

The Cultivation of Oaks in Argentina

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Around 1860 the first exotic arboreal species, *Eucalyptus*, was introduced into the country with the purpose of greening the vast treeless pampas. By the turn of the 20th century, many ranches or 'estancias' had been established by European settlers, and famous international architects were invited to design the parks of these farms. Conifers and broadleaves from Europe and North America were abundantly planted and thrived vigorously. Among them were the oaks. Even though Argentina covers variable climates, from subtropical to desert patagonia, the most important man-made gardens are situated in the pampas area, which has a mean annual rainfall that ranges from 600 mm up to 1100 mm, with summer temperatures that rise to 40° C, and winters temperatures down to -6° C. Frequent late spring frosts can be quite harmful to the oaks.

The first oak plantations in gardens were primarily *Quercus robur*, *Q. palustris* and *Q. rubra*. Some specimens of *Q. ilex*, *Q. suber*, *Q. imbricaria* and *Q. macrocarpa* completed the list of oak plantings a century ago. Some of the early-planted oaks have grown rapidly and the largest, or 'Champion Oaks', that we have measured are:

- *Q. robur* (isolated tree): 27m height, 4.40m girth, 30m crown spread; estimated age: 80.
- *Q. robur*: 30m height, 3.80m girth, 35m crown spread; estimated age: 95.

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- *Q. palustris* (isolated tree): 32m height, 4.30m girth, 30m crown spread; estimated age: 90.
- *Q. imbricaria* (isolated tree): 22m height, 4.40m girth, 29m crown spread; age: 80.
- *Q. ilex* (isolated tree): 25m height, 5.30m girth, 30m crown spread; age: 100.

All these trees are in very good vigor and health. Due to their fast growth and young age (less than 100 years old), they should double or triple in age. But, the question is: How much additional height and diameter will they put on, and what are the limits for the size of these trees in the environment of Argentina? Future generations will have to answer these questions.

Three decades ago some oak enthusiasts (now members of the International Oak Society) began planting collections with introductions of acorns from around the world. Today, over 130 *Quercus* taxa are thriving successfully here. For acorns brought in during the southern springtime, a prechilling period of around sixty days is provided, except for those seeds which are sprouting upon arrival. Acorns are sown in individual containers to

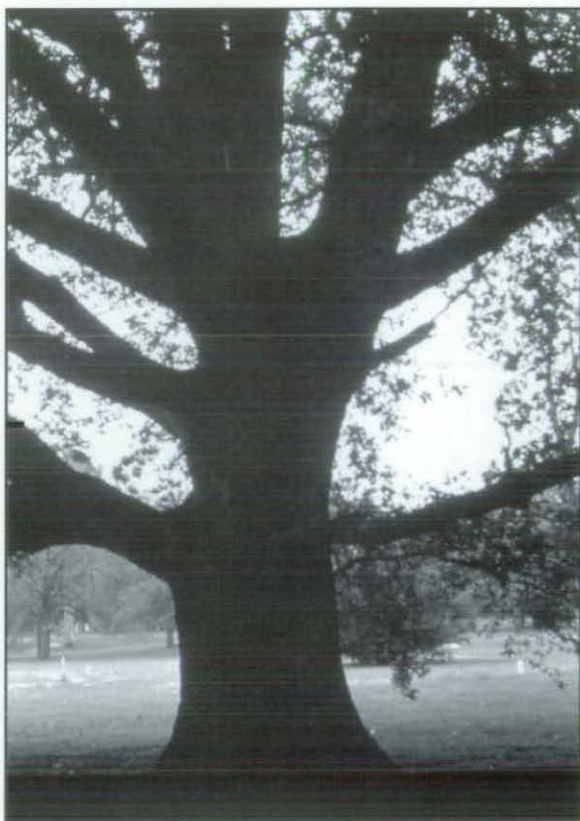


Photo by author

Quercus robur in Argentina, 27 meters tall at 70 years of age.

avoid future losses of seedlings resulting from transplanting. As summer time is hot, a shaded greenhouse or tree cover is necessary. By autumn (April-May), the most vigorous seedlings

may be definitely planted, but the others are kept in the greenhouse until springtime. Direct seeding of *Q. robur* in an understory of poplars or willows, which are expected to be clearcut, has given excellent results; the saplings grow easily with no need of maintenance or irrigation. Between the third and sixth year, the overstory is felled and a wonderful oak wood is created.

We have observed that almost all oak species planted here produce abundant mast after they commence flowering (eight to twelfth year), and the acorns germinate easily beneath the canopy of their mother trees.

Autumn colors are striking in *Q. palustris*, *Q. coccinea*, *Q. shumardii*, *Q. alba*, *Q. michauxii*, *Q. lyrata*, *Q. ellipsoidalis*, *Q. rubra*

and *Q. libani*. *Q. pyrenaica* has a particular feature, being the last of the oak species to burst bud in the spring – a characteristic which helps it avoid damage from late frosts, which do harm the early-leaving oaks. *Q. canariensis*, *Q. bicolor* and *Q. acutissima* are currently growing at a rate of 0.90 m annually, up to the age of sixteen, and *Q. pubescens* thrives even in shallow calcareous soils.

There have been no significant health problems among the oak plantations, except for damage from leaf cutting ants, which require special control in young stands.

Thanks to the interchange of seeds with International Oak Society members, we are able to continuously increase the oak collection in Argentina.



Photo by author

Quercus ilex in Argentina, 30 meters in crown spread at approximately 100 years of age.