

Age does matter: Air-layering *Olinia emarginata* Thunb.



- M.S. Deutschlander ^a and J.Z. Msiska ^b
- ^aUniversity of South Africa, Florida Campus, Florida, Johannesburg, Gauteng.
- ^bRandom Harvest Indigenous Nursery, Muldersdrif, Krugersdorp.



Introduction

- Rapid Urbanization
 - 2023 – 68%; 2030 – 71%; 2025 – 80%





Characteristics required

- Limited height and spread
- Non-invasive root system
- Slow growing
- High aesthetics : Attractive foliage
- Bark
- Flowers
- Fruit
- Easy to manicure, clip or shape



Introduction

- *Olinia emarginata* Thunb.
- Small to medium size tree
- Evergreen
- Non-invasive root system
- Frost tolerant
- Susceptible to drought
- Scented pale to pink flowers
- Red false drupe – attracts birds



514
Olinia emarginata
mountain hard pear
bqg-hardepear
Zu: unqumu

Air-layering

- Asexual propagation method
- Reproduction of a new tree in the parent tree
- Identified as the best method for the propagation of *Olinia emarginata*





Aim and objectives

Aim

Investigate air-layering as a possible propagation method for *Olinia emarginata* and identify factors that contributed to the success or lack thereof in the propagation of *Olinia emarginata*.

Objectives

- To investigate different factors that might influence the success rate of air-layering of *Olinia emarginata*.
- The effect of tree age on the success rate of air-layering of *Olinia emarginata*
- The effect of different growth media on the success rate of air-layering of *Olinia emarginata*
- The effect of different growth hormones on the success rate of air-layering of *Olinia emarginata*
- Does the colour of Dyna balls affect the success rate of air-layering of *Olinia emarginata*

Materials and methods

Air-layering: Walter Sisulu Botanical Garden

Olinia emarginata tree 150 years old

- 26 Dyna Balls (green; transparent; hybrid)
- Growth media (TS1; Plug Mix; PBR)
- Hormones (Dyna root Gel nr 2 ; Dyna root powder nr 2)
- September 2022



Materials and methods

Air-layering: Random Harvest Indigenous plant nursery

Olinia emarginata tree 20 years old

- 48 Green Dyna Balls
- Growth media (1:1 Peat:Perlite)
- Hormones (Dyna root Gel nr 2)
- September & Oktober 2024; May & October 2025



Results: 150-year-old tree

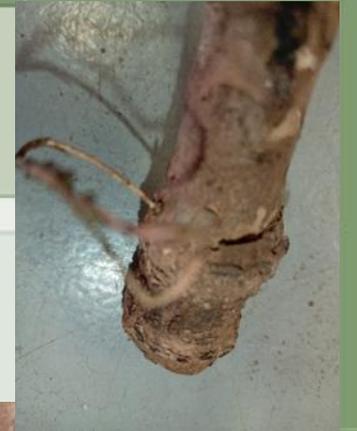
Rooting rate 11,5 %

2022 – 2024

Hybrid ball: TS1, Dyna root powder number 2

Transparent ball 1: Plug mix, Dyna root powder number 2

Transparent ball 2: PBR, Dyna root powder number 2



Results: 20-year-old tree

Rooting rate 79 %

2024 – 2025

Green balls: 1:1 Peat/Perlite , Dyna root gel number 2





Conclusion

Age of the parent *Olinia emarginata* tree does matter when air-layering

Air-layering can be used for the propagation of *Olinia emarginata*

Additional research needs to be done



Random
Harvest 



Thank you

 **PBR**
INTERNATIONAL
Propagation • BioScience • Research

UNISA 
university
of south africa