Prioritization and risk analysis for invasive alien plants: the EPPO approach

Cellule interdépartementale **Espèces invasives**

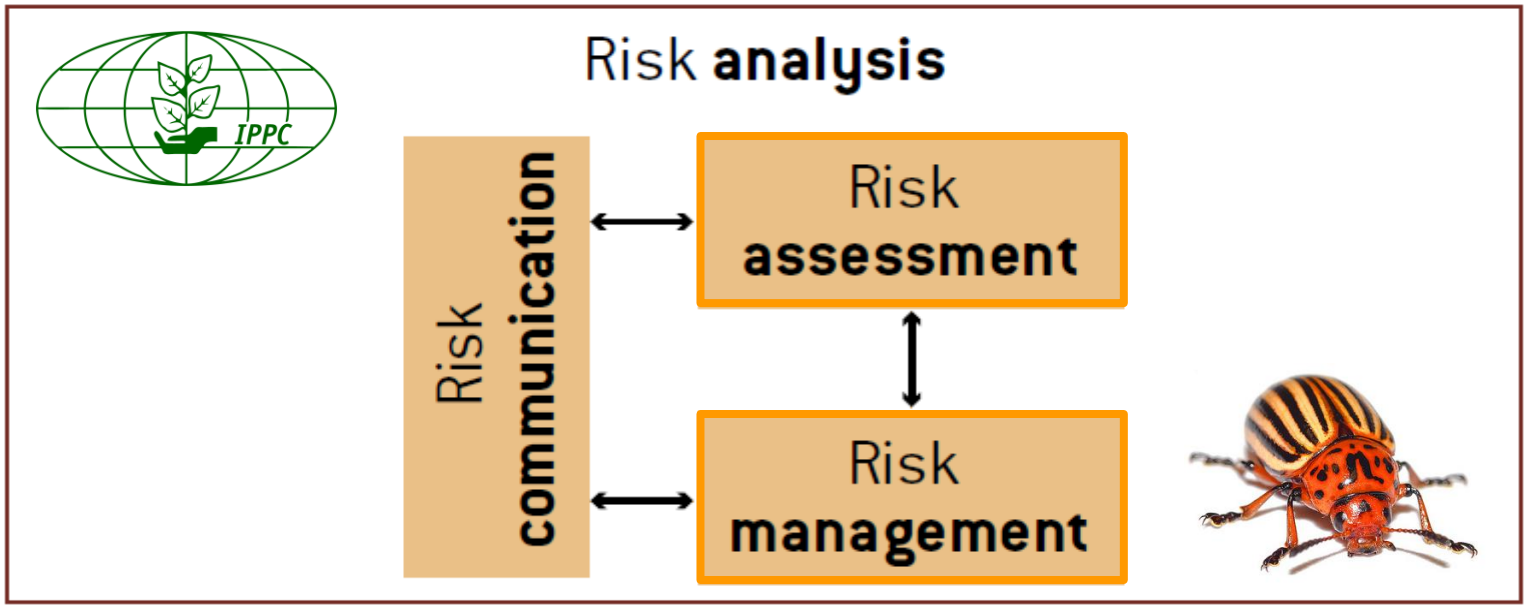
Etienne Branquart & Robert Tanner

Risk analysis

The risk analysis framework

FAO-IPPC : a pest risk analysis (PRA) is the process of evaluating scientific and economic evidence to determine:

- whether an organism is a pest,
- whether it should be regulated,
- the strength of any phytosanitary measures to be taken against it.



Risk analysis

Focus on invasive plants

The International Plant Protection Convention aims to protect both cultivated and wild plants (FAO 2001).

>>> invasive plants can be considered as pest organisms

impact on cultivated plants (agricultural weeds)

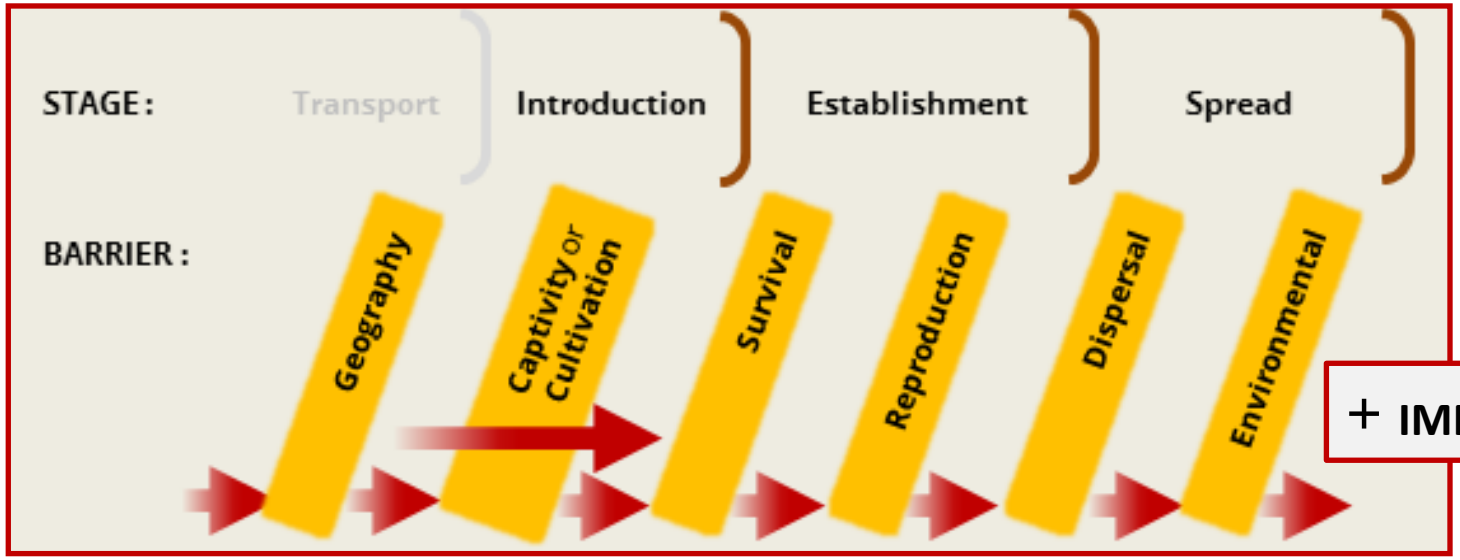
impact on wild plants (environmental weeds)

