

Aim: take into account the health impact for the choice and the maintenance of plant species in urban and peri-urban area.

Materials and methods:

At the request of Health Authorities, the RNSA published in 2008 an electronic guide in order to inform public or private decision-makers on the necessity of taking into account the Health Impact in the choice and maintenance of plant species implemented in urban and peri-urban area.

This methodologic guide contains some information about:

- the allergy, clinical symptoms and consequences on everyday life
- allergy and plants: pollens allergy potency of some species
- action: by a diversification of some species, by maintaining at specific periods to limit pollen production
- for trees and shrubs: indication of species to avoid and proposals of substitutions depending on the typology of uses (hedges, banks, alignment)
- for grasses: description of species to avoid according to their allergenicity



* Only available in French

Allergy, the clinical symptoms and consequences on everyday life:

The allergy is an abnormal reaction of the body against external substances called allergen. The main clinical symptoms are rhinitis, conjunctivitis and asthma. Allergies affect the quality of life (restriction of usual activities, sleep disturbances, impaired alertness) and have a cost (absence from work, consultations and treatments).

Allergy potency of pollens

The allergy potency takes into account the number more or less important of major allergens into pollen grains. Plants which are on this website are described in the form of sheets classified in function of three allergy potency: weak (yellow), moderate (orange) and high (red).



The allergy risk of exposure

The allergy risk takes into account the allergy potency of the species, the geographical location of the plantation and the number of plants on one area. The maps appearing on the sheets indicate the allergy risk according to a scale with 6 levels: 0 – null (white), 1 – very weak (light green), 2 – weak (dark green), 3 – moderate (yellow), 4 – high (orange) and 5 – very high (red).

Species diversification:

Introduce landscape diversity can reduce the pollen concentration of the same species in the air. According to the allergy potency, the level of diversity necessary to reduce the risk of allergy varies. Species with low allergy potency may be present in greater numbers than those with a high allergy potency. Diversifying species reduces the risk of allergy and makes the plant heritage of a town less sensitive to an epidemic. Create mixed hedges instead of cypress hedges has an effect on the allergy and the standardization of the landscape, it allows the development of a more diverse fauna.

Typology of use: the hedge

Example of species to avoid	Example of advisable species
Cupressus arizonica et Cupressus sempervirens	Prunus cerasifera et Prunus lustanica
Corylus	Cornus alba
Carpinus	Forsythia intermedia
Ligustrum regelianum	Ilex aquifolium
Salix	Laurus nobilis

The hedge is a responsible laying out of many allergies. The mono-specific hedge is the main cause of allergy, with an effect of concentration of allergenic pollens in the air.

Typology of use: fixing banks

Example of species to avoid (allergenic species)	Example of advisable species (non allergenic species)
Acer campestre ou negundo	Cornus stolonifera
Alnus glutinosa	Eounymus europaeus
Betula nigra	Prunus padus
Castanea sativa	Ptelea trifoliata
Fraxinus excelsior	Pterocarya fraxinifolia
Populus alba ou tremula	Pterocarya stenoptera

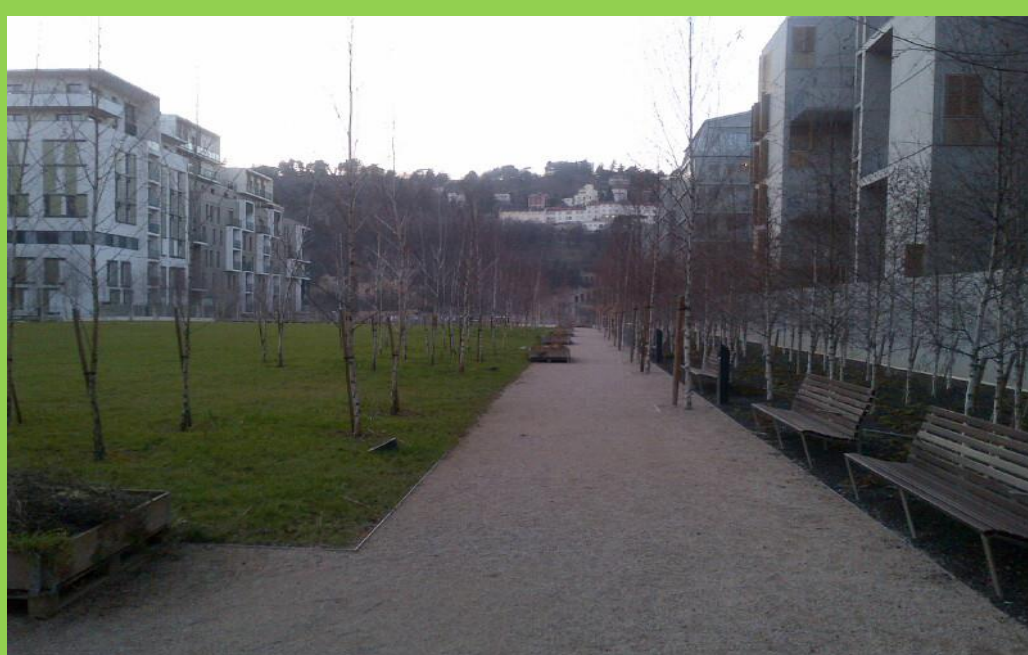
You must choose species that tolerate moisture and are less allergenic.

