# Multiplication and utilization of ornamental trees in central Algeria

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# MULTIPLICATION AND UTILIZATION OF ORNAMENTAL TREES IN CENTRAL ALGERIA

**Z. Houmani**
Université de Blida,
Institut d' Agronomie, Blida, ALGERIA

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MOTS-CLES:
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## INTRODUCTION

The depletion of natural resources and the deterioration of the environment have become an increasing important problem for society because of the intense exploitation of forests, clearing, over-grazing, over-exploitation of agricutural resources, and urbanizatrion and industrialization. The demographic expansion and the great transformations linked to the socio-economic problems are aggravating these processes of degradation and are accelerating the problems.

The Algiers region, with a high population density, is an environment in which we it is becoming more and more difficult to find the necessary space for rest and leisure. This crowding of the zone is accompanied by diverse problems, such as pollution, erosion and noise. Thus, the green spaces with their protective isolating role constitute an efficient means of defense. In addition, they contribute to the creation of relaxation zones and entertainment. In this way, the importance of the diversity that native or introduced plants offer, is a significant factor in the choice of plants to be used in landscape management, and for the choice of material to meet present and future uses. For this reason, nurseries must adapt their production for the landscaper's needs.

This present study is a contribution to the identification of tree species, used for different purposes, that are found in Algiers:

- Parks and amenity gardens that are generally green, closed, supervised spaces. They are very much frequented in the afternoons and in the summers in particular.
- Public gardens that are open spaces (hospitals, stadiums, schools, planted cities). The trees are essentially used as ornament, avenues and hedges.
- Green places that are places of gathering and trade. They are generally planted with avenue trees, shade, and oullution-resistant trees.
- Important cross-roads transecting the avenues are planted with ornamentals and avenue trees.
- Industrial zones where the green spaces constitute a means of combatting pollution and noise, since the plants have the capacity to filter polluted air.

Outside the urban situation, certain plants are found in a spontaneous or sub-spontaneous state in « natural » spaces (sea-shores, oueds, valleys, slopes, afforestation, wind-screen).

## METHODOLOGY

The survey was carried out in Algiers in the boroughs of Algiers, Blida, Boumerdes and Tipaza.

Identification was according to their utilization (Table 1)

- Urban avenues (alignments) ( Al )
- Immediate proximity to the shore ( S N )
- On the shore, with some protection ( S P )
- Oueds shores and valley bottoms ( O V )
- Slopes ( Sl )
- Wind-screens ( W S )
- Afforestations ( Af )
- Industrial zones ( In )
- Cross-roads ( C R )
- Free-growing and shaped hedges ( He )
- Ornamentals ( Or )
- Parks ( Pa )

In addition, we have identified the trees that are propagated in the most important nurseries of the region.

The taxonomic determination of species was carried out on the basis of standard Floras and Handbooks on ornamental plants such as: 'Le bon jardinier', the Standard Cyclopedia of Horticulture, Flore de l'Algérie. The scientific names (Latin) of the trees are listed, together with their common names in French, Arabic and Kkabyll whenever possible.

## RESULTS

The results are presented on Table 1, that comprises:

- – The average availability ( X ) of trees on the ten nurseries ( Nu ),
- – The different forms of utilization of trees.

The numbers indicate the relative importance of the trees in terms of numbers:

1 = < 20 plants
2 = 20 to 100 plants
3 = 100 to 1000 plants
4 = 1000 to 5000 plants

The asterisks represent the frequency of occurrence of the trees:

* = not very widespread
** = quite widespread
*** = very widespread

## CONCLUSIONS

The trees that aer most frequently multiplied in nurseries are generally those that are introduced, breed easily and are very well known. Others are very little or rarely multiplied. This scarcity could

be due defective seeds, their slow development or/and to the difficulty in selling poorly known plants to consumers. In spite of their scarcity in nurseries, these trees present a great landscape interest.