IPPC

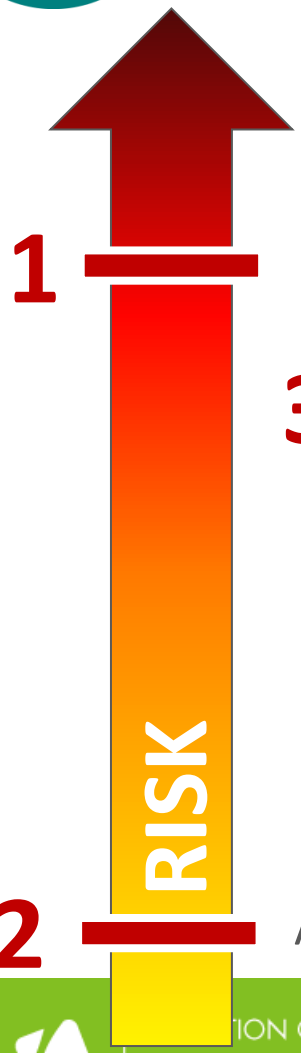
Risk analysis

1. RISK ASSESSMENT (= RA)

Evaluation of the probability of the introduction establishment and spread of an alien species and of the associated biological and economic consequences using science-based information.



2. RISK MANAGEMENT (= RM)



1 Level of risk linked to organism introduction (= RA)

3 Choice of appropriate risk management option based on:
- cost effectiveness
- practicality
- acceptability
- impacts on non targeted sp
- …

+ necessity and proportionality
+ non discimination (trade!)

2 Acceptable level of risk

Risk management is the identification and evaluation of options to reduce the risk of introduction and spread of an IAS to an acceptable level.

The IAS Regulation

Main provisions of the Regulation

REGULATION (EU) No 1143/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

The prevention measures (art. 7)

Ban on trade, breeding, holding, transport, introduction into the wild…
= <u>strong</u> phytosanitary measures!

The management measures (art. 19)

Flexibility for member states (eradication, containment or control), except for newcomers (eradication is mandatory).

The IAS Regulation

The EPPO prioritization process

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A prioritization process for invasive alien plant species incorporating the requirements of EU Regulation no. 1143/2014

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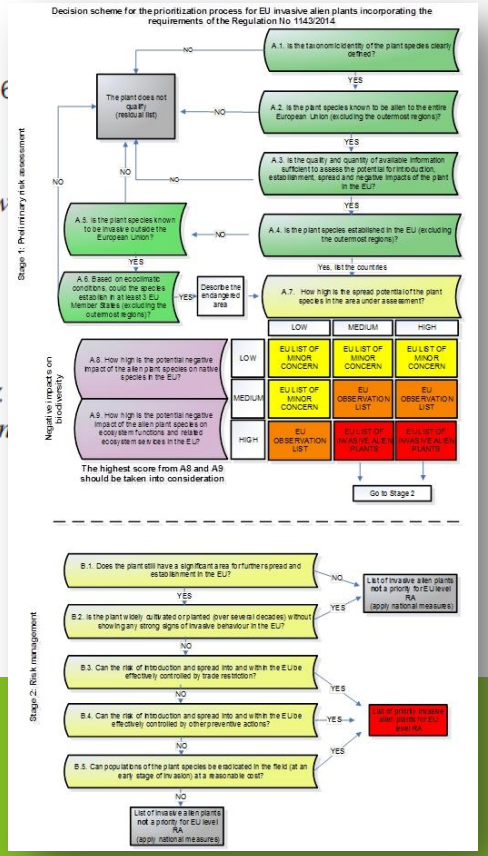
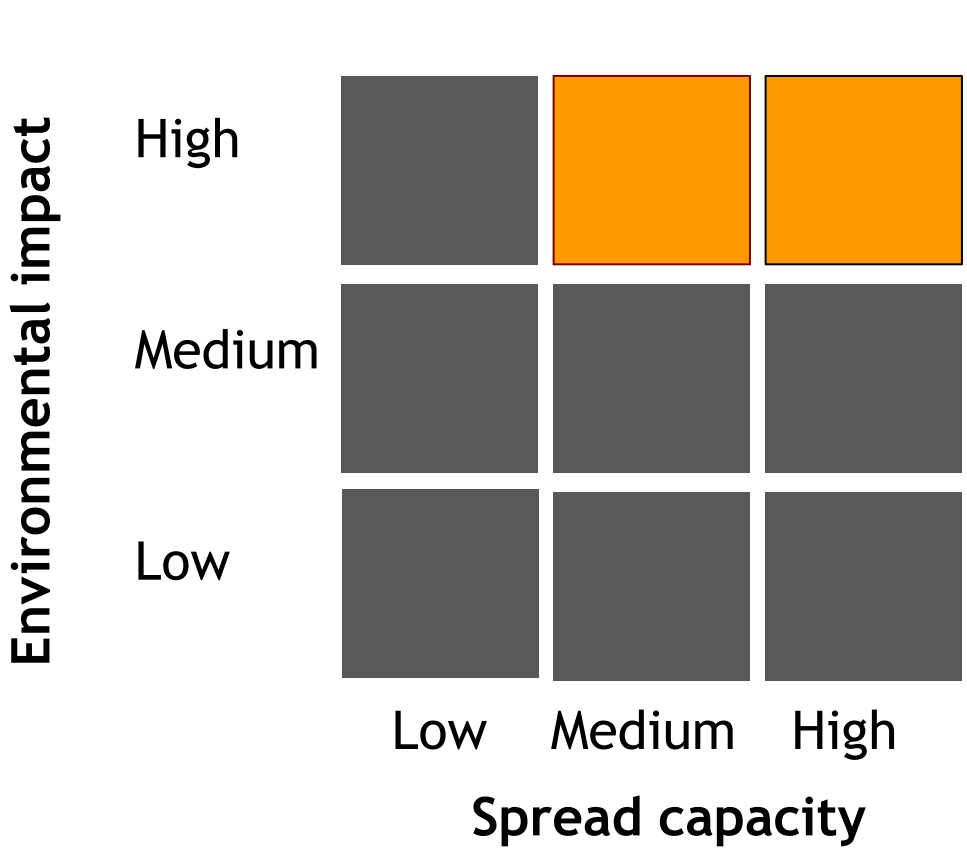


