



CSI Trees: climate trees with future

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Work package	A	B	C	D	E	F	G
Title work package	Physiological search profile for new climate-resilient urban trees	Retrospective and predictive LCZ maps urban area and linkage to climate zone classification	Effective international network to search for new genetic material	Perception of trees in the city	Updating winter hardiness zone maps	Measuring stress response of street trees for the development of a classification system for urban trees (fenotyping)	Nieuwe boomsoorten, rassen of zaadherkomsten in beeld brengen
Involved researchers	Iris Marc studenten	Bert Gert Jan Marc	Jelle Marco Joukje Marc	Martin Karen Garnt Marc	Gert Jan Bert Marc Marco	Marc Lydia Iris Rick	Jelle Marc Marco
Period	2022	2022 en 2023	2022	2022	2022	2022 pilot 2023 evaluatie opschalen 2023 en verder	2023 en vervolgjaren
Research type	Literature study	modeling & mapping	deskwork	qualitative research	modeling & mapping	controlled glasshouse trials	deskwork
WUR institutes involved	Chair group of plant physiology AGRO	WU chair group meteorology en airquality AGRO	OC NAKT WENR AGRO	WENR FBR AGRO	WU chair group meteorology & airquality AGRO NAKT	AGRO FBR Chair group of plant physiology NPEC	NAKT AGRO OC
Result	A4 sheet containing very sharply the physiological and morphological characteristics of future street trees	Refined LCZ maps of Dutch cities are linked to biome (natural dispersal areas) The maps, by integration with light availability etc, lead to stand suitability classification	Database of institutes in the countries with interesting biomes	Picture of citizens' perception and characteristics of trees, collected in the 10 participating municipalities. Also a proven method for future knowledge questions in the field of perception.	New maps with winter hardiness zones if possible linked to winter hardiness list	Development of a measurement line to eventually classify and ordinate all tree species based on stress response (e.g., drought stress, salt stress, heat stress...)	New genetic plant material searched and imported based on physiological search profile. To be validated in measurement line
Scope/Delimitation	This component will be completed in 2022. It will then be used for the work package	10 participating Dutch cities	Worldwide	10 participating Dutch cities	Europe	Within the scope of this 2-year project, the method will be developed. If proven to add value, the project will be extended to examine the entire city tree stock.	This component starts in 2023 and will require continued attention in follow-up research
Degree of risk	low	low	low	low	average, whether this can also be made interactive is still an open question	low	high, depending on political mandate from countries, finding native speakers, strength existing network
Value/use/outcome	Offered in several languages to stakeholders to visualize new genetic material	Local climate maps are linked to the climate zone where material should be sought	This database is used to contact institutes for the search of new genetic material	Knowing how green is experienced also sharpens the search profile. Between these two there is a relationship	New maps of winter hardiness zones linked to winter hardiness list	Toward a measured, empirically determined tree classification system based on stress response under controlled conditions.	New revenue models for the tree nursery industry.
Relations between work packages	A+D= demand-driven search profile to be used in G	B provides insight for A	C constitutes necessary preparation for G	D gives spatial insight for A	E provides insight for A	F has no direct dependency relationship with other work package.	Next step for climate-resilient trees and right trees for Dutch and European cities.
Communication	used only internally for communication with institutions worldwide	made available digitally via public WUR websites, standards institute and journal article	no external communication	journal article and lectures on request	journal article & assurance via public WUR sites and standards institute trees	journal article / scientific article	new material is brought into the picture of the participating tree growers. They discuss the market introduction among themselves with legal support from the WUR