In **urban centres**, the frequently found trees are:

In **avenues** (alignments) the main trees are:

*Catalpa bignonioides*
*Celtis australis*
*Citharexylum quadrangulare*
*Citrus aurantium*
*Cordia speciosa*
*Eleagnus angustifolia*
*Ficus retusa*
*Gleditsia triacanthos*
*Jacaranda ovalifolia*
*Morus alba*
*Morus nigra*
*Phoenix canariensis*
*Phytolacca dioïca*
*Populus nigra*
*Platanus orientalis*
*Robinia pseudo-acacia*
*Schinus molle*
*Sophora japonica*
*Tipuana speciosa*
*Washingtonia filifera*
*W.robusta.*

As **ornamentals, at cross-roads, in parks**, the following are very often found:

*Araucaria exelsa*
*Cercis siliquastrum*
*Citrus aurantium*
*Fraxinus oxyphylla*
*Morus alba*
*Phytolacca dioica*
*Pinus pinea*
*Populus nigra*
*Prunus pissardii*
*Schinus molle*
*Tipuana speciosa.*

**Outside the urban centers**, tree plantations are also found :

In **avenues** in the:

**Principal arteries of circulation:**

*Eleagnus angustifolia*
*Melia azedarach*
*Morus alba*
*Morus nigra*
*Phoenix canariensis.*

**Entrances to agricultural farms:**

*Ceratonia siliqua*
*Olea europea*
*Phoenix canariensis*
*Washingtonia filifera*
*Washingtonia robusta*

As **hedges:** to maintain the soils and reduce erosion. The most frequently identified species are:

*Casuarina equisetifolia*
*Cupressus sempervirens*
*Phillyrea media*
*Prunus armeniaca*
*Prunus cerasus*
*Prunus mahaleb*
*Schinus molle*
*Sophora japonica*
Ulmus campestris

On **marine shores:** these zones grow species that are particularly adapted to the sea mists. Most of them are exotic:

*Ailanthus glandulosa*
*Araucaria exelsa*
*Casuarina equisetifolia*
*Cupressus lambertiana*
*Eleagnus angustifolia*
*Eucalyptus camaldulensis*
*E. globulus*
*E. gomphocephalus*
*Ficus carica*
*Melia azedarach*
*Olea europea*
*Phytolacca dioïca*
*Pinus canariensis*
*Pinus pinaster*
*Pinus pinea*
*Tipuana speciosa*
*Phoenix canariensis*

On **oued shores and valleys**: The main species are:

*Abies numidica*
*Ailanthus glandulosa*
*Eucalyptus camaldulensis*
*Fraxinus oxyphylla*
*Populus alba*
*Populus nigra*
*Salix alba*

In **agricultural regions:** Here the arborescent vegetation plays a double role:

**PRODUCTIVE FRUIT TREES INCLUDE:**

*Citrus limon*
*Citrus nobilis*
*Diospyros kaki*
*Eryobotria japonica*
*Ficus carica*
*Prunus amygdalus*
*Prunus domestica*
*Pyrus communis.*

**PROTECTIVE ACTING AS WIND-SCREENS:**

*Casuarina equisetifolia*
*Ceratonia siliqua*
*Cupressus sempervirens horizontalis*
*Eucalyptus camaldulensis*
*E. globulus*
*Olea europea*
*Pinus halepensis*

In **afforested zones**: The tree populations of these zones comprise mainly:

*Abies numidica*
*Ailanthus glandulosa*
*Cedrus atlantica*
*Celtis australis*
*Cupressus sempervirens*
*Eleagnus angustifolia*
*Eucalyptus algeriensis*
*E. camaldulensis*
*E. globulus*
*Olea europea*
*Phillyrea media*
*Pinus halepensis*
*Pinus pinea*
*Pinus maritima*
*Quercus mirbeckii*
*Robinia pseudo-acacia*

In **industrial zones**: These are practically devoid of tree plantings. In some pockets are found:

*Araucaria excelsa*
*Casuarina equisetifolia*
*Celtis australis*
*Cupressus sempervirens*
*Eucalyptus algeriensis*
*Eucalyptus globulus*
*Ficus retusa*
*Ficus rubiginosa*
*Olea europea*
*Pinus pinea*

This work contributes then, to a characterization or schematization of the landscape environment of Algiers.

