orient (*Erysimum orientale*) et les Rapistres (*Rapistrum*).

1<sup>o</sup> Vêlar d'Orient (*Erysimum orientale*) : graine très foncée d'un brun noir, plus longue que large, saillie radiculaire latérale

(1) Voir ces *Annales*, 45<sup>e</sup> année, 1928, n<sup>o</sup> 6, p. 543 et suiv.

1929

*Ambrosia artemisiæfolia*. — Fruits de couleur foncée, d'un gris noir terne, présentant à peu près au tiers de leur hauteur une couronne de dents épineuses; au delà de cette couronne, la

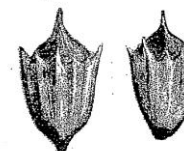


Fig. 35. — *Ambrosia artemisiæfolia* L. gr = 7-8.

semence présente une sorte de dôme terminé par une pointe plus ou moins développée. Longueur totale de la semence : 3 à 4 mm (fig. 35).

Distribution géographique : espèce originaire de l'Amérique du Nord. Observée en Allemagne vers 1863, en France 1870 et répandue largement. Angleterre, Belgique, Hollande, Allemagne, Danemark.



# DISPERSAL OF *AMBROSIA* SEEDS WITH CROP SEEDS



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2006

Journal of  
Biogeography



## The historical spread of *Ambrosia artemisiifolia* L. in France from herbarium records

Bruno Chauvel✉, Fabrice Dessaint, Catherine Cardinal-Legrand, François Bretagnolle

First published: 28 March 2006 | <https://doi.org/10.1111/j.1365-2699.2005.01401.x> | Citations: 146

=> “The study of specimen labels indicates that [*A. artemisiifolia*] has been introduced in France in a seed crops at various independent geographical points and at various times”

Pest Risk Analysis and Pest Risk Assessment for the territory of the Republic of Poland (as PRA area) on *Ambrosia* spp.  
(updated version)

2001

by

dr. Witold Karakowski



2015

Biologia 70/7: 893–904, 2015  
Section Botany  
DOI: 10.1515/biolog-2015-0102

## Reciprocal contamination by invasive plants: analysis of trade exchange between Slovakia and Romania

Peter FERUS<sup>1\*</sup>, Culiță SÎRBU<sup>2</sup>, Pavol ELIÁŠ jr.<sup>3</sup>, Jana KONÔPKOVÁ<sup>1</sup>, Luba ĎURIŠOVÁ<sup>3</sup>, Costel SAMUIL<sup>2</sup> & Adrian OPREA<sup>4</sup>

<sup>1</sup> Mlyňany Arboretum SAS, Institute of Forest Ecology SAS, Vieska nad Žitavou 178, SK-95152 Slepčany, Slovakia; e-mail: peter.ferus@savba.sk

<sup>2</sup> Department of Plant Science, University of Agricultural Sciences and Veterinary Medicine, Mihail Sadoveanu Alley 3, 700490 Iași, Romania

<sup>3</sup> Department of Botany, Slovak Agricultural University, Tr. A. Hlinku 2, SK-94976 Nitra, Slovakia

<sup>4</sup> Botanical Garden, University Alexandru Ioan Cuza, Dumbrava Roșie st. 7-9, 700 487 Iași, Romania

2007

## Exotic weed seeds detected from imported small cereal grains into Japan during 1990s'

Motoaki Asai\*, Shunji Kurokawa\*\*, Norihiro  
Shimizu\*\*\* and Takashi Enomoto\*\*\*\*

2012

Oral session 7 Exploring the routes, pathways and vectors of invasion

## The influence of quantity, quality and distances of seeds dispersed by different vectors on the dynamics of ragweed invasion

G. KARRER, I. MILAKOVIC, F. LENER & M. LEITSCH-VITALOS

Institute of Botany, University of Natural Resources and Life Sciences Vienna, Austria  
Email: gerhard.karrer@boku.ac.at

Etc...