The IAS Regulation

The EPPO prioritization process / RA

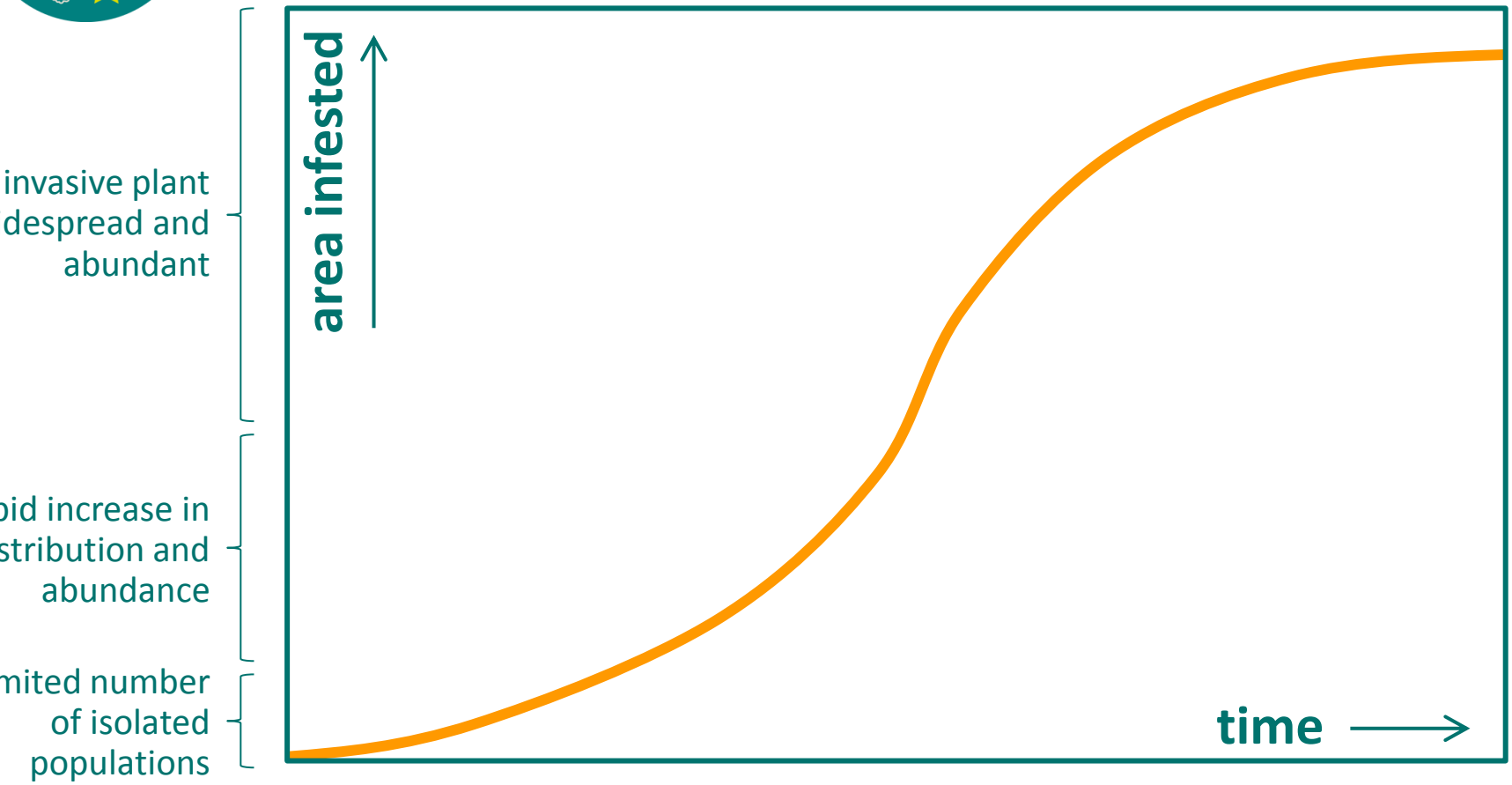
Spread capacity x environmental impact



species' ability to form large, dense (cover > 80 %) and persistent (duration > 10 years) populations in natural habitats

