

Africa RISING in the Ethiopian Highlands

High value trees: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian Highlands

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Key messages

- Building on local agro-ecological knowledge helped to identify knowledge and capacity gaps which were converted into opportunities and demand driven technologies (including high value trees (HVT)).
- HVT varieties of avocado and apple performed very well and fruits profusely in less than two years with variation across varieties and sites.
- Improved access to quality planting material, capacity development and effective partnerships are critical to meet the huge demand created for HVT that goes beyond our preconception (or expectation?).

Objectives and approach

- The objective was to integrate demand driven and context specific improved technologies (high value trees (HVT));
- By building on local agro-ecological knowledge, we tested suitability of HVT through on farm, experimental, laboratory trial, and effects of different management practices (e.g., watering, mulching, fruit thinning, root stock compatibility) on survival, growth, yield and fruit quality;
- Monitoring and close follow-up to address capacity and knowledge gaps (e.g., on pre- and post- planting trainings, management practices and delivery mechanisms).

Key results

- Introduced successfully adopted: 6 varieties(HVT) of Avocado (*Percia americana*), Apple (*Malus domestica Borkh*), and 5 varieties of Walnut (tested and imported from China);
- High survival rates: 90 to 100% for Avocado and 75 to 96% Apple
- Significant differences in performance: across sites, varieties, management intensity, and gender based management practices (Fig 2)
- Fruit thinning improved fruit quality: Crop load of 2 fruits per spur resulted in best yield and marketable quality (Melke et al.);
- Strengthened and established nursery infrastructure at Sinana (Fig 3) -capacity to produce 500, 000 to one million seedlings (for fruit, fodder, fuel wood, soil fertility, etc.) that will benefit more than 50, 000 households per year.

Significance and scaling potential

- HVT/varieties of Apple and Avocado and their management interventions were successfully tested and proved with evidences for their scalability. Our intervention approach raises farmers' awareness and knowhow on the potential benefits of integrating HVT for income, food security, nutrition and improved natural resource management.
- Creating local bases (e.g., nurseries, capacities and partnerships) for reaching millions of farmers by providing access to locally demanded multipurpose tree species (fruit, fodder, fuel, medicine and timber) and delivery mechanisms closer to farmers, at required qualities and quantities, and at affordable price.
- Capacity buildings (formal and informal) improve knowledge and capacities of stakeholders at different levels to provide knowledge informed policy and investment decisions supporting investment and scaling up of the HVTs which would contribute to job creation, e.g., for women and youth.