Typology of use: roadside trees

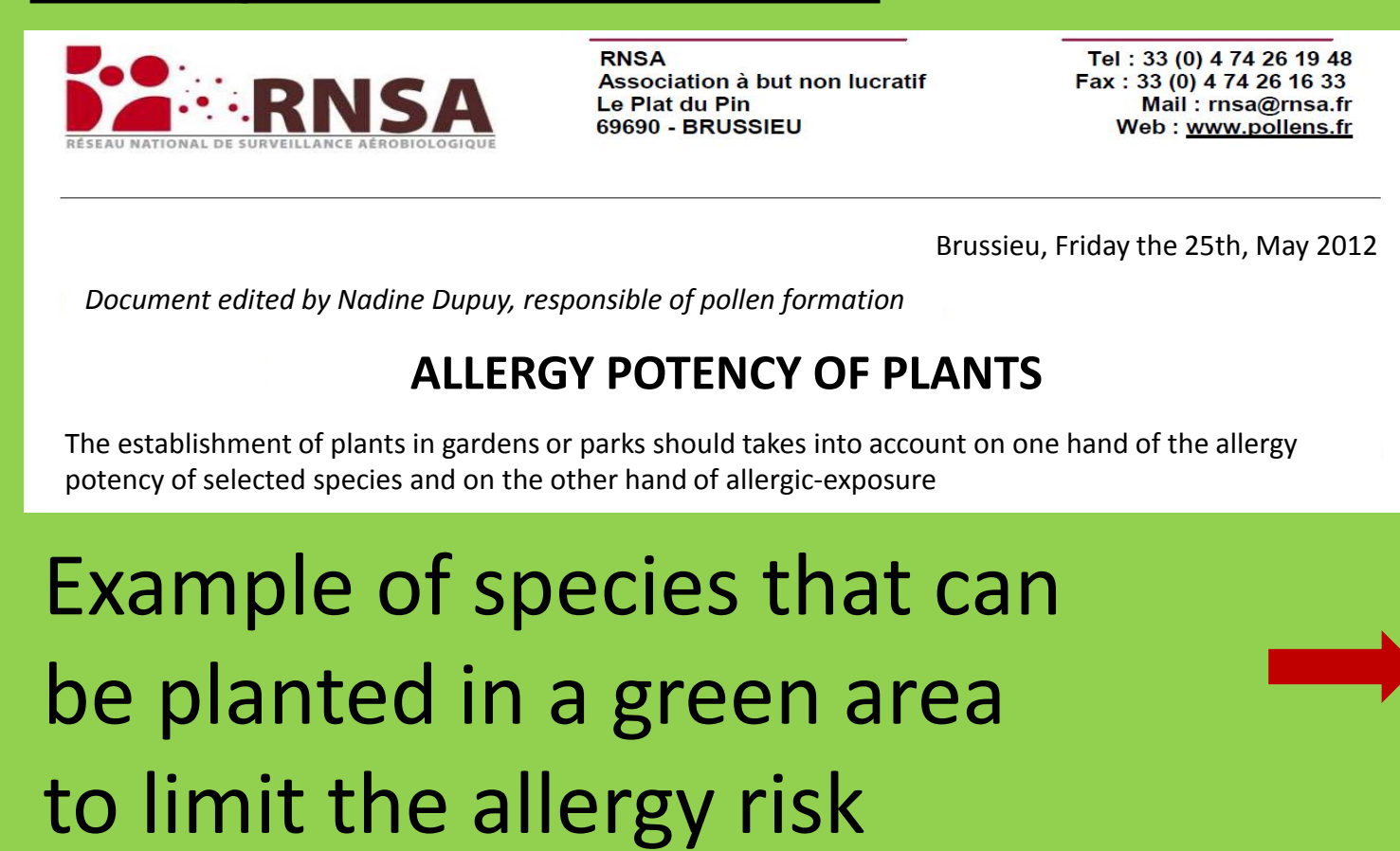
Example of species to avoid (allergenic species)	Example of advisable species (non allergenic species)
Betula	Gingko
Platanus	Gleditsia
Quercus	Ailanthus
Fraxinus	Liquidambar
Alnus	Sorbus
Carpinus	Prunus
Corylus	Celtis
Ulmus	Pyrus
Salix	Ilex

