

Microcloning, as a nursery propagation technique for a global avocado industry

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Clonals vs Seedlings

Clonal tree advantages compared to conventional seedling trees:

- Superior root distribution and quality => higher leaf coverage
- More homogeneous orchard and successful tree establishment
- Resistant rootstocks can be multiplied

Clonal tree disadvantages (for the nursery) compared to conventional seedling trees:

- Cost and time of production
- Labor intensive

Questions to be asked by growers before deciding between clonal or conventional:

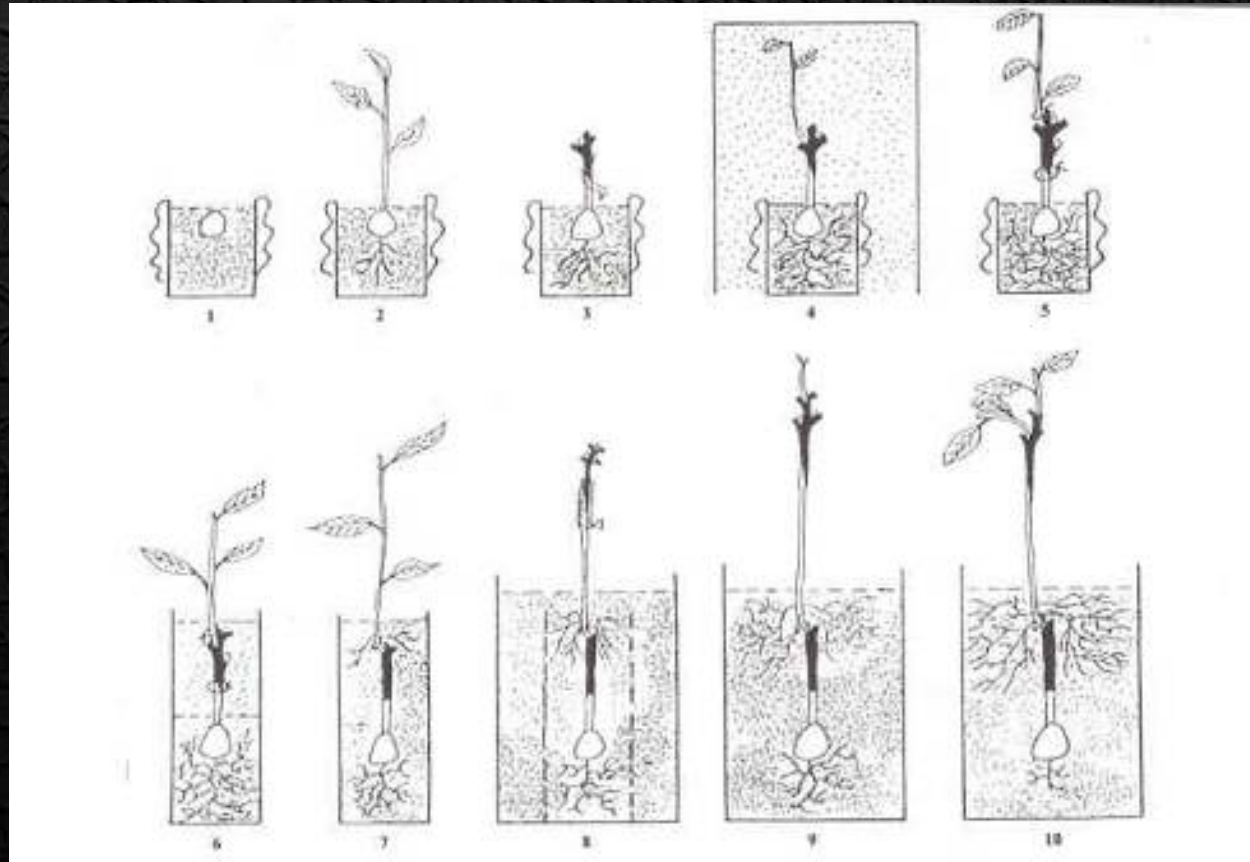
Location in the world? Soil type? Disease pressures?

What rootstock characteristics are sought after?