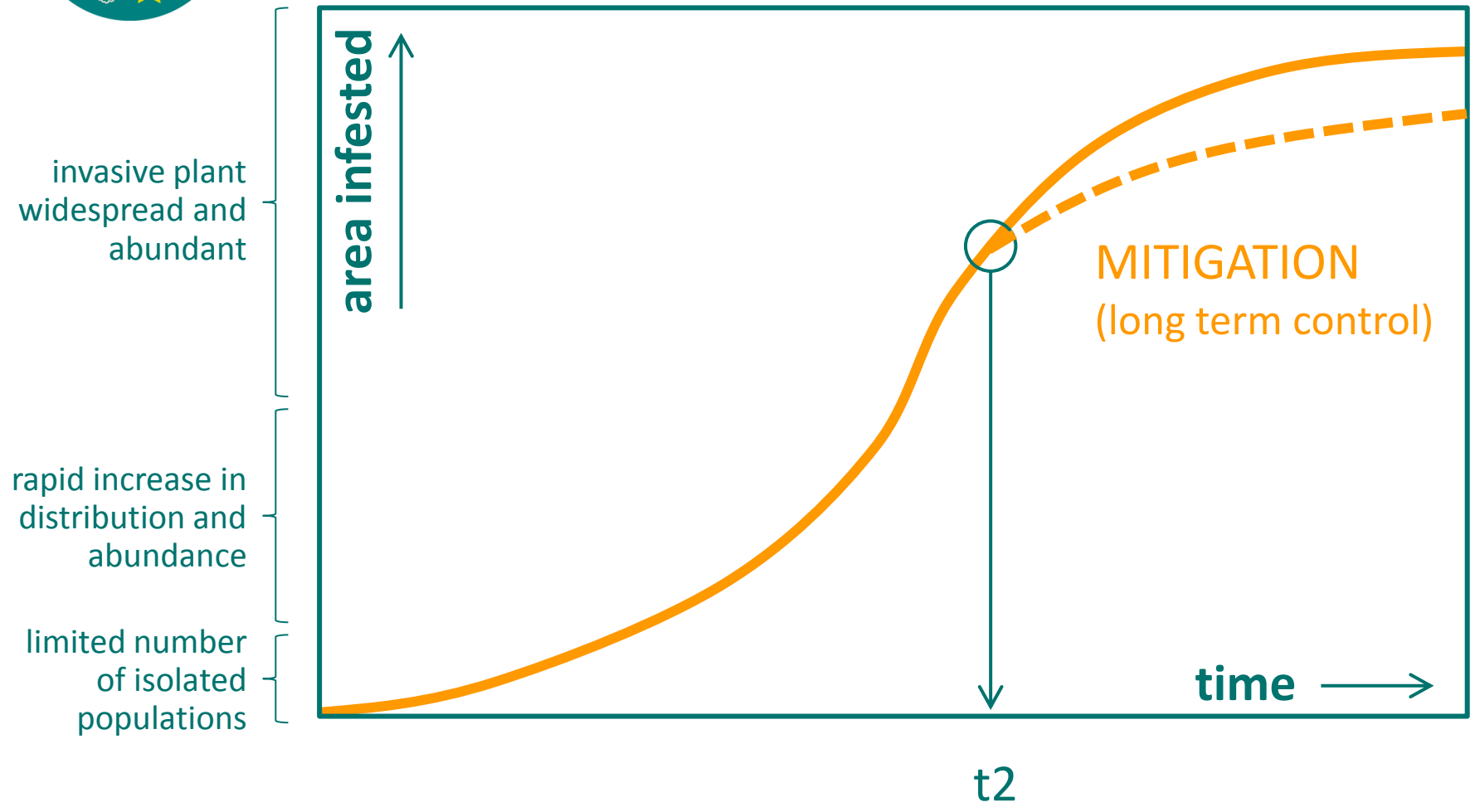
The IAS Regulation

The EPPO prioritization process / RM



The IAS Regulation

The EPPO prioritization process / RM



