



Presenter:

María del Mar González-Trujillo¹, Rasa Čepulytė², Ignacio Vicente-Díez¹, Rubén Blanco-Pérez¹, Maryam Chelkha^{1,3}, Miguel Puelles¹, Anna Gámez¹, José L. Ramos-Sáez de Ojer⁴, Raquel Campos-Herrera¹

Screening of adjuvants to enhance the entomopathogenic nematode survival and adherence after aerial application on grapevine leaves



Gobierno de La Rioja

Instituto de Ciencias de la Vid y del Vino (ICVV: CSIC-Universidad de La Rioja-Gobierno de La Rioja), Logroño (Spain)¹
Nature Research Centre, Institute of Ecology, Vilnius (Lithuania)²
Research Team "Lombricidae, Improving Soil Productivity and Environment" (LAPSE), Ecole Normale Mohammed V University, Rabat (Morocco)³
Servicio de Investigación Agraria y Sanidad Vegetal, Gobierno de La Rioja, Logroño (Spain)⁴

raquel.campos@icvv.es

Most commercial adjuvants evaluated did not decrease EPN survival and virulence but more research will be needed to increase the adherence of IJs on leaves

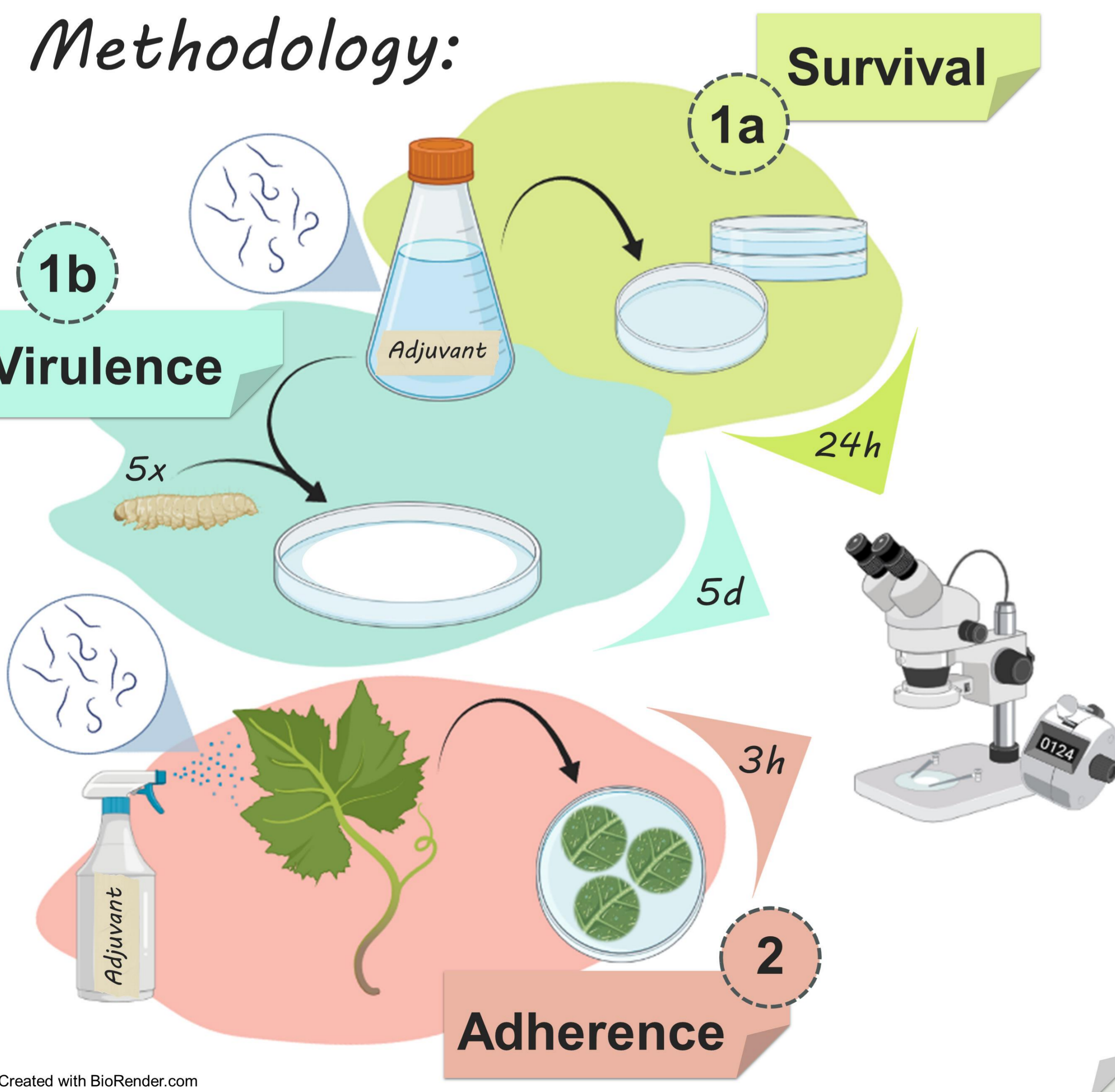
Background:

- **Entomopathogenic nematodes** (EPNs) are well-known biological control agents of soil insect pests in the agroecosystems
- Current technological advances support the expansion of **EPN applications against aerial pests**

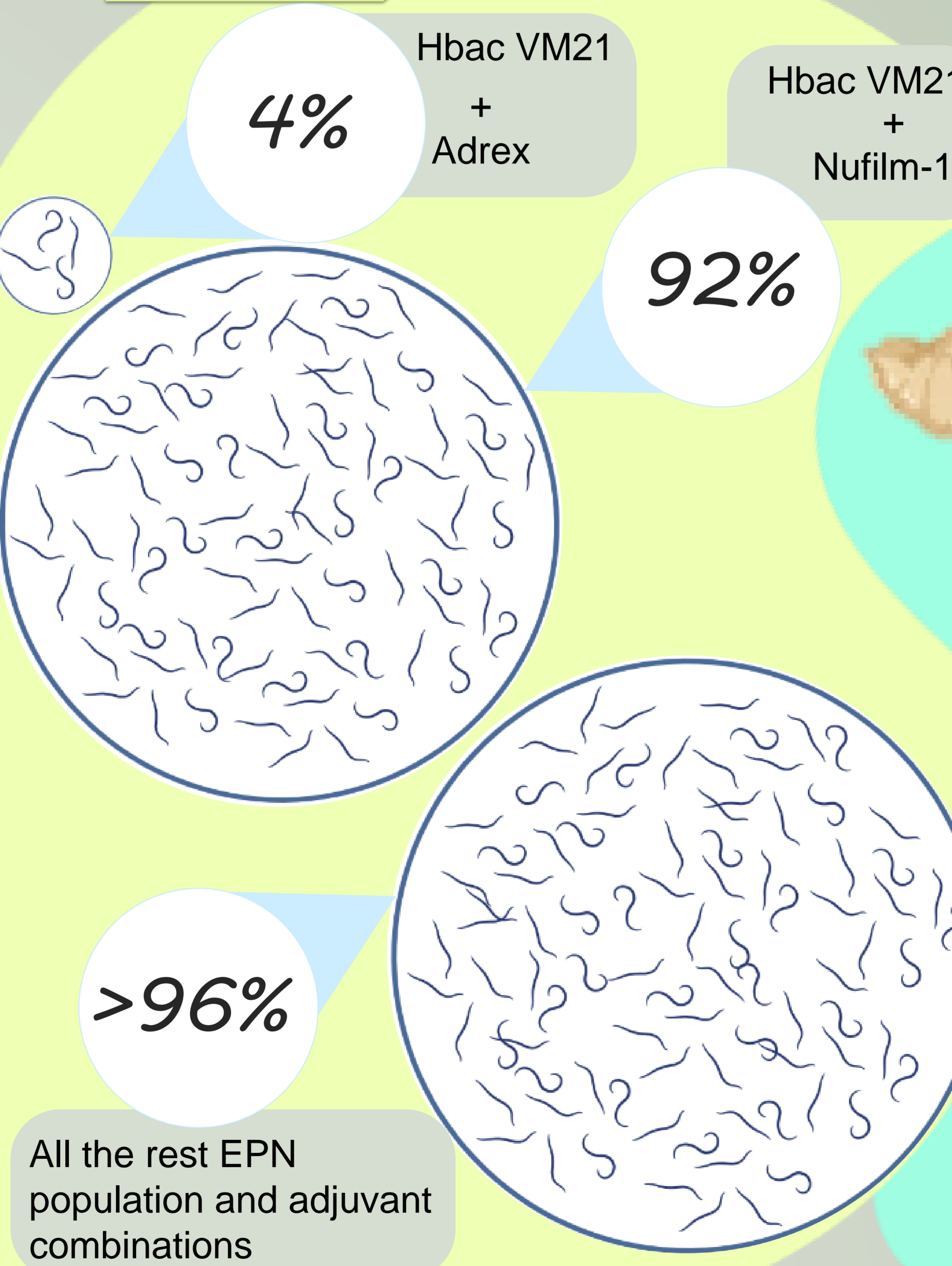
Goals:

- Select the **best combinations** among five commercial **adjuvants** and four **EPN populations** in order to ensure high rates of:
 - ✓ **Survival**
 - ✓ **Virulence**
 - ✓ **Adherence on leaves**
 of EPN infective juveniles (IJs)

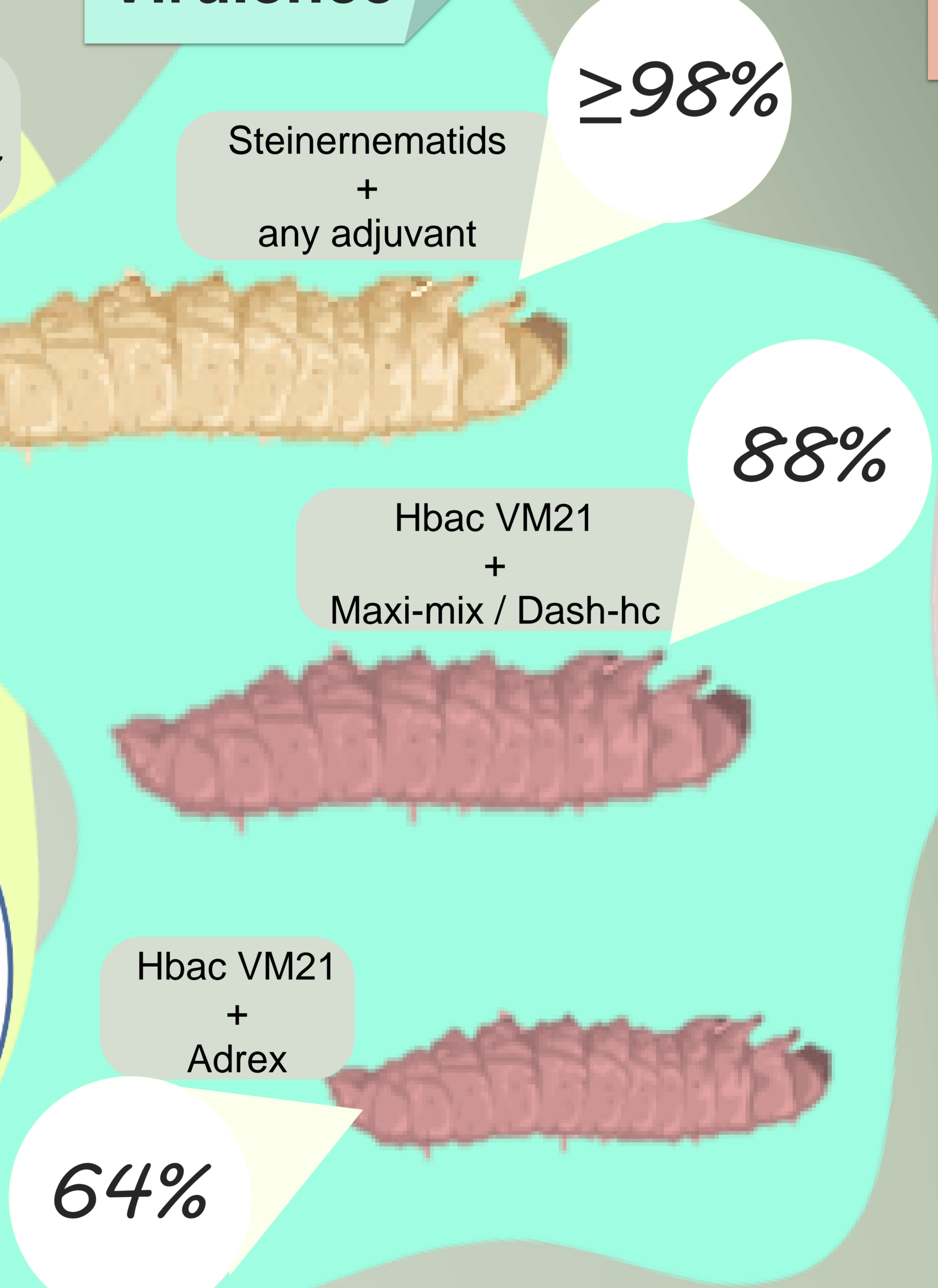
Methodology:



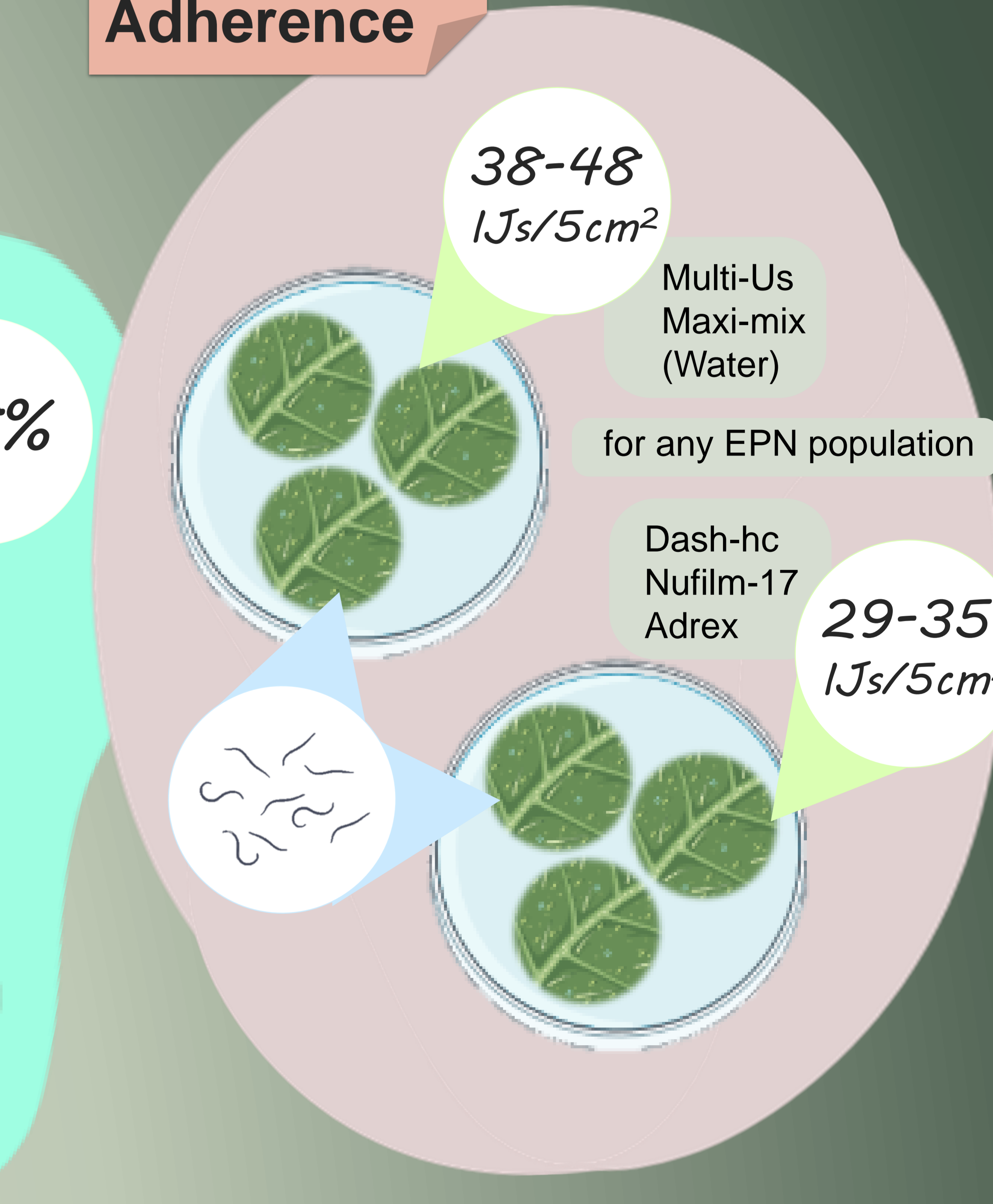
1a Survival



1b Virulence



2 Adherence



- Commercial adjuvants:
- ✓ Multi-Us
 - ✓ Maxi-mix
 - ✓ Dash-hc
 - ✓ Nufilm-17
 - ✓ Adrex
 - ✓ Water (NC)

- EPN populations:
- ✓ *Steinernema carpocapsae* (Scar) ALL
 - ✓ *Steinernema ferltiae* (Sfel) RM107 & Koppert
 - ✓ *Heterorhabditis bacteriophora* (Hbac) VM21

