

# MEDiterranean alliance for ecological PEST management

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**Type  
de Projet**

International

Traitement des eaux usées  
et valorisation des déchets

**Domaine  
de Recherche**

**Appel  
d'offre**

PRIMA

Environment, Sustainability,  
agroecology, sustainable use,  
remediation technologies,

**Mots  
Clés**

2022 >>> 2025

## Résumé

Rodents cause substantial reductions to food production, water supplies, and the economy. They display a wide range of alimentary preferences, which often include grains, fruits and vegetables, thus making them major agricultural pests. Rodents may eat and spoil food quantities that could feed 280 million person per year globally . In the Mediterranean region rats are known to attack trees and other crops when they can't find water, e.g. Carob trees for they are deep rooted and 'pump' water from very deep. Therefore, it is expected that climate change will augment pest problems, further rodents appear to be more adaptable to climate change , and they are spreaders of many diseases. The economic cost of this is difficult to assess as it includes food and packaging losses, water losses, the cost of cleaning, and the cost of the diseases transmitted. Despite being a major agricultural pest, reliable data on the extent of damage is often missing, while control relies on synthetic rodenticides and trapping, both with insufficient effectiveness. Besides, rodent control expenses are often not considered as pest-induced economic burden yet are very important in devising a sustainable strategy. Synthetic rodenticides are losing ground for numerous reasons, rats are building up resistances to them, and they can cause adverse effects to non-targeted populations and environment. Furthermore, regulations are being set to limit their use. However, the

rate in which new, safer rodenticides are being made available is very low, due to a fall in discovery of new active molecules and the increasing costs of registration.

We tackle exactly these challenges by introducing novel Ecologically Based Rodent Management [EBRM]. It stands out from conventional synthetic rodenticides, as it is biological and ecological, relies on robust scientific knowledge about pest rodent eco-ethology and accordingly tailored modifications of the habitats to decrease rodent density to endurable levels and to avoid re-infestations. It combines biological, ecological, and physical methods, through a Community of Practice approach, since organisation is as important as the technology for effective rodent management. We ensure excellence through [I] lab-innovations on a bio-rodenticide, [II] testing and selecting best-suited EBRM in living labs, and by [III] deploying high-level technology for [impact] monitoring. Each of these innovations together will deliver a state-of-the-art project that demonstrates EBRM at scale, specifically tailored to the Mediterranean context, with key focus on sustaining agroecology, where the end-products are made by and for farmers, tightly fine-tuned to their wishes.

## Partenaires

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