**TABLE 1: PROPAGATION IN NURSERIES AND THE DIFFERENTS USES OF ORNAMENTAL TREES IN CENTRAL ALGERIA**

| | | | | X | U | | T | I | L | I | Z | A | T | I | O | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Genus and species** | **French name** | **Arabic name** | **Kabyl name** | **Nu** | **Al** | **SN** | **SP** | **OV** | **Sl** | **WS** | **Af** | **In** | **CR** | **He** | **Or** | **Pa** |
| *Abies numidica* Del. | Sapin de numidie | | Toumert | 1 | | | | | • | | • | | | | | |
| *Acanthophoenix crinita* Wendl. | Palmier | Nekhla | | 0 | | | | | | | | | | | | * |
| *Ailanthus glandulosa* Desf. | Ailanthe = vernis du japon | | | 0 | | • | | • | | | • | | | | | * |
| *Albizzia lophantha* Benth. | Albizzia | Labakh | | 0 | | | • | | | | | | • | | • | * |
| *Araucaria exelsa* R.Br. | Araucaria | | | 2 | | • | | | | | | • | • | | • | *** |
| *Brachychiton acerifolium* L. | Brachychiton à feuilles d'acer | | | 0 | | | | | | | | | • | | • | ** |
| *Brachychiton populneum* R.Br. | Brachychiton à feuilles de peuplier | | | 2 | | | | | | | | | | | • | * |
| *Brexia madagascariensis* L. | Brexia | | | 0 | | | | | | | | | | | • | * |
| *Broussonetia papyfera* L. | | | | 0 | | | | | | | | | | | • | * |
| *Carya illinoinensis* (Wangenh.) C. Koch = C. pecan (Marsh.) | Pacanier | | | 2 | | | | | • | | | | | | • | |
| *Castanea sativa* L. | Chataignier | Kastal | Abeloute | 1 | | | | | • | | | | | | • | |
| *Casuarina equisetifolia* Forst. | Filao | | | 4 | | • | | | | • | | • | | • | | *** |
| *Catalpa bignonioïdes* L. | Catalpa | | | 0 | • | | | | | | | | | | • | * |
| *Cedrus atlantica* (Endl.) Carr. | Cedre de l'atlas | Meddad | Inguel | 2 | | | | | • | | • | | | | • | * |
| *Celtis australis* L. | Micocoulier | Biques | Terzaz | 0 | • | | | | • | | • | • | | | • | * |
| *Ceratonia silica* L. | Caroubier | Kharoub | Akharoub | 1 | • | | | | | • | | | | | • | * |
| *Cercis siliquastrum* L. | Arbre de Judée | | | 2 | | | • | | • | | | | | | • | *** |
| *Cinnamomum camphora* (L.) J. Presl | Camphrier | Kafour | Elkafour | 1 | | | | | | | | | | | • | * |
| *Citharexylum quadrangulare* Jacq. | Citharexylon | | | 1 | • | | | | | | | | | | • | * |
| *Citrus aurantium* L. 'Amara' Link | Bigaradier | Larendj | Arendj | 3 | • | | | | | | | | | • | • | *** |
| *Cocos weddeliana* Wend. | Cocos | | | 3 | • | | • | | | | | | • | | • | *** |
| *Cordia speciosa* Wil. | Cordia | | | 2 | • | | | | | | | | • | | • | *** |
| *Corylus avellana* L. | Noisetier | Bendak | | 1 | | | | | • | | | | | | • | * |
| *Cupressus arizonica* Green | Cyprés d'arizone | | | 1 | | | | | | | | | | | • | ** |
| *Cupressus lambertiana* Carr. | Cyprés lambert | | | 2 | • | • | | | | | | | • | | • | *** |

