



# Newsletter of the french ragweed observatory

Dear colleague,

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The new version of the newsletter of the french ragweed observatory is a report focusing on scientific news about ragweed. It aims to share information in the scientific community about this plant. If you have any suggestion, please contact us at ambroisie-risque@fredon-france.fr.

We wish you an interesting reading and look forward to receive your reactions!

Have you heard about the International Ragweed Day? It was settled by the International Ragweed Society.

In France, every summer from June 15 to 30, International Ragweed Days take place.

This year, more than 100 events were organized throughout France to inform the general public and professionals about the problems caused by ragweed and to encourage the implementation of control actions.



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### Intraspecific variation in Ambrosia artemisiifolia genome

Hrabovský, M., Kubalová, S., Mičieta, K. et al. Environmental impacts on intraspecific variation in Ambrosia artemisiifolia genome size in Slovakia, Central Europe. Environ Sci Pollut Res 31, 33960–33974 (2024)

This study investigates **DNA** quantity variation in angiosperms influenced by environmental factors, geographic characteristics, and stressors, supporting the idea that air temperature and precipitation may influence genome size, highlighting implications for plant adaptation and evolution under diverse climatic conditions. **Plants grown in colder environments farther from oceanic influences exhibited lower DNA quantities, whereas optimal growth conditions led to greater genome size variability, reflecting reduced selection pressure effects.** 

#### **Ragweed in South America**

Cherrez-Ojeda, I., Robles-Velasco, K., Ramon, G.D. et al. Ragweed in South America: the relevance of aerobiology stations in Latin America. Aerobiologia (2024).

This article details the **spread of** *Ambrosia* **species in South America**, exploring specific characteristics and dynamics shaped by the region's climate and biodiversity.

#### Metal accumulation by Ambrosia artemisiifolia

Laptiev V, Apori SO, Giltrap M, Tian F, Ryzhenko N. Bioaccumulation of Cr, Zn, Pb and Cu in Ambrosia artemisiifolia L. and Erigeron canadensis L. Resources. 2024; 13(3):43.

The study focused on Cr, Cu, Pb, and Zn accumulation in soil and plants near battery production and recycling facilities in Dnipro, Ukraine. Results indicated higher concentrations of Cu and Zn in the studied plants (*Ambrosia artemisiifolia* and *Erigeron canadensis*) compared to Pb, with plants significantly accumulating more metals than surrounding soil, suggesting their potential as phytoremediators in heavy metal-polluted soils.

# Implications of road construction in the spread of *Ambrosia trifida*

Son, D., Chu, Y., & Lee, H. (2024). Roads as conduits for alien plant introduction and dispersal: The amplifying role of road construction in Ambrosia trifida dispersal. Science of The Total Environment, 912, 169109.

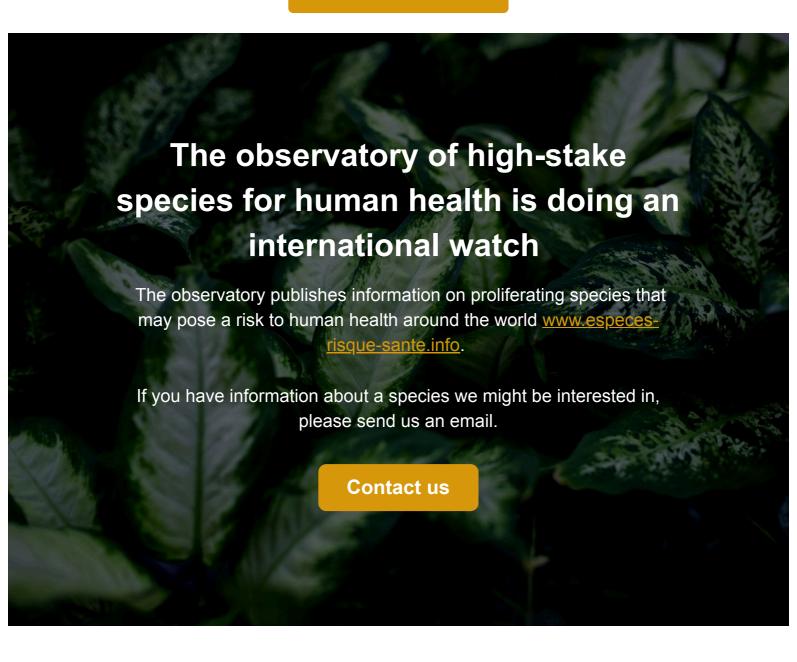
The text discusses how **road construction affects** exotic plant species like **giant ragweed**, which thrives in disturbed soils and spreads readily during and after construction, necessitating **effective management to prevent its spread into nearby natural ecosystems**.

#### Toxic properties of Ambrosia tenuifolia

Segovia-Corrales, E. A., Paredes-Branda, K. N., Benítez-Acuña, J. A., López-Arias, T., Ibarra, P. A., & Meza-Ocampos, G. A. (2024). Effect of Ambrosia tenuifolia Spreng on Danio rerio Embryo and Human Cells. Nat Prod Res, 8(1), 5752-5758.

Native American tribes use *Ambrosia tenuifolia* as a medicinal plant. This study conducted tests on zebrafish embryos to assess if the plant could be toxic. Results showed toxicity at certain doses.

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