



Impact of the Western conifer seed bug, *Leptoglossus occidentalis* on major European conifers: Example of *Pinus nigra*

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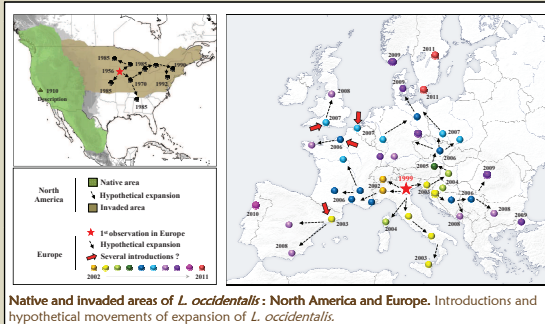
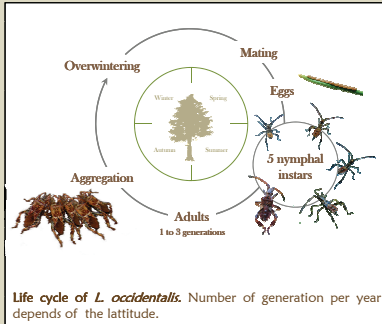
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Impact of the Western conifer seed bug, *Leptoglossus occidentalis* on major European conifers: example of *Pinus nigra*

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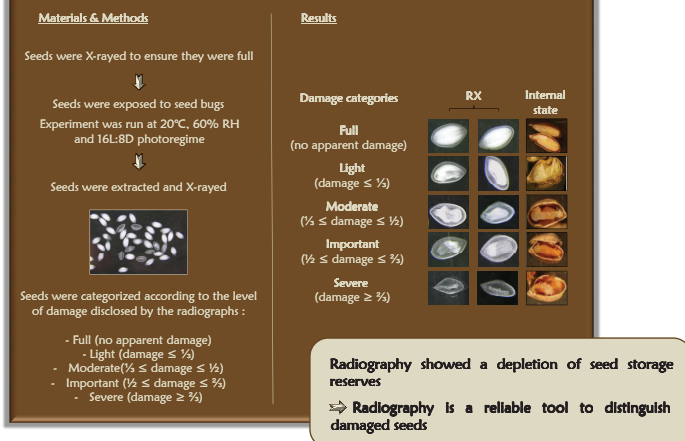
The Western conifer seed bug, *Leptoglossus occidentalis* Heidemann (Heteroptera, Coreidae) is a native insect of Western North America and was introduced in Europe at the end of 1990s. Since its introduction, this species has colonized very quickly a large part of the continent. Considering as an important pest of conifer seeds in its native range, this polyphagous pest is known to feed on several conifer species with a clear reference for Pinaceae. In invaded area, host range is still unclear even if the bug was observed on several European conifer species. Adults and immature conifer seed bugs feed on individual seeds in developing and mature cones. Feeding causes reduction of seed fertility and conelet abortion. This insect appears to be a potential serious threat for both natural regeneration of native conifer forests and seed crops in seed orchards.



Objectives :

- to develop a specific damage category of seed bug
- to test seed germination potential for each damage category
- to compare the effect of feeding by different life stages and sex of seed bugs
- to assess the impact of *L. occidentalis* in French seed orchards

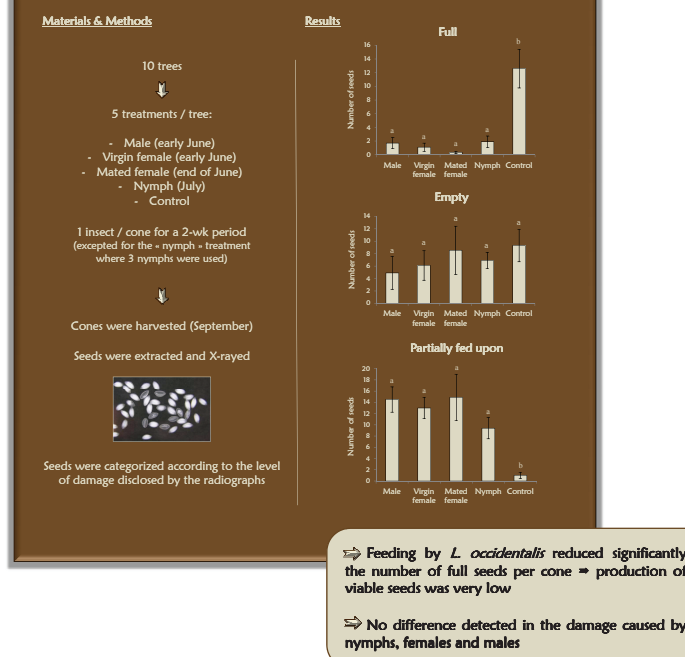
1. Development of a specific damage category of seed bugs on *Pinus nigra*



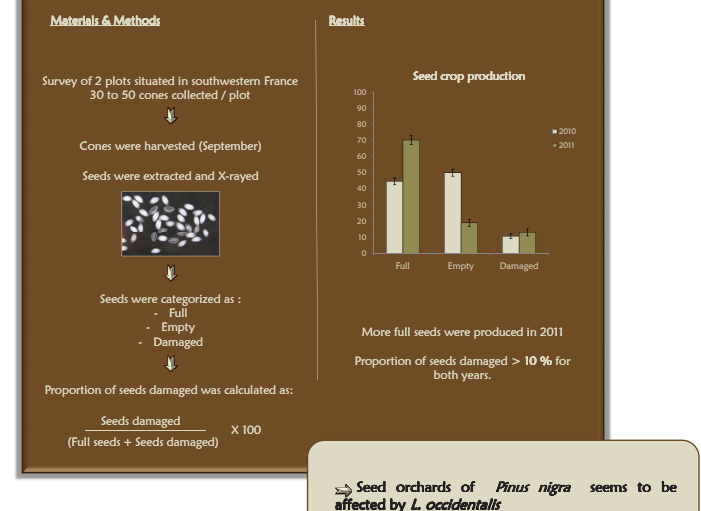
2. Seed germination potential for each damage category



3. Effect of feeding by different life stages and sex of seed bugs on *Pinus nigra*



4. Impact of *L. occidentalis* in French seed orchards.



Germination tests, bagging cone experiments and impact assessments in seed orchards based on the damage categories typology showed that the quantity and quality of seeds were affected by *L. occidentalis* feeding. This demonstrates that this species is now a serious pest for *Pinus nigra*. The impact on seed production of this species must be taken into account in future European forest strategies.