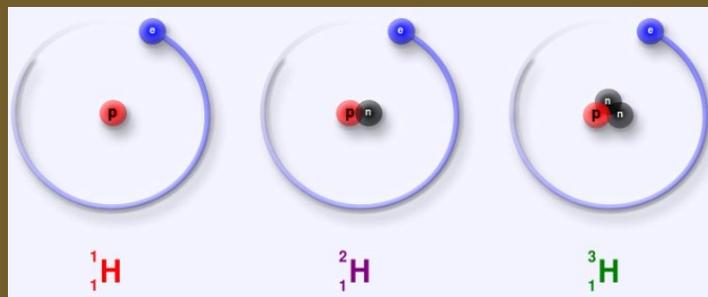


Use of Stable Isotope Ratio Analysis (SIRA) for the identification of invasive species native in alien environments



Funding

Non-competitive funding mechanism. Each funder only pays for the participation of their own national researchers. Total funding € 60 000

Research consortium

Defra (GB), BLT (AT), CREA (IT), APHIS (US), Uorleans (FR)

Contact information

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Goals

To develop Stable Isotope Ratios Analysis (SIRA) as arthropod tree pest determination tool, to be used to obtain reliable information about the origin of exotic pest species. The ability to make this determination could form part of the decision-making process on the actions and measures to be taken, in case of interceptions or outbreaks of non-native species.

Objectives

Sourcing of tree pest specimens, e.g. *Anoplophora glabripennis* (ALB), *Monochamus*, etc. from different geographic regions in sufficient numbers for SIRA and statistical evaluation of the results. A sub-topic will be the combined analysis of insect specimen and host tree wood/bark for the investigation of correlation between their stable isotope patterns.

Key outputs and results

- A preliminary exploration of isotopic signatures for the identification and differentiation of geographic origin of various species. The extent of the exploration will depend on the availability of samples within the project group and this is likely to vary between species. The ability to differentiate between specimens of different geographical origins is also likely to vary between species depending on their climatic range, host trees and landscape utilisation.
- An assessment as to whether the data from one pest can be utilised for another pest with a similar feeding regime. This will depend on the identical host tree species, the specific parts of the tree consumed by the insects and their life cycles.
- Guidelines and recommendations for decision-making based on the data produced.