**Table 1 continued**

| | | | | X | | U | T | I | L | I | Z | A | T | I | O | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Genus and species** | **French name** | **Arabic name** | **Kabyl name** | **Nu** | **Al** | **SN** | **SP** | **OV** | **Sl** | **WS** | **Af** | **In** | **CR** | **He** | **Or** | **Pa** |
| = *C. macrocarpa* Hartweg ex Gordon | | | | | | | | | | | | | | | | |
| *Cupressus sempervirens* L. | Cyprés vert | Bestana | Irz | 4 | | | • | | | • | • | • | • | | • | *** |
| *Diospyros kaki* L. | Plaqueminier | Plakmine | | 2 | | | | | | | | | | | • | * |
| *Diospyros virginiana* L. | Plaqueminier vert | | | 1 | | | | | | | | | | | • | * |
| *Dracaena deremensis* Engler | Dracaena rouge | | | 2 | | | • | | | | | | • | • | • | *** |
| *Dracaena draco* L. | Dragonnier | | | 3 | | | • | | | | | | • | • | • | *** |
| *Eleagnus angustifolia* L. | Chalef | Zayzafou | | 3 | • | • | | | | | • | | • | | | |
| *Eriobotrya japonica* Lindl. | Neflier du japan | Zaarour | Thougrast | 3 | | | | | • | | | | | | • | *** |
| *Eucalyptus algeriensis* Trabut | Eucalyptus algérien | Calitous | Calitous | 0 | | | | | • | | • | • | | | • | * |
| *Eucalyptus camaldulensis* Dehm. | Eucalyptus camal | kafour | kafour | 3 | | • | | • | • | • | • | | | | • | *** |
| *Eucalyptus globulus* Lab. | Eucalyptus commun | Calitous | Calitous | 3 | | • | | | • | • | • | • | • | | • | ** |
| *Eucalyptus gomphocephalus* A. DC. | Eucalyptus | Calitous | Calitous | 0 | | • | | | | | | | | | | |
| *Eugenia jambolana* Lam. | Jamelongue | Zitoun rousse | | 2 | | | | | | | | | | | • | * |
| *Ficus carica* L. | Figuier commun | Karma | Tagrourth | 3 | | • | | | • | | | | | | • | * |
| *Ficus callosa* L. | Ficus | | | 0 | | | | | | | | | | | • | * |
| *Ficus elastica* Roxb. | Caoutchouc | Caoutcho | Caoutcho | 3 | • | | | | | | | | • | | • | ** |
| *Ficus macrophylla* Desf. | | | | 0 | | | | | | | | | • | | • | ** |
| *Ficus retusa* L. | Figuier luisant | | | 2 | • | | | | | | | • | | | • | ** |
| *Ficus rubiginosa* Desf. | | | | 0 | • | | | | | | | • | • | | • | * |
| *Fraxinus oxyphylla* Bieb. | Frêne oxyphylle | Dardar | Asselen | 2 | • | | | • | | | | | | | • | *** |
| *Fraxinus berlandieriana* L. | Frêne | Dardar | | 0 | • | | | | | | | | | | • | * |
| *Ginkgo biloba* L. | Arbre aux 40 écus | | | 1 | | | | | | | | | • | | • | |
| *Gleditsia triacanthos* L. | Févier à 3 épines | | | 1 | • | | | | | | | | • | | • | * |
| *Grevillea robusta* Ait. | Grevillier | | | 0 | | | | | | | | | | | • | * |
| *Hovenia dulcis* L. | | | | 0 | | | | | | | | | | | • | * |
| *Jacaranda mimosifolia* D. Don = *J. ovalifolia* R.Br. | Arbre à huitres | | | 3 | • | | | | | | | | • | | • | ** |

