LIFE PISA - Innovative eco friendly traps for the control of Pine Lepidoptera in urban and recreational places.

LIFE13 ENV/ES/000504

Project description Environmental issues Beneficiaries Administrative data
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Project description:

Background

The pine processionary (*Thaumetopoea pityocampa*) and pine tree lappet (*Dendrolimus pini*) are moths of the families Thaumetopoeidae and Lasiocampidae. They are abundant species found in pine woods in north, central and southern Europe. Because their larvae, or caterpillars, feed on the needles of pine trees and some other conifer tree species, these species are considered to be a pest. Also caterpillars represent a public health hazard because they have thousands of hairs which contain an urticating, allergenic or irritating protein called thaumetopoein.

In the larval phase, the caterpillars are full of microscopic urticating hairs able to penetrate the epidermis and mucous membranes. The most frequent clinical manifestations are cutaneous, although cases of eye involvement, rhinitis, and even respiratory conditions, anaphylaxis and, in most cases, allergic reactions have been reported. These effects can cause social concerns when the caterpillar moves from the tree to the ground. A huge number of cases of intoxication or allergic reactions occur every year, most of them requiring a visit to the medical centre or hospital.

Fumigants and synthetic pesticides can be used to control these pests, but they are often not suitable for urban places with a limited number of pines (parks, school yards, recreational forest, etc.) due to their potential to cause an allergic or toxic reaction in people, pets and urban wildlife.

Objectives

The project's main objective is to demonstrate an alternative approach to controlling the target pests. Activities will be carried out in four countries (Greece, Italy, Spain and UK) and focus on improving the effectiveness of trapping systems that can be used in a range of urban situations.

An updated review of environmental and health problems will be initially carried out, (as well as associated EU legislation) regarding the control of metropolitan pine pest problems. Results will inform the design and manufacture of new trap system prototypes, including:

- An innovative barrier that prevents the caterpillars reaching ground levels (thereby cutting their life cycle and preventing reproduction). This barrier will be made of recycled thermoplastic material with pine sawdust to extend the device's long-term durability and to appear similar to wood; and
- Redesigned pheromone traps with new textures and colours that improve the efficiency of current traps in the selected countries.

In addition the project will design and produce prototype versions of new mating disruption (MD) systems that interferes with the male's ability to find a female, resulting in reduced mating and egg-laying by females.

Expected results:

- Decreased population of pine processionary and pine tree lappet in the project sites by at least 30% without the use of chemical pesticides;
- Significant reductions in irritating injuries and allergic symptoms from the pests to children, adults and animals (mostly pet dogs) and reduced negative impacts on urban trees from conventional treatments;
- Updated analysis of the current control system of pine processionary in Greece, Italy and Spain, as well as the pine tree lappet in Scotland;
- Development of trapping devices (trunk barrier, MD and pheromone traps systems) and related equipment with improved performance, high weather resistance, easy installation and lower cost than current ones (from €33-40 to €25/device);
- Drawing up of guidelines on the use of the project devices.

Results

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Environmental issues addressed:

Themes

Habitats - Forests
Risk management - Human health protection

Land-use & Planning - Forest management
Land-use & Planning - Urban design (urban-rural)
Biodiversity issues - Urban biodiversity
Risk management - Pollutants reduction

Keywords

human exposure to pollutants, urban area, forest ecosystem, pollution prevention, pest control, recreational area

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	Asociación de Investigación de Materiales Plásticos y Conexas - AIMPLAS
Type of organisation	Research institution
Description	AIMPLAS is a technological institute from the plastic sector with expertise in compounding, processing, recycling, product development and analysis of plastic materials for a range of industrial sectors, including construction, automotive, packaging and agriculture.
Partners	SANSAN(SANSAN PRODESING SL.), Spain UTH(University of Thessaly - Research Committee), Greece UNIMOL(University of Molise), Italy FR(Forestry Commission Research Agency), United Kingdom BPI(Benaki Phytopathological Institute), Greece MOLISE(REGIONE MOLISE), Italy

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Administrative data:

Project reference	LIFE13 ENV/ES/000504
Duration	01-JUL-2014 to 30-JUN -2017
Total budget	1,118,232.00 €
EU contribution	554,116.00 €
Project location	Comunidad Valenciana(España)

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