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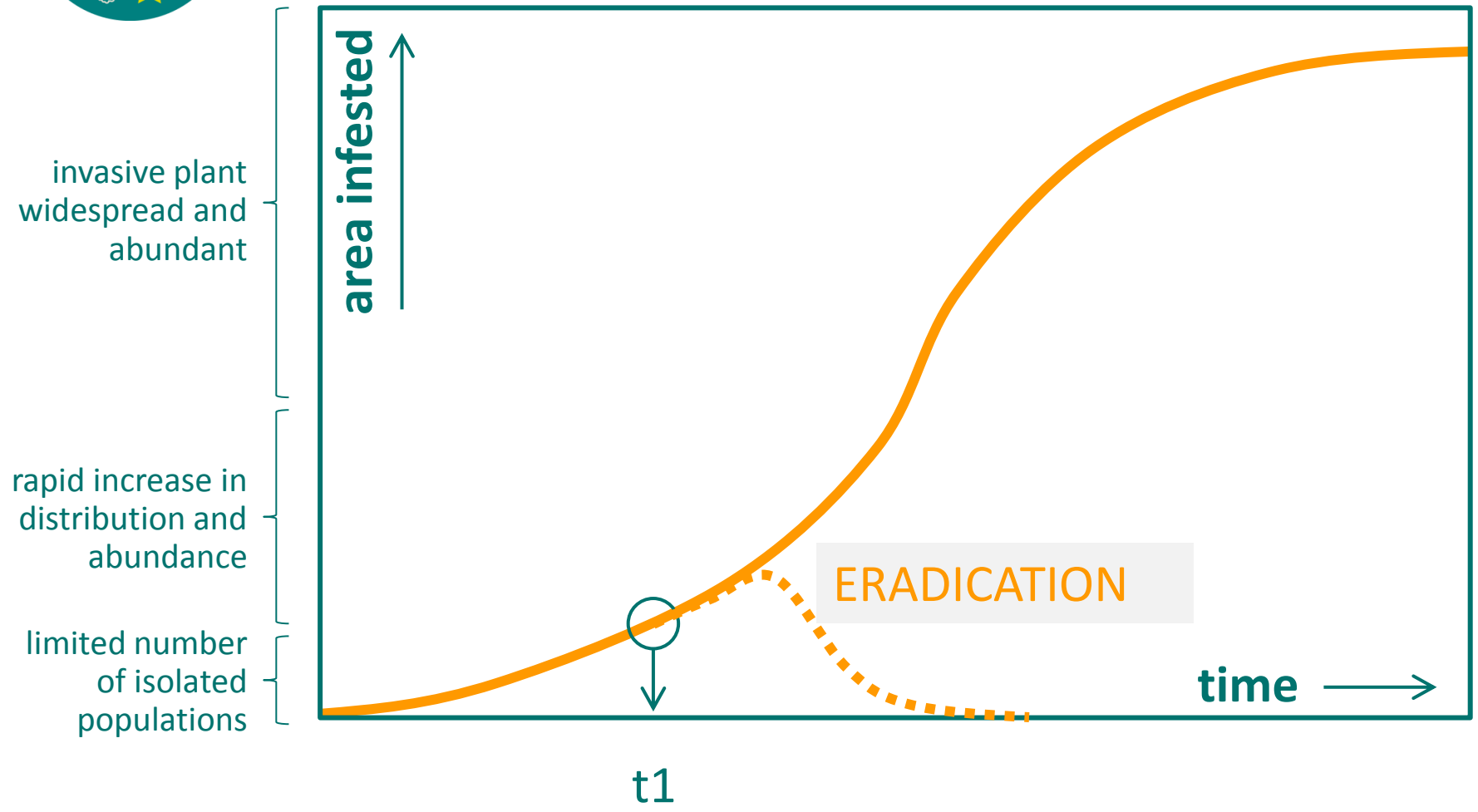
The EPPO prioritization process / RM