**Table 1 continued**

| | | | | X | | U | T | I | L | I | Z | A | T | I | O | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Genus and species** | **French name** | **Arabic name** | **Kabyl name** | **Nu** | **Al** | **SN** | **SP** | **OV** | **Sl** | **WS** | **Af** | **In** | **CR** | **He** | **Or** | **Pa** |
| *Juglans regia* L. | Noyer commun | Djouza | Tadjouzet | 2 | • | | | | • | | | | | | | |
| *Kentia (Howea) belmoreiana* L. | Kentia | | | 0 | | | | | | | | | • | | • | ** |
| *Koelreuteria paniculata* Laxm. | Savonnier | | | 1 | • | | • | | | | | | • | | • | * |
| *Lantana borbonica* L. | Latanier | | | 0 | | | • | | | | | | • | | • | * |
| *Liquidambar orientalis* Miller | Copalme | | | 0 | | | | | | | | | | | • | * |
| *Maclura aurantiaca* L. | Bois d'arc | | | 0 | | | | | | | | | | | • | * |
| *Magnolia grandiflora* L. | Magnolier | | | 2 | | | | | | | | | | | • | ** |
| *Melia azedarach* L. | Lilas des indes | | | 4 | • | • | | | | | | | | | • | ** |
| *Morus alba* L. | Murier blanc | Toute | Touth | 3 | • | | • | | | | | | • | | • | *** |
| *Morus alba 'pendula'* L. | Murier pleureur | Tout | Touth | 0 | | | • | | | | | | | | • | * |
| *Morus nigra* L. | Murier noir | Tout lakhal | Touth aberkhèn | 2 | • | | • | | | | | | | | • | ** |
| *Olea europea L.* | Olivier d'europe | Zitoun | Azemour | 3 | • | • | | | • | • | • | • | • | | | ** |
| *Oreopanax nymphaeifolium* Dcn. & Planchon | Aralia en arbre | | | 2 | | | | | | | | | • | | • | ** |
| *Parkinsonia torreyana* S. Wats. (=*Cercidium floridum* Benth. ex A.Gray) | Parkinsonia | | | 1 | | | | | | | | | • | | • | * |
| *Paulownia tomentosa* (Thunb.) Steudel | Paulownia | | | 1 | | | | | | | | | | | • | * |
| *Persea gratissima* Gaert. | Avocatier | | | 2 | | | | | | | | | | | • | * |
| *Phillyrea media* L. | | | | 0 | | | | | • | | • | | | | • | * |
| *Phoenix canariensis* L. | Palmier des canaries | Nekhla | Thanakhalt | 4 | • | | • | | | | | | • | | • | *** |
| *Phoenix dactylifera* L. | Palmier dattier | Nekhla | Tazdaït | 1 | | | | | | | | | | | • | * |
| *Phytolacca dioica* L. | belombra | | | 1 | • | • | | | | | | | | | • | *** |
| *Picea abies* (L.)Karst. | Sapin | | | 0 | | | | | | | • | | | | • | * |
| *Pinus canariensis* Smith | Pin des canaries | Snaoubar elkanari | Taïda | 2 | | • | | | | | • | | | | • | * |
| *Pinus halepensis* Miller | Pin d'Alep | Snaouber | Taïdha | 3 | | | • | | | • | • | | | | | *** |
| *Pinus laricio* L. | Pin laricio | | | 0 | | | | | | | • | | | | • | *** |

