Common walnut (*Juglans regia* L.) is cultivated across much of Europe.

Site requirements

**TEMPERATURE**

*Juglans regia* requires warmth during the growing season; requiring at least 6 months with an average temperature >10 °C (Becquey, 1997). *J. regia* is sensitive to winter and late spring frosts.

**WATER**

For optimum growth, *Juglans regia* requires 700-800 mm of rainfall, which ideally is well-distributed throughout the year.

**SOIL**

The best soils for *J. regia* cultivation are loams (clay >25%, silt 30-50% and sand 30-50%)

Growth pattern

In plantation conditions, for single *Juglans regia* trees no more than 70 years old, diameter increments of approximately 1 cm per year have been observed.

Crown architecture

Crown shape in *Juglans regia* is strongly influenced by the density of stems and species mixture of a plantation. In pure walnut plantations with low density and without artificial pruning, *J. regia* tends to produce forks and large branches. Crown shape and branching habit in dense mixed plantations contrast greatly to those in pure plantations.

Tree with high quality stem form could be obtain in pure walnut plantations with artificial pruning.

30 years pure walnut plantation in Empoli (Italy) with artificial pruning

Regeneration

Both gamic and agamic regeneration are possible. During first 4-5 years vegetative regeneration can be used to replace young damaged trees.

PRUNING

Three different artificial systems are used: flagpole pruning, progressive pruning and recently reiterative pruning (Becquey, 1997; Bidini *et al.*, 2004).

THINNING

Thinning must be undertaken before lateral competition influences diameter growth.

Cultivation systems

**MULTIPURPOSE PLANTATIONS**

Combining nut and timber production (Minotta, 1990; Minotta, 1992)

**SPECIALIZED PLANTATIONS FOR TIMBER**

- **pure plantations**
- **mixed plantation** with companion trees and shrubs (especially N-fixing trees)
- **polycyclical plantations** combining medium-long term production (walnut) with short term production (poplar and S.R.F.) (Buresti Lattes et al. 2006, 2008; Vidal and Becquey 2008)

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This poster is a summary of "Title of the full paper", freely available on www.valbro.uni-freiburg.de