

Closing the Gaps: National Strategies for Integrated Urban Plant Health

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K E Y M E S S A G E S

- ▶ Urban plant health is a shared responsibility across governance levels, yet in most European countries national plant health systems and urban forestry management operate in separate institutional silos, creating critical vulnerabilities in the biosecurity continuum.
- ▶ The EU Plant Health Regulation (EU 2016/2031) requires Member States to conduct official surveys, prepare contingency plans, and implement eradication measures; delivering on these obligations in urban environments requires new partnerships between national Plant Health Authorities and local governments.
- ▶ “Due diligence” in the plant trade — a concept well established in environmental law but underdeveloped in plant health — offers a powerful framework for reducing the introduction risk of new pests and pathogens through the ornamental and nursery trade.
- ▶ Integrating sentinel planting programmes into national early warning systems is a cost-effective strategy for detecting emerging threats before they become established outbreaks.
- ▶ Harmonising the registration and availability of plant protection products across EU Member States is a long-standing regulatory bottleneck; cross-national research networks provide actionable evidence to support harmonisation efforts at the EU level.
- ▶ National strategies that position urban plant health as a contribution to EU policy goals — the EU Biodiversity Strategy, the Nature Restoration Law, the Green Deal — will unlock greater political support and funding than strategies framed solely around phytosanitary compliance.

1. Introduction: The National Dimension of Urban Plant Health

Urban trees and urban forests are the product of decisions made at multiple governance levels simultaneously. A municipality selects the species to plant and procures the stock. A regional authority may regulate green space standards. A national government transposing EU plant health law sets the legal framework within which all of this takes place. Meanwhile, the plant trade — the primary vector for the introduction of new pests — operates at European and global scales.

This layered governance structure creates both complexity and opportunity. When coordination functions well, national frameworks enable and empower local action. When coordination fails, local authorities are left without the information, tools, or legal backing to respond to emerging threats — and national authorities receive insufficient surveillance data from the ground level to fulfil their own EU obligations.

The UB3Guard COST Action (CA20132) has mapped these governance gaps across European Member States and has identified concrete, evidence-based strategies for closing them. This policy brief translates those findings into recommendations for national-level decision-makers.

2. The European Policy Architecture: National Responsibilities

2.1 EU Plant Health Regulation (EU 2016/2031)

The EU Plant Health Regulation is the central legislative instrument governing plant biosecurity in Europe. It places primary responsibility on Member States to: conduct multi-annual official surveys for Union Quarantine Pests (UQPs) and Regulated Non-Quarantine Pests (RNQPs) on their territory, including in urban areas; prepare and maintain contingency plans for priority pests; implement immediate eradication and containment measures upon confirmation of a UQP outbreak; and ensure that all professional operators trading in regulated plants comply with plant passport requirements.

In practice, urban environments — characterised by high planting intensity, frequent ornamental species turnover, and large volumes of imported planting material — represent a disproportionate entry and establishment risk for new pests. Yet urban surveillance is frequently the weakest link in national official survey programmes.

2.2 EU Biodiversity Strategy 2030 and Nature Restoration Law

The EU Biodiversity Strategy 2030 commits Member States to protecting 30% of their territory and reversing the decline of pollinators, while the Nature Restoration Law (EU 2024/1991) introduces legally binding targets for urban green space and ecosystem restoration. Urban trees are counted assets in these frameworks: their loss to pests and diseases directly undermines national compliance with EU restoration commitments.

National plant health strategies that are explicitly integrated with biodiversity and nature restoration plans create important co-benefits and open access to funding streams — including those under the EU LIFE Programme, the European Agricultural Fund for Rural Development (EAFRD), and the Cohesion Funds — that are not available under a purely plant health framing.

2.3 EU Forest Strategy 2030

The EU Forest Strategy 2030 calls for expanding forested areas, improving forest resilience, and increasing the contribution of forests to climate neutrality. Urban forests are specifically included as one of the areas

of focus for the additional three billion trees target. National forest strategies that incorporate urban tree health as a component of overall forest resilience will be better positioned to deliver on these ambitions.

3. Priority Areas for National Action

3.1 Strengthening Due Diligence in the Plant Trade

The concept of “due diligence” — the obligation of economic operators to verify the legality and environmental safety of their supply chains — is well established in EU environmental law (e.g., EU Deforestation Regulation, EU Timber Regulation). It has not yet been systematically applied to the plant health domain, despite the plant trade being the dominant pathway for pest introductions into Europe.

Introducing a due diligence framework for plant importers and major domestic nursery operators would require them to: assess and document the phytosanitary risk of their sourcing regions and species; maintain records of phytosanitary certificates and plant passports; and report any suspected non-compliance to national authorities.

This approach complements official inspections (which cannot cover all consignments) with private sector accountability. Several Member States — notably the Netherlands and the United Kingdom — have piloted risk-based compliance schemes for nursery operators. Their experience provides a replicable model.

Supporting tools: Publicly accessible, regularly updated risk registers of high-risk pest and host plant combinations can serve as a technical reference standard for due diligence assessments by importers and professional operators.

3.2 Integrating Sentinel Planting into National Early Warning Systems

Sentinel planting — the deliberate establishment of known host plant species at strategic locations (often near ports, nurseries, and transport corridors) to serve as “bait plants” that attract and facilitate early detection of new pests — is one of the most cost-effective biosecurity tools available. Programmes are currently operational in the United Kingdom (Forest Research), Italy, and several North American jurisdictions.

National authorities can formalise sentinel planting within their official survey programmes by: designating sentinel sites at key entry points (major ports, airport freight areas, central nursery production zones); establishing protocols for regular inspection of sentinel plantings by trained surveyors or citizen scientists; and integrating sentinel planting outcomes into the national official survey reporting submitted to the European Commission under EU 2016/2031.

