



## Measures to reduce the urban pollen count

**Despite the health benefits** they bring, the trees and shrubs in our cities can cause health problems for pollen allergy sufferers. Now, a study by Spanish researchers has proposed guidelines for urban planting to reduce the effects of pollen on city-dwellers.

**The United Nations predicts** that 60% of the world's population will live in cities by 2030<sup>1</sup>. Many city authorities are actively planting more trees and green spaces as these have recognised physical and mental health benefits. However, in the rush to create greener cities, the impact on pollen allergy sufferers can be overlooked.

The guidelines created by the study contain nine recommendations that, if implemented by city planners and local authorities, would reduce the effects of pollen on people living and working in cities. They include recommendations to increase urban plant biodiversity, replace male plants with females where possible, and encourage proper maintenance of green areas. These practical steps were based on a review of the most important causes of increased pollen levels in cities.

The guidelines include increasing biodiversity amongst planted species, as planting a large number of ornamental plants of the same species, particularly those that produce large quantities of pollen, can cause an increase in pollen allergies amongst people living nearby. In Barcelona, for example, nearly 30% of the city's 150,000 trees are of just two species: one of the main causes of pollen allergy in the city. However, they also recommend that city planners avoid closely-related species. Exposure to pollen from closely-related species can cause a strong allergic reaction as the different pollen grains possess similar allergens.

Planners should also plant more female plants. Planting lots of male individuals of plant species with two sexes increases the local pollen count. City planners tend to avoid planting female plants as the fruit they produce can make footpaths slippery.

Introducing non-local species, whether exotic ornamental species or invasive species, can cause an increase in pollen allergies, and introductions of new species need to be carefully controlled. For example, the researchers identify a recent trend to plant Ginkgo trees in some cities as they thrive in urban areas. However, they also produce large quantities of pollen.

The way urban green spaces are managed can also affect pollen levels. The researchers recommend a number of changes, including better maintenance of derelict land and neglected green spaces to reduce the dominance of single species that produce large amounts of pollen. They also note that planting large numbers of a single species close together can significantly increase the local pollen count as air currents cannot effectively disperse the pollen. This happens along tree-lined roads and where plants, such as privet, are used to form living screens. Increasing the space between plants to reduce local concentrations would help planners address this.

Finally, the researchers recommend that low or moderate pollen-producing plants are chosen for urban green spaces and that governments introduce local bylaws to govern the creation of urban green spaces designed to minimise effects on allergy sufferers.

1. See: [www.un.org/esa/population/publications/WUP2005/2005wup.htm](http://www.un.org/esa/population/publications/WUP2005/2005wup.htm)

**Reference:** Carinanos, P. & Casares-Porcel, M. (2011). Urban green zones and related pollen allergy: A review. Some guidelines for designing spaces with low allergy impact. *Landscape and Urban Planning*. 101: 205-214.

**Contact:** palomacg@ugr.es

**Theme(s):** Environment and health, Urban environments

The contents and views included in Science for Environment Policy are based on independent, peer-reviewed research and do not necessarily reflect the position of the European Commission.

To cite this article/service: "[Science for Environment Policy](#)"; European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.