

# HYBRID WALNUT

## Our good tips to grade seedlings !

Hybrids nuts are produced on seed orchards where two species are mixed planted: one black American walnut, i.e. *Juglans nigra* or *Juglans major* (depending on seed orchard) and the Common walnut.

The hybrid rate obtained by open pollination may vary, due to climatic conditions. Non-hybrid nuts give *Juglans nigra* or *Juglans major* seedlings that need to be identified or cut off on the seedbeds. Grading can be done when digging out plants, but then it requires more experience.



NG23 hybrids are the progeny of *Juglans nigra* x *regia*. Because they're rather vigorous and homogeneous hybrids, they're easy to separate from *J. nigra* seedlings at the tree nursery stage. Hybrid rate ranges from 30 to 90%.

MJ209 hybrids are the progeny of *Juglans major* x *regia*. Seedlings show heterogeneous appearance and vigour, with about 30% of low vigour hybrid plants which will remain weak once planted. Thus, we highly recommend to get rid of them when digging out plants. Hybrid rate of this variety is usually higher, ranging from 50 to 99%.



The seedlot's hybrid rate is provided with the quality certificate, giving you the rate of finished plants. In the following pages, you'll find key recognition criterias, to identify hybrids from non-hybrids among 1 and 2 year seedlings.



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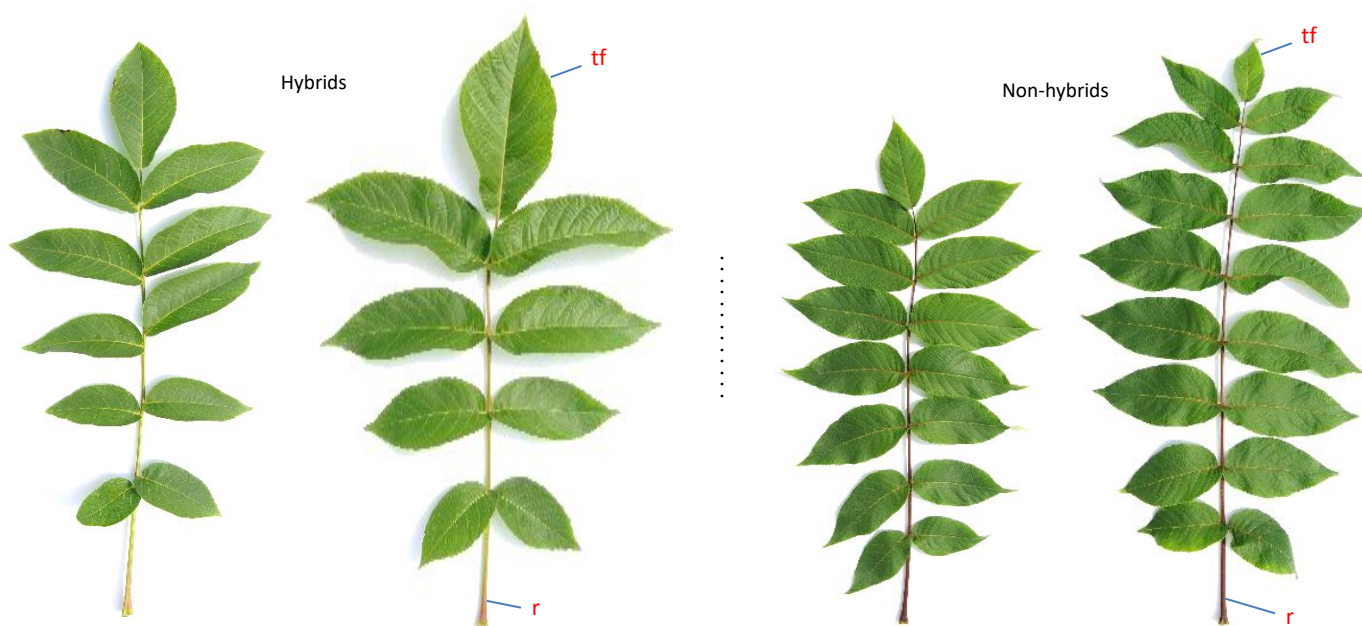
In Summer:

### HYBRID

- Large and slightly embossed light green leaflet.
- 7 to 11 leaflets/leaf during the first summer (sometimes up to 13 for the last leaf of the most vigorous plants). From 9 to 13 leaflets on second vegetation year.
- Terminal leaflet (tf) is often bigger than other leaflets from the same leaf.
- Leaflet pairs spaced out from others.
- Rachis (r) is green or light pink colored all the length and sometimes purple, but only at the base.
- NG23 plants are often more vigorous.

### NON-HYBRID

- Small embossed leaflets.
- 11 to 17 leaflets/leaf during the first summer (but less for base plant leaves). From 13 to 21 leaflets on second vegetation year.
- Sometimes missing or at least smaller terminal leaflet (tf) than other leaflets from the same leaf.
- Leaflet pairs are closer from each other.
- Rachis (r) is purple colored on all its length.
- Among a NG23 seedlot, non-hybrids are less vigorous than hybrid plants.



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In Autumn:

### HYBRID

- Leaf drop occurs 5 to 10 days later.
- Autumn colour close to *Juglans regia* one



### NON-HYBRID

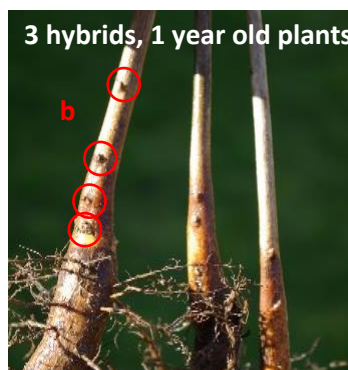
- Early leaf drop.
- Among a NG23 seedlot, *J. nigra* colour will turn to a typical yellow, when the hybrids will stay green longer (as seen on the pic on the left). It's however less obvious with MJ209 seedlot.



In Winter:

### HYBRID

- Top stem has a *Juglans regia* colour like, from green to brown.
- Bark stays smooth above collar of young plants.
- Young seedlings bear 3 to 5 pairs of opposed and lined-up as "buttonhole" buds (b).



### NON-HYBRID

- Browner, colourless top stem.
- Young seedlings sometimes show light crack just above the collar. It's more obvious on 2 year plants.
- No "buttonhole"-like buds above collar

# HYBRID WALNUT

## Our good tips to grade seedlings !

Get trained !  
( 1 year MJ209 seedlings )



1 : hybrid  
2 : non hybrid  
3 : non hybrid  
4 : hybrid  
5 : hybrid  
6 : hybrid  
7 : non hybrid



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Limagrain