Urban parks and public green spaces are ideal locations for sentinel planting because they are publicly accessible, frequently visited, and managed by staff who can be trained in basic monitoring. This creates a natural bridge between national early warning systems and local urban forest management.

Supporting tools: Species selection guidance for sentinel planting programmes, mapped against current and projected distribution data for priority pests, can be provided through decision-support platforms and national phytosanitary databases.

3.3 Harmonising Plant Protection Product Registration

One of the most persistent operational challenges identified by urban tree managers across Europe is the fragmented and inconsistent registration of plant protection products (PPPs) at the national level. A pesticide authorised for use against a specific urban pest in one Member State may have no authorised equivalent in a neighbouring country, effectively leaving municipalities in certain countries without legal treatment options for controlled outbreaks.

This is not a new problem — it has been documented in successive European Commission fitness checks of plant protection product legislation — but it remains unresolved. National plant health authorities can contribute to progress by: systematically identifying and reporting to EFSA and the European Commission the gaps in PPP availability for urban quarantine pests; utilising the mutual recognition provisions of Regulation (EC) No 1107/2009 more proactively to accelerate the registration of already-approved products in underserved Member States; and supporting emergency authorisation procedures for outbreaks where no registered product is available.

Supporting tools: Comparative cross-national mappings of PPP registration gaps for key urban tree pests — such as those produced by the UB3Guard research network — provide an essential evidence base for national authorities and the European Commission in harmonisation discussions.

3.4 Establishing Cross-Sectoral Coordination Mechanisms

Urban plant health governance requires coordination across at least three ministerial portfolios in most Member States: the ministry responsible for agriculture and plant health, the ministry responsible for environment and nature, and the ministry responsible for urban planning and local government. In many countries, these portfolios operate without formal coordination mechanisms on urban forestry issues.

National governments can address this by: designating a cross-ministerial working group or national coordinator for urban forest health, with a mandate to align plant health, biodiversity, and urban planning policies; including urban tree health indicators in national biodiversity monitoring frameworks, creating shared accountability across ministries; and developing national urban forest health strategies that set explicit targets for pest surveillance coverage, early detection response times, and urban PPP availability.

4. Aligning National Strategies with EU Policy Goals

A critical insight from the UB3Guard research is that national urban plant health programmes are far more effective — and far more sustainable politically — when framed as contributions to multiple EU policy goals simultaneously, rather than as isolated compliance exercises. The table below illustrates how the priority actions described in this brief map onto existing EU commitments.

National Action	Contributing to EU Goal	Relevant Instrument
Strengthening plant trade due diligence	Reducing IAS introductions	EU 2016/2031; EU Biodiversity Strategy
Sentinel planting networks	Early warning for quarantine pests	EU 2016/2031, Art. 22–24
PPP harmonisation	Effective outbreak response	Reg. (EC) 1107/2009

Cross-sectoral coordination	Urban green space protection	Nature Restoration Law 2024/1991
Urban forest health monitoring	Biodiversity tracking	EU Biodiversity Strategy 2030
Integration with national forest strategies	Urban tree cover expansion	EU Forest Strategy 2030

5. Recommendations

The following recommendations are addressed to four key stakeholder groups whose coordinated action is essential for closing the governance gaps identified in this brief.

For National Plant Health Authorities:

- ▶ Establish or strengthen a formal protocol for integrating municipal surveillance reports into official survey data, with clear guidance to local authorities on how and where to report.
- ▶ Pilot a due diligence scheme for major plant importers and nursery operators, modelled on existing EU environmental due diligence frameworks, and share findings with the European Commission.
- ▶ Proactively use mutual recognition procedures to address PPP registration gaps for urban quarantine pests.
- ▶ Integrate sentinel planting programmes into official survey plans, with designated sites at major points of entry and nursery production zones.

For National Environment and Biodiversity Ministries:

- ▶ Include urban tree health indicators in national biodiversity monitoring systems and Nature Restoration Law implementation plans.
- ▶ Establish co-financing mechanisms enabling municipalities to participate in national surveillance networks.
- ▶ Recognise urban tree biosecurity investments as eligible expenditure under national nature restoration and climate adaptation funding programmes.
- ▶ Ensure that urban tree canopy cover targets are explicitly linked to biosecurity requirements in national restoration strategies.

For Legislators and Regulators:

- ▶ Support the development of EU-level guidance on the application of due diligence principles to the ornamental plant trade.
- ▶ Advocate within EU Council working groups for an accelerated approach to PPP harmonisation for urban quarantine pests.
- ▶ Ensure that urban forestry is explicitly addressed in the forthcoming revision of the EU Plant Health Regulation.

For the Research Community:

- ▶ Continue to generate comparative, cross-national evidence on governance gaps and best practices, providing national authorities with a robust evidence base for policy development.

- ▶ Engage systematically with national Plant Health Authorities as co-producers of decision-support content, ensuring research platforms reflect operational needs and legal frameworks.
- ▶ Develop urban forest digital twin models and spatial risk assessment tools that enable scenario-based planning for pest outbreak management at the national and regional scales.

References and Further Resources

EU Plant Health Regulation (EU) 2016/2031 — <https://eur-lex.europa.eu>

Regulation (EC) No 1107/2009 on Plant Protection Products

EU Biodiversity Strategy for 2030 — European Commission, 2020

Nature Restoration Law (EU) 2024/1991

EU Forest Strategy for 2030 — European Commission, 2021

EPPO Global Database — <https://gd.eppo.int>

UNECE/FAO (2021). Policy Brief: Sustainable Urban and Peri-Urban Forestry — <https://unece.org>

About this Policy Brief

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