

Ailantex[®] - a new biocontrol product, based on *V. nonalfalae*, to control invasive *Ailanthus altissima*.



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Ailanthus altissima (Tree of Heaven)

– a highly invasive Neophyte

- Abundant in **urban habitats** & along **transportation corridors**
- **Low requirements** on soil fertility
- **Rapid** (juvenile) **growth**
- Formation of **stump sprouts** & **root suckers**
- **Early & abundant fructification**
- **Allelopathic properties**
- **almost no natural antagonists/ insect pests** in Europe



Verticillium nonalfalfae

- **newly described** Verticillium-species (2011)
- soil-borne **wilt pathogen**
- **narrow host range** compared to the more common species *V. dahliae* & *V. albo-atrum* s.s.
- within the species there are **biotypes** with **distinct host specificity** (hop, tree of heaven, tomato, spinach, ...)
- 2011: **virulent strain** obtained from naturally dying *Ailanthus*



Topics to be presented

1. **Effectivity** of the *V. nonalfalfae*-isolate Vert56 on *Ailanthus* on different sites and age classes?
2. **Spread** of the wilt fungus **in the phytocenosis**
3. **Comparison & evaluation** of easy to handle application techniques



2013-07-19



2014-07-24



1a. Effectivity on saplings/ young trees of Ailanthus

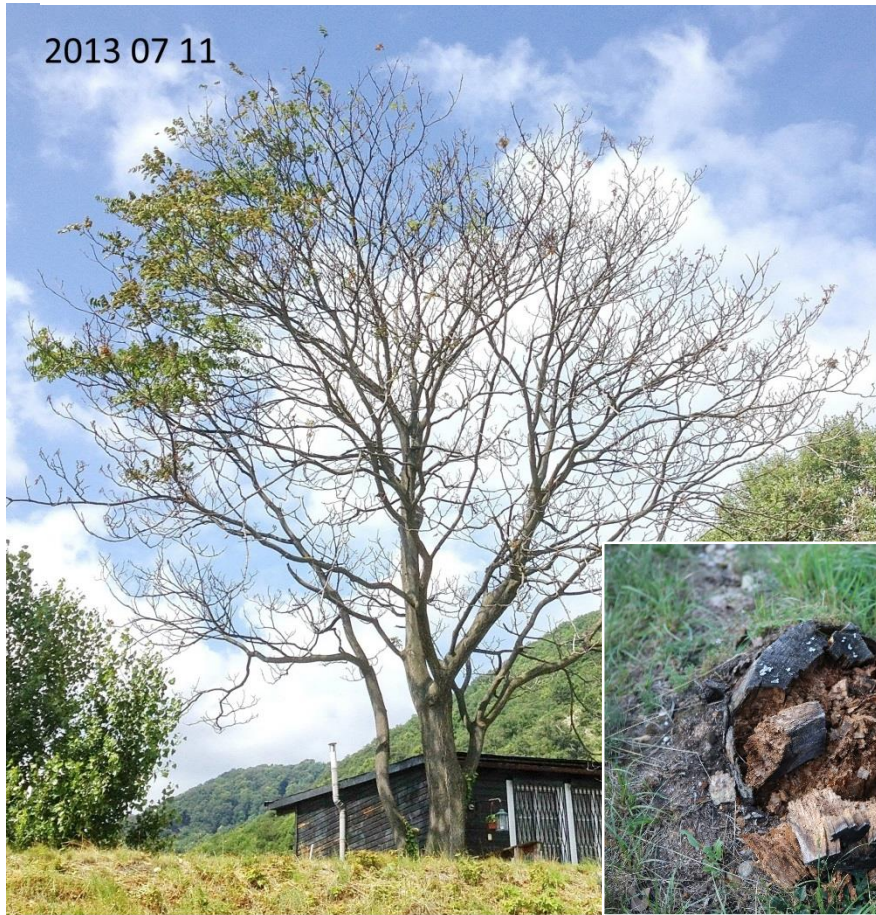
2014-10-13



2019-09-05



1b. Effectivity of the isolate on mature *Ailanthus* trees



3. Application techniques

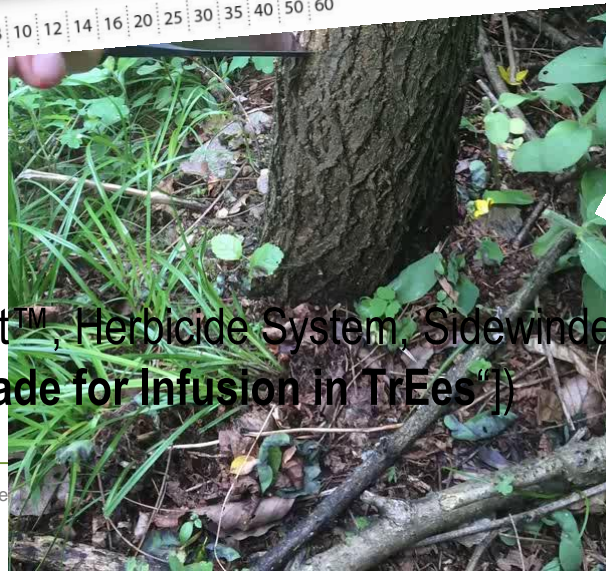
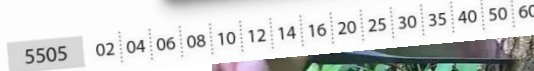
- Easy-to-handle application techniques using
 - **chisel with rounded blade**
 - **mallet**
