

# NOGAL

## SPECIES IDENTIFICATION

|                             |   |
|-----------------------------|---|
| <b>SCIENTIFIC NAME</b>      | <i>Juglans australis</i> Griseb.  |
| <b>FAMILY</b>               | JUGLANDACEAE  |
| <b>COMMERCIAL NAME</b>      | Tropical walnut   |
| <b>OTHER NAMES</b>          | Palo de nuez (Central America), Nogal criollo (Argentina), Tocte (Ecuador)              |
| <b>DISTRIBUTION AREA</b>    | Humid temperate forests in Departments of Cochabamba, Tarija, Chuquisaca and Santa Cruz |
| <b>REGION AND FREQUENCY</b> | Very frequent in Amazonian foothills  |

## TREE DESCRIPTION

|                |  |
|----------------|--|
| <b>TREETOP</b> | Wide and leafy, intense green foliage                                |
| <b>TRUNK</b>   | Straight and cylindrical, with commercial heights up to 25 m         |
| <b>BARK</b>    | Dark grayish color to brown grayish color. Aromatic. Very corrugated |

## GENERAL CHARACTERISTICS

|                      |                 |                         |                                |
|----------------------|-----------------|-------------------------|--------------------------------|
| <b>SAPWOOD COLOR</b> | White yellowish | <b>HEARTHWOOD COLOR</b> | Dark brown, with mulberry tint |
| <b>ODOR</b>          | Peculiar        | <b>TASTE</b>            | Peculiar                       |
| <b>LUSTER</b>        |                 | <b>GRAIN</b>            | Straight to Interlocked        |
| <b>STRIPED</b>       | Tenuous         | <b>TEXTURE</b>          |                                |

## ANATOMIC DESCRIPTION

### ANNUAL GROWTH RINGS

|                   |  |                       |  |
|-------------------|--|-----------------------|--|
| <b>Visibility</b> |  | <b>Average Number</b> |  |
|-------------------|--|-----------------------|--|

### PORES

|                   |                                     |                 |              |
|-------------------|-------------------------------------|-----------------|--------------|
| <b>Visibility</b> | Visible at sight                    | <b>Porosity</b> | Semicircular |
| <b>Type</b>       | Solitaries and radial multiple of 4 | <b>Shape</b>    |              |

### PARENCHYMA

|                   |                                  |                 |  |
|-------------------|----------------------------------|-----------------|--|
| <b>Visibility</b> |                                  | <b>Quantity</b> |  |
| <b>Type</b>       | Apotraqueal in tangential strips |                 |  |

### RADIUS

|                   |                            |                            |        |
|-------------------|----------------------------|----------------------------|--------|
| <b>Visibility</b> | With magnifying glass 10 x | <b>magnifying Contrast</b> | Absent |
|-------------------|----------------------------|----------------------------|--------|

|                       |        |
|-----------------------|--------|
| <b>Stratification</b> | Absent |
|-----------------------|--------|

## PHYSICAL PROPERTIES

|                                 |                        |
|---------------------------------|------------------------|
| MOISTURE CONTENT (GREEN LUMBER) | %                      |
| BASIC DENSITY                   | 0,52 g/cm <sup>3</sup> |
| DENSITY (12% MOISTURE CONTENT)  | 0,59 g/cm <sup>3</sup> |
| RADIAL SHRINKAGE                | 4,3 %                  |
| TANGENTIAL SHRINKAGE            | 9,5 %                  |
| VOLUMETRIC SHRINKAGE            | 14,3 %                 |
| RATE T/R                        | 2,2                    |

## MECHANICAL RESISTANCE

|                               |                            |
|-------------------------------|----------------------------|
| MODULUS OF ELASTICITY         | 85 1000 Kg/cm <sup>2</sup> |
| MODULUS OF RUPTURE            | 865 Kg/cm <sup>2</sup>     |
| COMPRESSION PARALELL TO GRAIN | 505 Kg/cm <sup>2</sup>     |
| QUARTEREDSAWED                | 64,2 Kg/cm <sup>2</sup>    |
| LATERAL HARDNESS              | 602 Kg                     |
| IMPACT BENDING                | Kg-m                       |

## TECHNNICAL CONDITIONS FOR PROCESSING

|                    |   |
|--------------------|---|
| MACHINING          | Easy machining.. Good finishing                   |
| PRESERVATION       | Rather permeable                                  |
| NATURAL DURABILITY | Durable, specially when not in contact with soil  |
| DRYING             | Difficult drying, water vaporizing is recommended |

## END USES

|                   |          |
|-------------------|----------|
| Furniture         | Flooring |
| Decorative Veneer |          |

Source : MDSP, FAO PAF-BOL, IBAMA, LPF “Información Técnica para el Procesamiento Industrial de 134 especies maderables de Bolivia”. Serie Técnica XI. 2002. (Translated by Fernando Aguilar . Marketing - CADEFOR)