**Table 1 : Continued**

| | | | | X | U | T | I | L | I | Z | A | T | I | O | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Genus and species** | **Frnch name** | **Arabic name** | **Kabyl name** | **Nu** | **Al** | **SN** | **SP** | **OV** | **Sl** | **WS** | **Af** | **In** | **CR** | **He** | **Or** | **Pa** |
| *Pinus pinaster* Aiton | Pin maritime | Snaouber | Taïdha | 3 | | • | | | | | • | | | | • | * |
| *Pinus pinea* L. | Pin parasol | Snaouber | Taïda | 3 | • | • | | | | | • | • | | | • | *** |
| *Pistacia atlantica* Desf. | Pistachier de l'atlas | Betoum | Tecemlalt | 2 | | | | | | | | | | | • | • |
| *Platanus orientalis* L. | Platane d'orient | | | 3 | • | | • | • | | | | | • | | • | * |
| *Populus alba* L. | Peuplier blanc | Safsaf | Asafsaf | 1 | | | • | • | • | | | | • | | • | * |
| *Populus nigra* L. | Peuplier noir | Safsaf | Asafsaf | 2 | • | | • | • | | | | | • | | • | *** |
| *Populus nigra ' italica'* L. | Peuplier d'Italie | Safsaf touil | | 2 | • | | | | | | | | | | • | * |
| *Prunus amygdalus 'Amara'* DC. | Amandier amer | Louz elmour | Louz amarzagh | 0 | | | | • | • | | | | | | | |
| *Prunus amygdalus 'Dulcis'* Stokes | Amandier commun | Louz lahlou | Louz lahlou | 3 | | | | • | • | | | | | | | |
| *Prunus armeniaca* L. | Prunier d'arménie | | | 0 | | | | | | | | | | | • | * |
| *Prunus cerasus* L. | Cerisier acide | Kerz | | 2 | | | | | | | | | | • | • | * |
| *Prunus mahaleb* L. | Cerisier de St. Lucie | Mahleb | | 1 | | | | | | | | | | • | • | * |
| *Prunus pissardii* Carr. | Cerisier de pissarde | | | 1 | • | | | | | | | | • | | • | *** |
| *Pseudotsuga menziesii* (Mib.) Franco | Douglas vert = Sapin de Douglas | | | 1 | | | | | | | | | | | • | * |
| *Quercus aegilops* L. | Chêne | | | 0 | | | | | | | | | | | • | * |
| *Salix alba* L. | Saule blanc | Aoud elmaa | Tafsent | 2 | | | | • | | | | | | | • | ** |
| *Salix babylonica* L. = *S. pendula* Moench | Saule pleureur | Zelzi | | 2 | | | | • | | | | | | | • | * |
| *Schinus molle* L. | Faux poivrier | | | 4 | • | | • | | | | | | | | • | *** |
| *Schinus terebenthifolius* Raddi | | | | 2 | | | | | | | | | | | • | * |
| *Sequoia gigantea* Dcn. = *Sequoiadendron giganteum* (Lindley) Buch. | Sequoia | | | 0 | | | | | | | | | | | • | * |
| *Sophora japonica* L. | Sophora du japon | Sophero | | 2 | • | | | | | | | | | | • | * |
| *Sophora japonica 'pendula'* Loudon | Sophora pleureur | | | 0 | | | | | | | | | | • | • | * |

**Table 1 : Continued**

| | | | | X | U | T | I | L | I | Z | A | T | I | O | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Genus and species** | **Frnch name** | **Arabic name** | **Kabyl name** | **Nu** | **Ai** | **SN** | **SP** | **OV** | **Sl** | **WS** | **Af** | **In** | **CR** | **He** | **Or** | **Pa** |
| *Tilia cordata* Miller = *T. ulmifolia* Scop. | Tilleuil | | | 1 | • | | | | | | | | | | • | * |
| *Tipuana tipu* ( Benth.) Kuntze = *Machaerium tipu* Benth. | Tipa | | | 2 | • | • | | | | | | | | • | • | ** |
| *Ulmus campestris* L. | Orme champêtre | Nechem | Oulmou | 1 | • | | | | • | | | | | • | • | ** |
| *Washingtonia filifera* (L. Linden) H. Wendl. | Washingtonia = Pritchardia | Nekhla | Thanakhalt | 4 | • | | • | | | | | | • | | • | *** |
| *Washingtonia robusta* H.Wendl. | Washingtonia robuste | Nakhla | Thanakhalt | 4 | • | | • | | | | | | • | | • | *** |

## REFERENCES

AUGE, P., ALLEMAND, P. & HAMES, R. 1973. *Les arbres et arbrisseaux acclimatés en région méditerranéenne française*. INRA, Paris.

BAILEY L. H., 1961. *Standard cyclopedia of horticulture*. The Macmillan Company, NewYork.

CHABAUD *B., 1912. Les* palmiers de la côte d'Azur. La Maison Rustique, Paris.

DEBAZAC E. F. 1964. *Manuel des conifères*. Ecole Naturelle des eaux et forêts, Nancy.

LE BON JARDINIER. 1964. 152ème édition (2 vol). La Maison Rustique, Paris.

MOUILLEFERT P., 1898. *Traité des arbres et arbustes*. Librairie des Sciences Naturelles, Paris.

PARDE L. 1943. *Les feuillus* . La Maison Rustique, Paris.

*Revue horticole de l'Algérie*, *Bulletin de la société d'horticulture d'Algérie*, 1900, T. IV, Imprimerie agricole et commerciale, Alger.

*Revue horticole de l'Algérie*, *Bulletin de la société d'horticulture d'Algérie*, 1908, T. XII, Imprimerie agricole et commerciale, Alger.