The IAS Regulation

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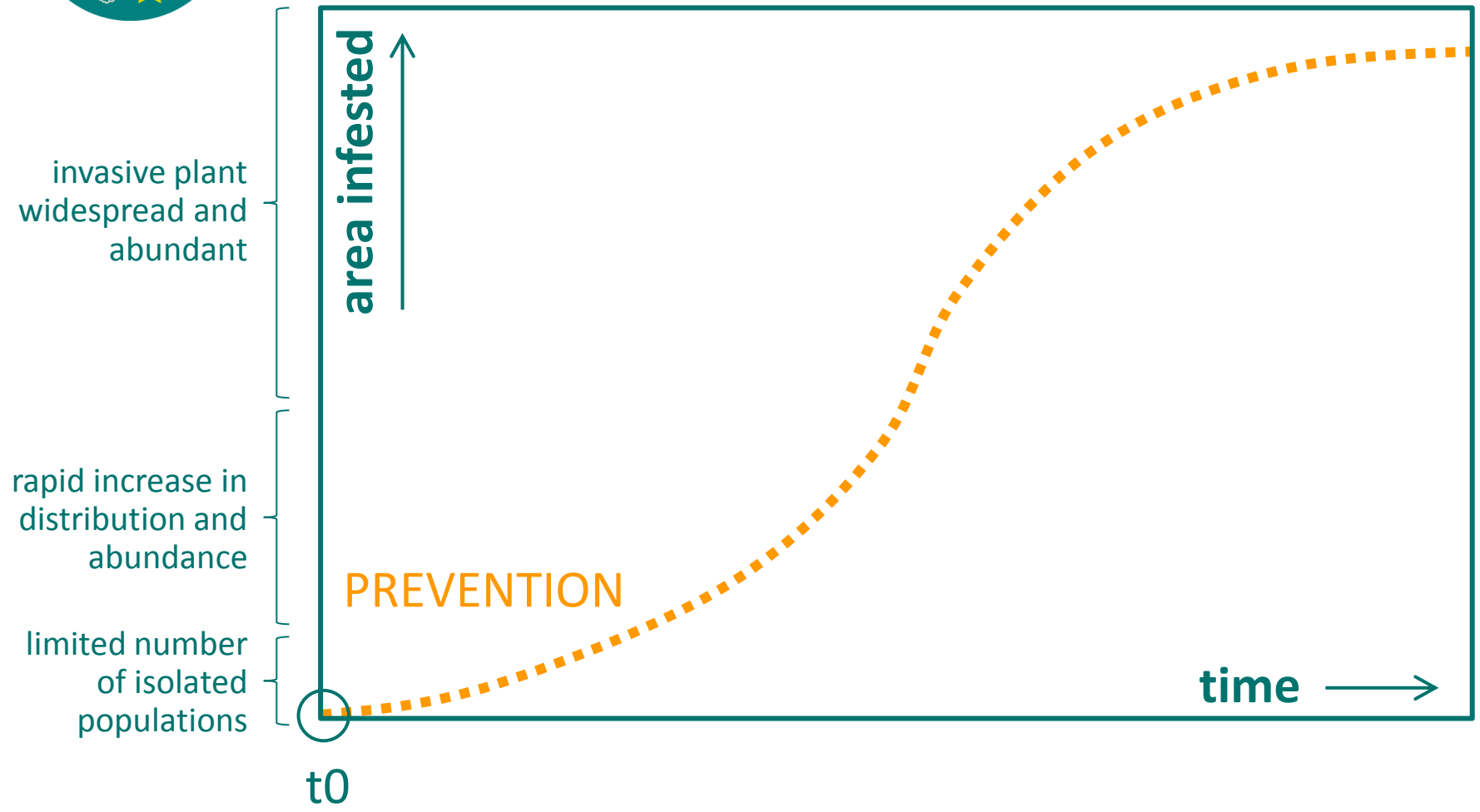
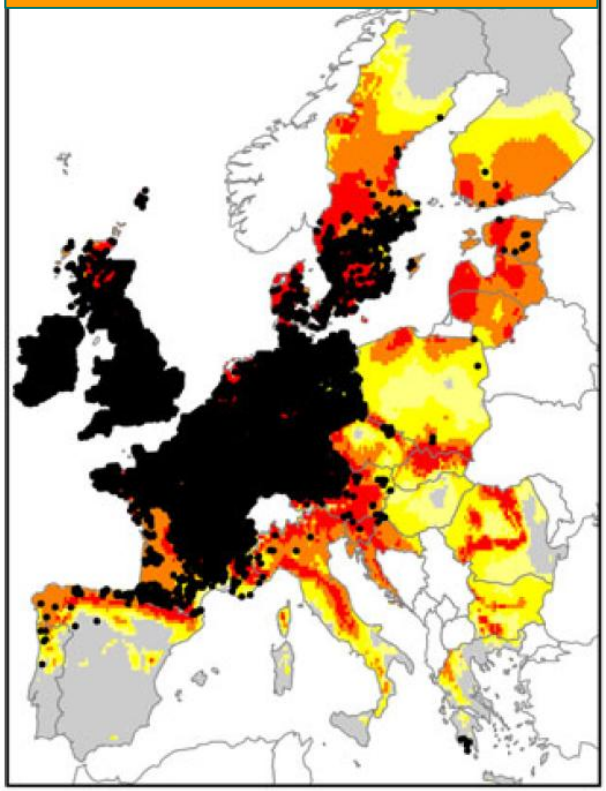


The IAS Regulation

The EPPO prioritization process / RM

The size of area available for further spread?

