MODERN CONCEPTS OF PLANT PROTECTION AND TREE CARE FOR A SUSTAINABLE DEVELOPMENT OF THE URBAN GREEN

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The manifold functions of urban horticulture have been described in detail in relevant publications worldwide. The central importance of the components of urban horticulture – e. g. parks, lawns, tree plantations, flower beds, avenue trees, private gardens, roof gardens – for climatization, air quality, architectural planning and forming of city components, ecological networks and biodiversity in urban areas and, not least, the well-being of urban dwellers has been greatly recognized. There are, however, still many questions to be answered. So people plant trees in streets for more than 350 years, however, with unsatisfactory success. Too many biotic and abiotic stress factors still damage these trees in different ways. Although scientific efforts made significant progress in recent years, lots of problems can be observed in practise and integrated concepts for maintaining plant’s health are badly missing. Many biological interactions and relationships need to be examined. Integrated concepts are necessary to guarantee a sustainable function of the manifold elements of urban horticulture. How can we combine components of integrated plant protection, plant care, purposeful architectural planning and implementation to lasting solutions?

Good horticultural practice in tree care for example leads off with a training of the tree-top to prepare traffic areas an visibility in an early stage, so there will be later no drastic measures and no undesirable reactions of the trees. Principally the lopping of branches is to do within the vegetation period on the line of branch-rings. Wound dressings are to use only on the sapwood. The professional realization of essential cultivation measures (top-tree-training, watering, fertilizing, removing weeds, plant protection) has the effect of a well plant-evolution. This reduces the intensive and expensive stabilization of trees and areas which are widespread in the moment.

Optimal planning, professional preparing of the planting area, right trees for the location, using small plant heights, using roots without soil or with a corresponding ball, adequate planting distances and a regional cultivation of the trees decrease a negative evolution, damage and falling out of plants and guarantee favourable costs and a solid landscape. The final audit of plantings take place after 2-3 years, with the possibility to diagnose and to correct mistakes of cultivation and planting.

Gearing in roots and tree-tops is necessary in such a manner that compartmentalization is very effective. The consequence of building activities are early measures for tree protection in the biological optimal time of tree reaction, for example root-curtains, lopping of branches and transplanting big trees. Rehabilitation of tree stands as removing coverings or substrates, fertilizing and mulching are only sometimes significant. Phytotoxic components (deicing salt, dog-urine, gas) are to decrease consequently or to repair. Beneficial organisms are to promote for biological control of pathogens.