 - **syringe**
(10 or 20 ml)

(vgl. video clip under: <http://www.ailantex.eu>)

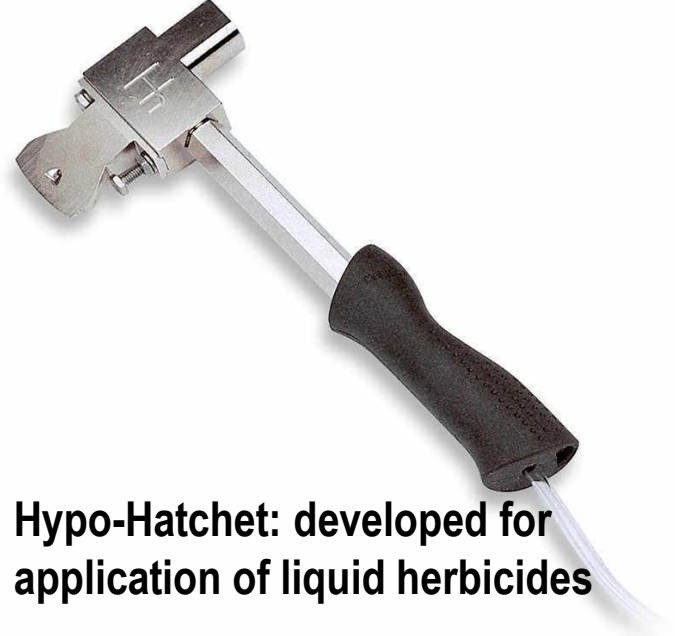
- further application techniques:
Hypo-Hatchet®Tree Injector, **EZ-Ject™**, **Herbicide System**, **Sidewinder Tree Injector**, **Arborjet QUIK-jet Air™** and **BITE [„Blade for Infusion in TrEes“]**



Gerades Hohleisen
Straight Gouge



3. Application techniques



Hypo-Hatchet: developed for application of liquid herbicides

3. Application techniques

A close-up photograph shows a person with long blonde hair in a braid, wearing a dark t-shirt and khaki pants, using a BITE Tree Injector. The person is kneeling and holding the injector against the trunk of a tree. The injector is a long, silver metal tool with a wooden handle. The tree trunk is light-colored with peeling bark. The background is a dense thicket of green and brown vegetation.

**BITE Tree Injector: developed for application of active agents/
products that are transported via the sap flow**

Summary / Recommendations

- new, **biocontrol method** for Ailanthus
- in **2019** available for the first time on the market in Austria under the brand name **Ailantex®**
- **efficient & sustainable** control (leads to dieback of roots!)
- **spread** to neighbouring trees **via root grafts** (in the case of clonal spread of Ailanthus!)
- applicable in **near to nature ecosystems**, near **waterbodies** and in **urban areas** (contains no poisonous substances)!
- **easy-to-manage application techniques** available



The support of the following partners is highly appreciated:



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