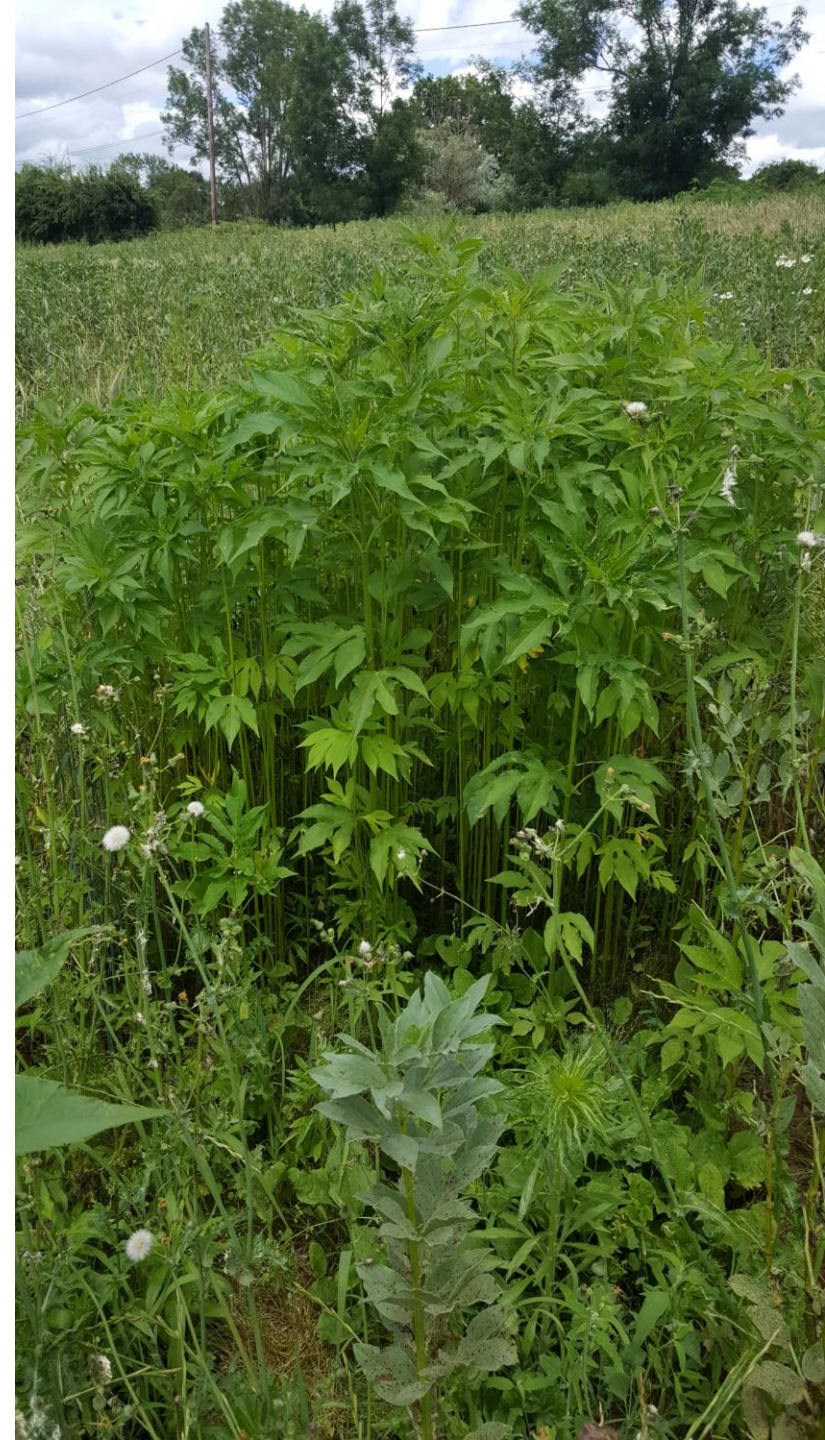


# DISPERSAL OF *AMBROSIA* SEEDS WITH CROP SEEDS

There are documented cases of introduction of ***A. trifida*** into Europe via :

- Seed of **soybean, maize, sunflower** and **sorghum** from North America
- seeds of **grasses** from the Netherlands (most likely the seed was imported into the Netherlands from other regions)
- in imported **flax seed** in Russia

Source : EPPO 2019, Pest Risk Analysis for *Ambrosia trifida* L. (Asteraceae)





# DISPERSAL OF *AMBROSIA* SEEDS WITH CROP SEEDS

Documented cases of introduction of ***A. psilostachya*** into Europe via :

- mixed with seeds that had been imported from Canada in Russia
- Several parts of herbariums also indicate the species near cargo ports where it was probably accidentally introduced with seeds (or with other goods).