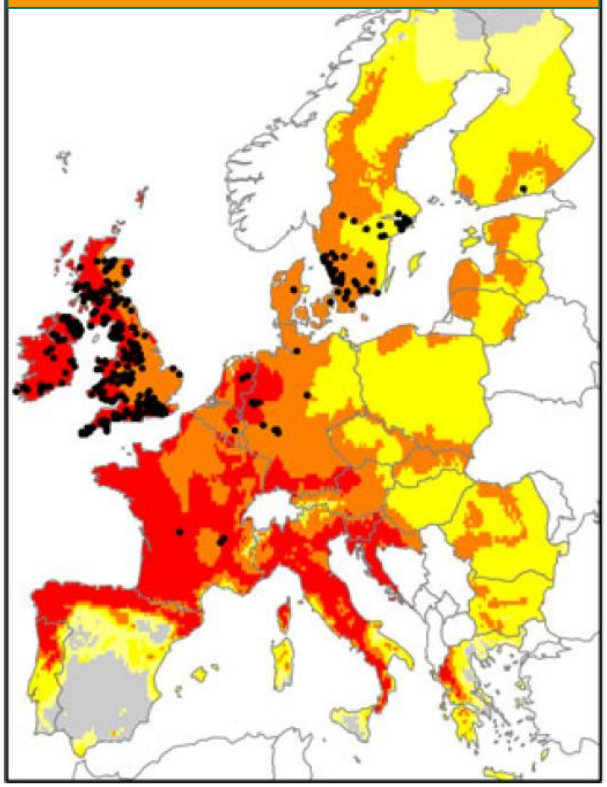
Fallopia japonica



1. Small area available

>> long term control

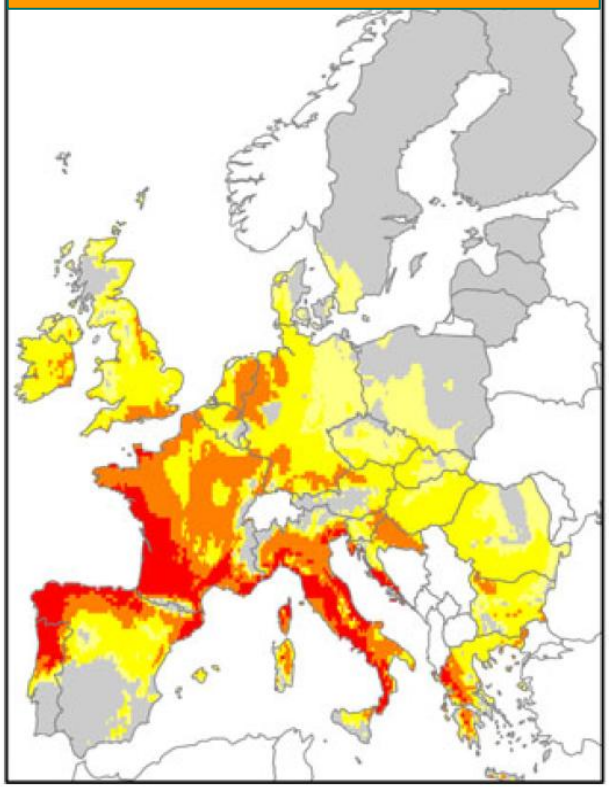
Lysichiton americanus



2. Large area available

>> early eardication

Polygonum perfoliatum

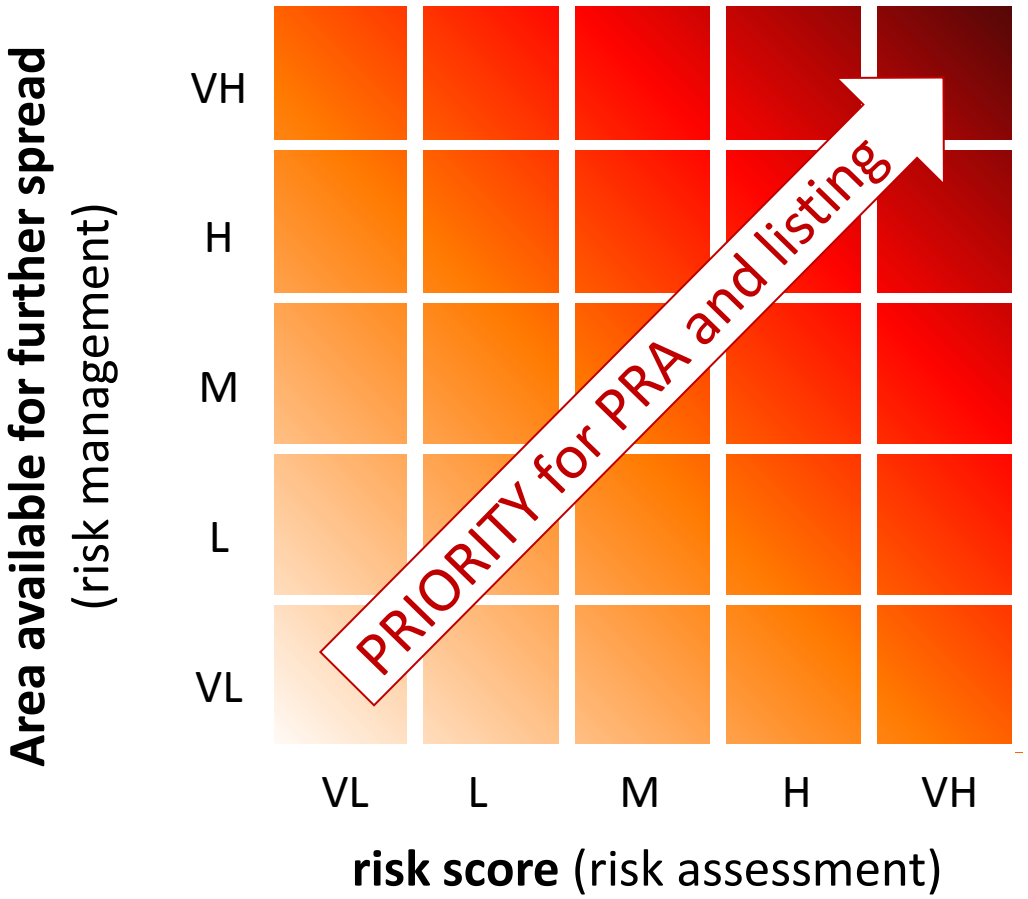


3. Very large area available

>> prevention measures

The IAS Regulation

Prioritization regarding the EU list



Trees as examples

Three introduced woody species

Black locust

Robinia pseudoacacia

Princess tree

Paulownia tomentosa

Mesquite

Prosopis juliflora

Erosion control, honey and wood production

Amenity and biofuel production

Agroforestry, fodder and firewood production

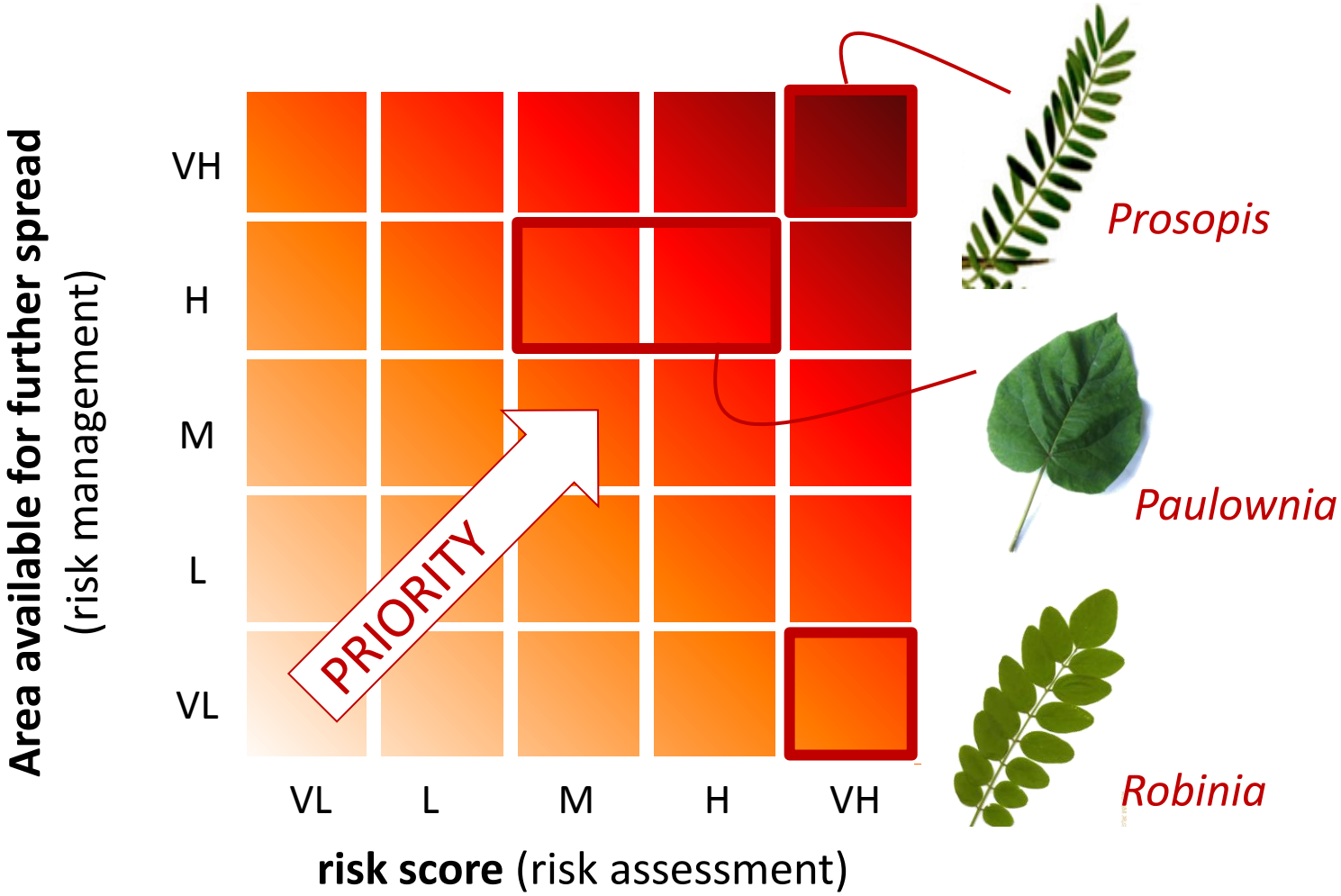
Trees as examples

Risk assessment and risk management

	Robinia	*Paulownia*	*Prosopis*