Example of what not to do

A forest of 800 birch (very allergenic tree) has been planted in the center of a big city, in the gardens of a new neighborhood.



Example of what to do



RNSA
RESEAU NATIONAL DE SURVEILLANCE AEROBIOLOGIQUE

RNSA
Association à but non lucratif
Le Plat du Pin
69690 - BRUSSIEU

Tel : 33 (0) 4 74 26 19 48
Fax : 33 (0) 4 74 26 16 33
Mail : rnsa@rnsa.fr
Web : www.rnsa.fr

Brussieu, Friday the 25th, May 2012

Document edited by Nadine Dupuy, responsible of pollen formation

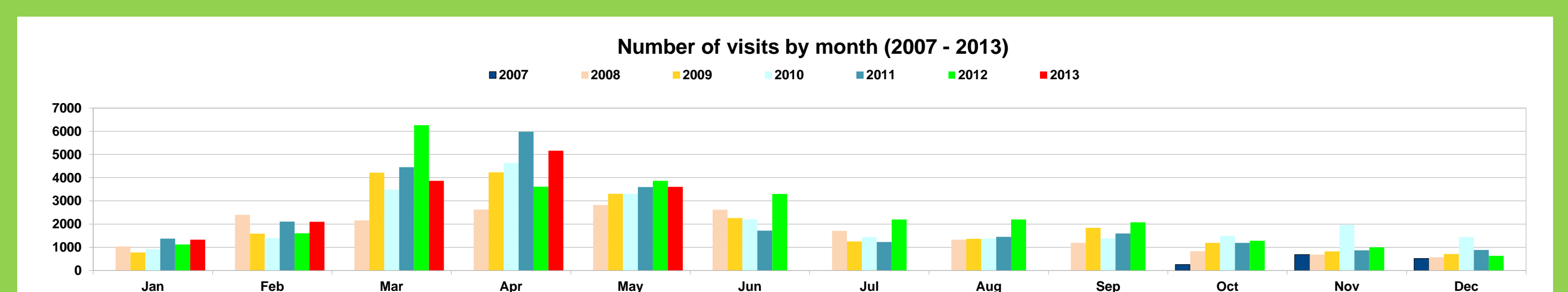
ALLERGY POTENCY OF PLANTS

The establishment of plants in gardens or parks should takes into account on one hand of the allergy potency of selected species and on the other hand of allergic-exposure

Example of species that can be planted in a green area to limit the allergy risk

LIST OF SPECIES	Allergy potency from 0 (null) to 5 (strong)
Liriodendron Tulipifera Aureomarginatum	0
Liriodendron Tulipifera Fastigiatum	0
Cedrus Atlantica	1
Cedrus Atlantica Glauca	1
Cedrus déodora Aurea	1
Pinus Pinea	0
Pinus densiflora umbraculifera	0
Lagerstroemia indica	0
Prunus serrulata Amanogawa	0

Statistics of visits of the website



Conclusion :

This guide provides local decision-makers, landscapers and architects to avoid making mistakes difficult to solve like uniform birch plantations in public parks. It also allows consultants to question or interview the RNSA about the allergy potency of the considered species and allergy risk potentially induced by the vegetation.

In relation to this presentation, I declare that there are no conflicts of interest.