Source : ANSES 2017, Opinion and Report on conducting a risk analysis relating to the western ragweed (*Ambrosia psilostachya* DC.) in order to formulate management recommendations



**Is there a regulation to  
prevent this ??**





# An European regulation that concerns *Ambrosia* seeds exists but for products intended for animal feed

17.8.2012

EN

Official Journal of the European Union

L 219/5

## COMMISSION REGULATION (EU) No 744/2012

of 16 August 2012

amending Annexes I and II to Directive 2002/32/EC of the European Parliament and of the Council as regards maximum levels for arsenic, fluorine, lead, mercury, endosulfan, dioxins, *Ambrosia* spp., diclazuril and lasalocid A sodium and action thresholds for dioxins

(Text with EEA relevance)

maximum content =

**50 mg/kg** of animal  
feed

~15 - 30 seeds



Undesirable substance	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
'11. Seeds from <i>Ambrosia</i> spp.	Feed materials <sup>(3)</sup> with the exception of	50
	— Millet (grains of <i>Panicum miliaceum</i> L.) and sorghum (grains of <i>Sorghum bicolor</i> (L) Moench s.l.) not directly fed to animals <sup>(3)</sup> .	200
	Compound feed containing unground grains and seeds.	50'



# EU SEED MARKETING LEGISLATION

- To be marketed freely within the EU, **seeds must comply with EU norms and rules.**
- **Seed marketing Directives** define the **quality standards** that must be met in the field for seed production of agricultural plant species and seed lots. EU countries can only market officially certified seed
- To be certified, seeds must fulfil some criteria and **they shall have sufficient analytical purity and shouldn't exceed a maximum content of seeds of other plant species.**
- **Some unwanted species are completely prohibited** in sowing material (i.e. *Avena fatua*). **But not *Ambrosia spp* !**
- This **regulation is currently reviewed** and could be upgraded with new rules.





# Risk of introduction of herbicide resistance

No regulation relating to the control of the introduction

=> risk of introducing genotypes of *Ambrosia* resistant to herbicides





**We need to do something !  
What do we do ?**





# IRS Letter to European instances on the regulation relative to crop seeds in Europe

- **Object** : Letter to European Commission, European Council and European Parliament on the regulation relative to crop seeds in Europe with the addition of Ambrosia spp. in the list of prohibited species.
- Add your name in signatories !





# Take home messages

- European regulations do not prohibit the presence of *Ambrosia* seeds in sowing material.
- These regulations are currently reviewed and could be upgraded with new rules.
- IRS asked the European instances to adapt the regulation relative to crop seeds in Europe with the addition of *Ambrosia* spp. in the list of prohibited species (zero *Ambrosia* seed allowed in a sample of crop seed).
- **Please contact us if you want to be a part of it (addition of your name in signatories) and send it to the concerned authorities in your country. We have more chances to be heard if a lot of different EU members report this request.**
- This is a first step for Europe : if we succeed, let's go for international regulation !



## AND BY THE WAY...

- Our newsletter in english
- Observatory of high-stake species for human health

=> If you want to be added to the list, just ask me !





ALSO BY THE WAY...

Youtube : “*Ambrosia in Europe*”

[https://www.youtube.com/watch?v=4ZEAYROih4k&list=PLEJX7ly3C1b71QugQj\\_qINwMOPCfvB\\_Z5&index=4](https://www.youtube.com/watch?v=4ZEAYROih4k&list=PLEJX7ly3C1b71QugQj_qINwMOPCfvB_Z5&index=4)

	<b>Ambrosia in Europe : Serbia</b> Observatoire des espèces enjeux santé humaine
	<b>Ambrosia in Europe : Poland</b> Observatoire des espèces enjeux santé humaine
	<b>Ambrosia in Europe : Hungary</b> Observatoire des espèces enjeux santé humaine
	<b>Ambrosia in Europe : Netherlands</b> Observatoire des espèces enjeux santé humaine
	<b>Ambrosia in Europe : Israël</b> Observatoire des espèces enjeux santé humaine
	<b>Ambrosia in Europe - Luxembourg</b> Observatoire des espèces enjeux santé humaine



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**Thank you  
for your attention**



**Follow us !**

Website of French Ragweed Observatory :

**[ambroisie-risque.info](http://ambroisie-risque.info)**

**For any questions :**

**[observatoire.ambroisie@fredon-france.fr](mailto:observatoire.ambroisie@fredon-france.fr)**