RA -environmental risk	**very high** (ecosystem transformer in open habitats)	**medium - high** (dense populations in open habitats?)	**very high** (ecosystem transformer in open habitats)
RM - area available for further spread	**very low** (widely planted since many decades)	**high** (limited plantations for amenity and biofuel)	**very high** (currently not planted in EU)

Trees as examples

Prioritization regarding the EU list

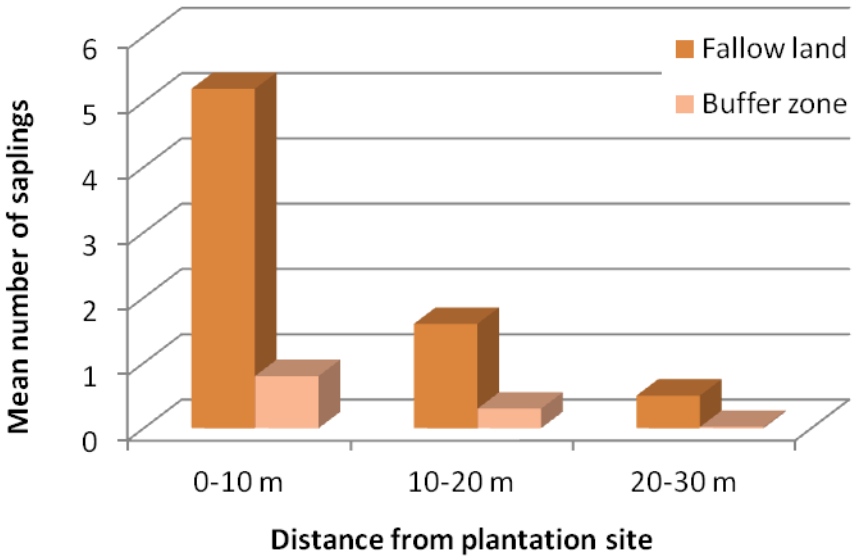


Trees as examples

Recommendations for widespread sp.

Adoption of alternative phytosanitary measures

- No plantation on marginal soils and near protected areas
- Set-up buffer zones around plantations
- Control escapees from planted areas



data from Crosti et al. (2016), Biogeosciences and Forestry.

Thank you very much for your attention!