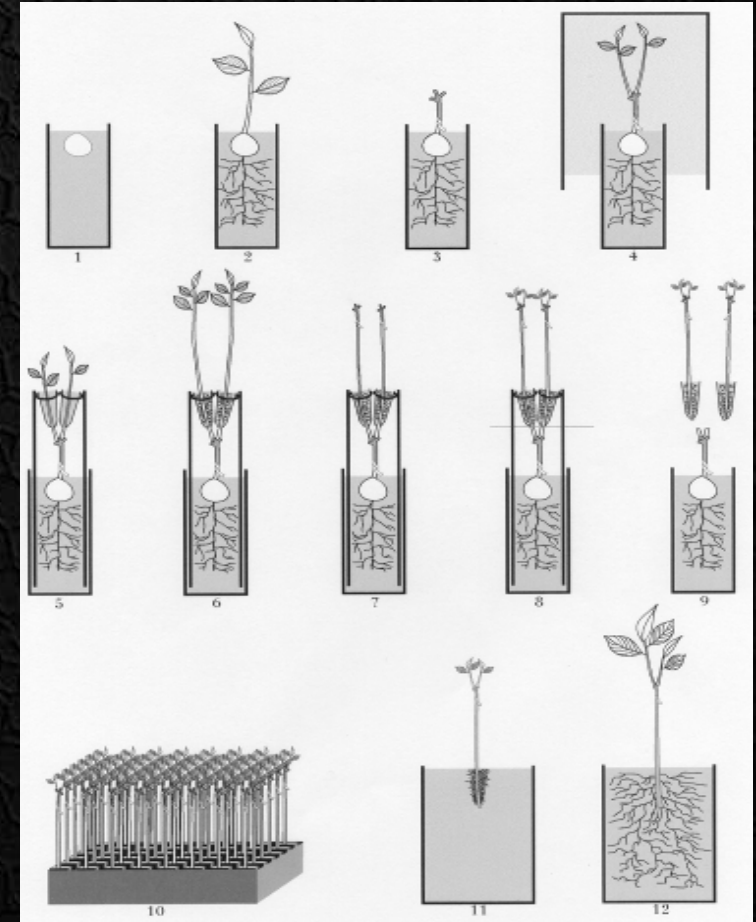


Clonal tree techniques

Frolich



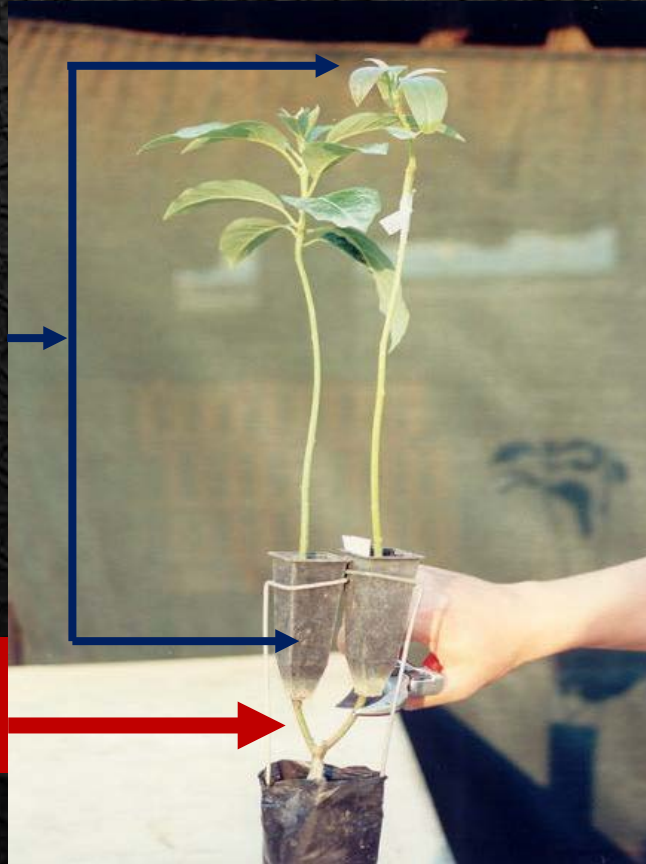
Micro Cloning



Buffer Zone

Micro clone

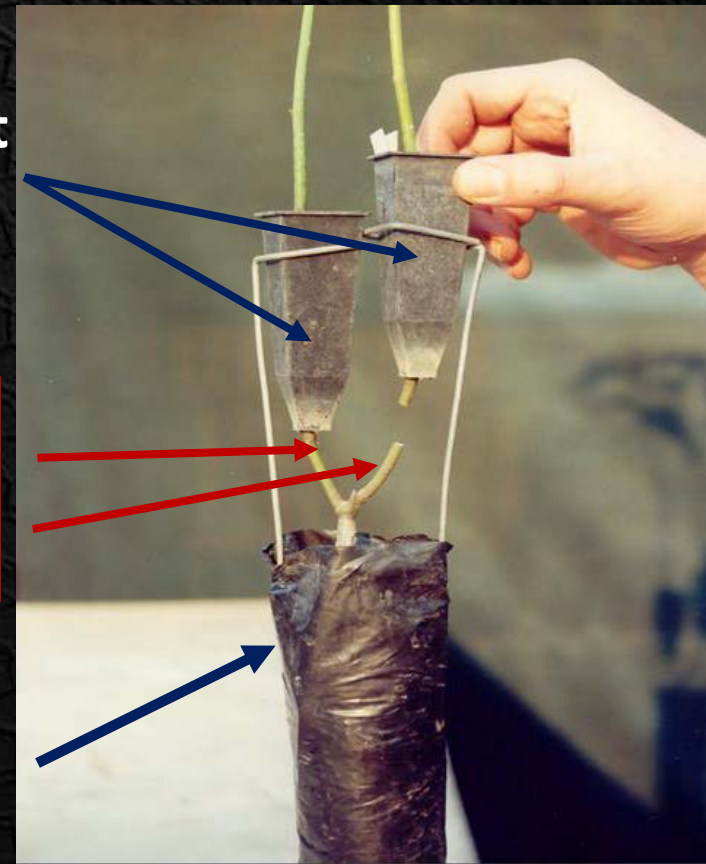
Buffer zone



Clonal root system

Buffer zone

Nurse seed



Frolich

Micro Cloning

CLONAL
ROOTS



NO BUFFER ZONE

NURSE
SEED
ROOTS



100%
CLONAL
ROOTS



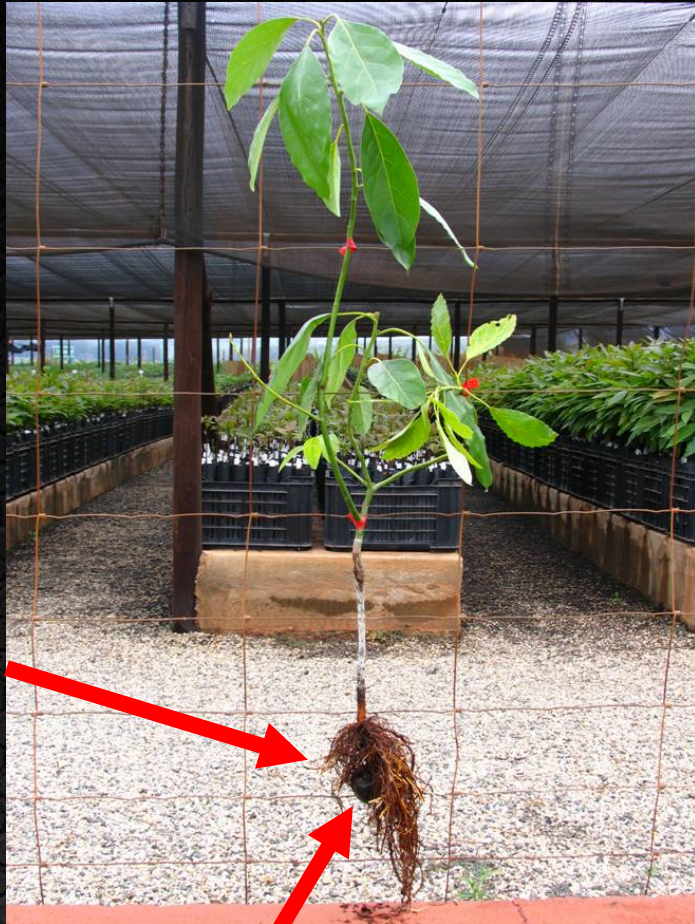
UNIFORMITY ?



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Frolich



No buffer zone

Nurse seed



Micro Cloning



100% clonal roots



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Micro Cloning Technique

- Developed by Dr. André Ernst in 1990 at Allesbeste Nursery as a variation to the Frolich Technique
- Nursery unfriendly, farmer friendly
- Finished plants in 55ml microcontainers severed from the nurse seed:
 - These can be transplanted into big bags or directly into the field with necessary precautions
- Extremely cost efficient worldwide transport
- Compliance with international phytosanitary standards
- Constant visual inspection of roots throughout the process



Constant visual inspection of the roots



Weak plants can be discarded or be kept in the micro liner area until they are ready to be planted, resulting in a decrease in transplant losses. (Ernst 1999)



Microcloning by Allesbeste Nursery

1



2



3



4



Cost efficient worldwide transport



Cost efficient worldwide transport

100



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Some destinations throughout the years...

Viveros Blanco
España



I
N
D
I
A



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Some other destinations throughout the years...



Philippines



Kenya



Allesbeste Nursery and our way forward in the global avocado industry

- Opening franchise nurseries around the world
 - South Africa, India, South America, North America and other countries in Africa in the process
- Avobank: Quality seed and graftwood supplier to the world
- Exporting our own genetics to our world partners and agents
- Supplying the industry with high quality trees at very competitive prices with full traceability collecting seed and graftwood only from indexed mother trees
- Soiless microclones



Dear André, thank you for your passion for avocado
Your contributions to the industry will not be forgotten
Rest in peace my friend





PLEASE CONTACT US IF YOU ARE INTERESTED IN OUR TREES OR IN BECOMING A FRANCHISE NURSERY

Kia ora!
Muchas gracias!