Fig. 1 Avocado Hass fruiting in less than two years at Lemo and Apple in Sinana

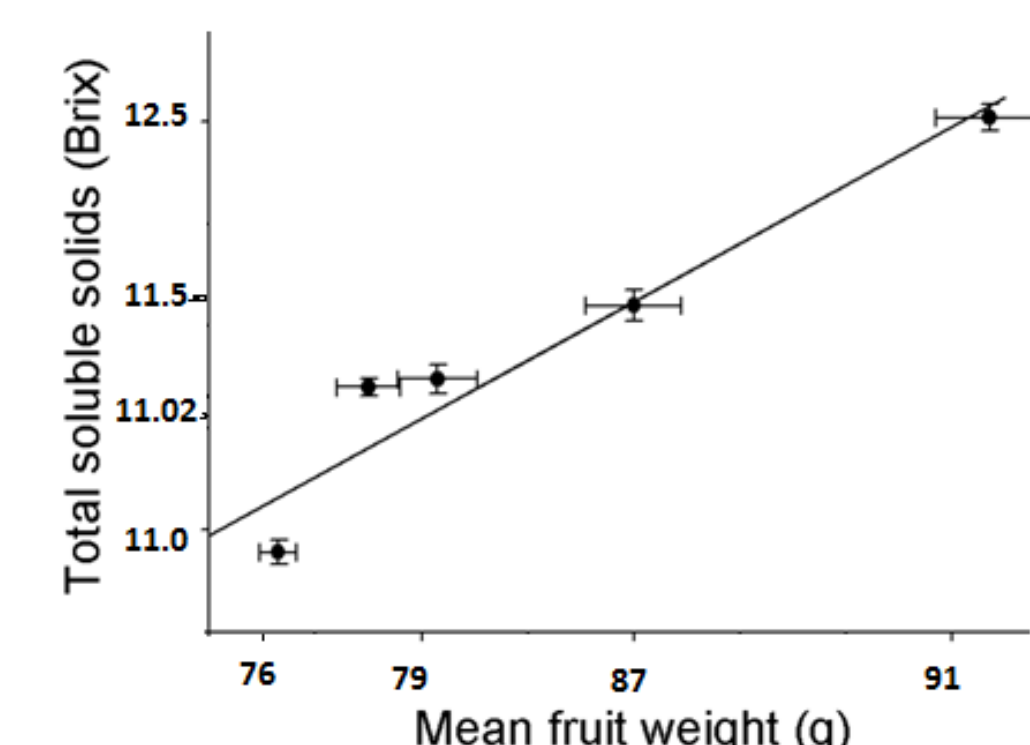
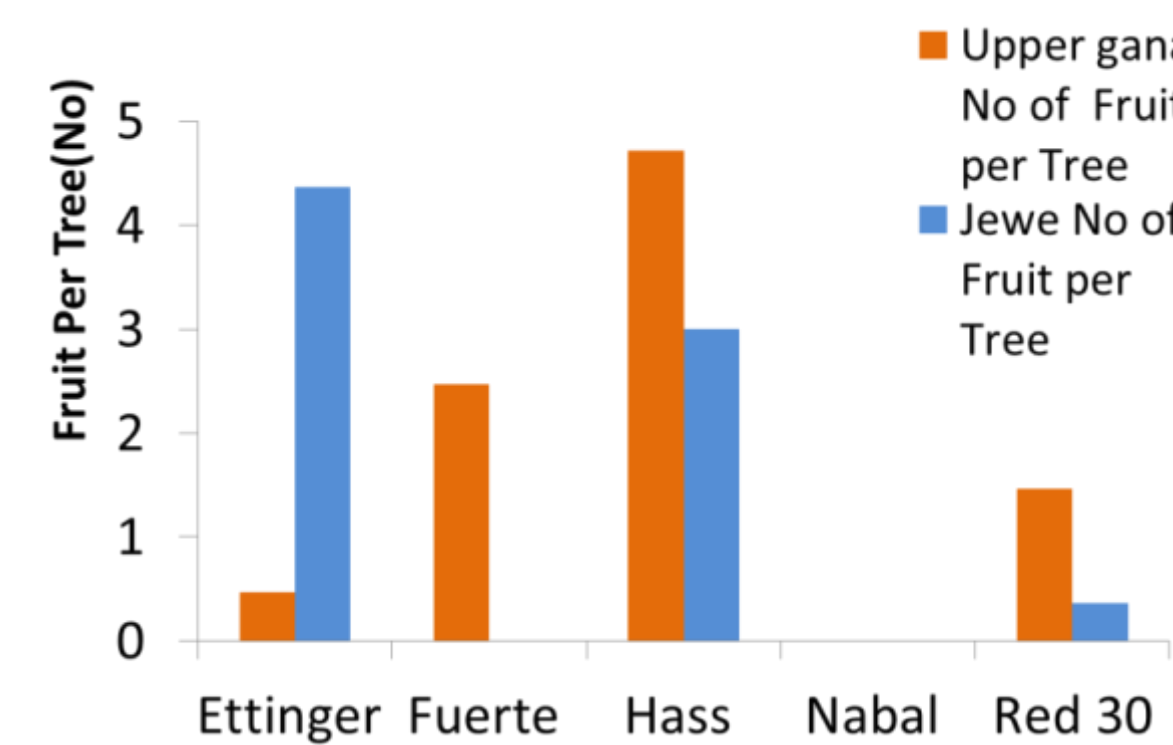
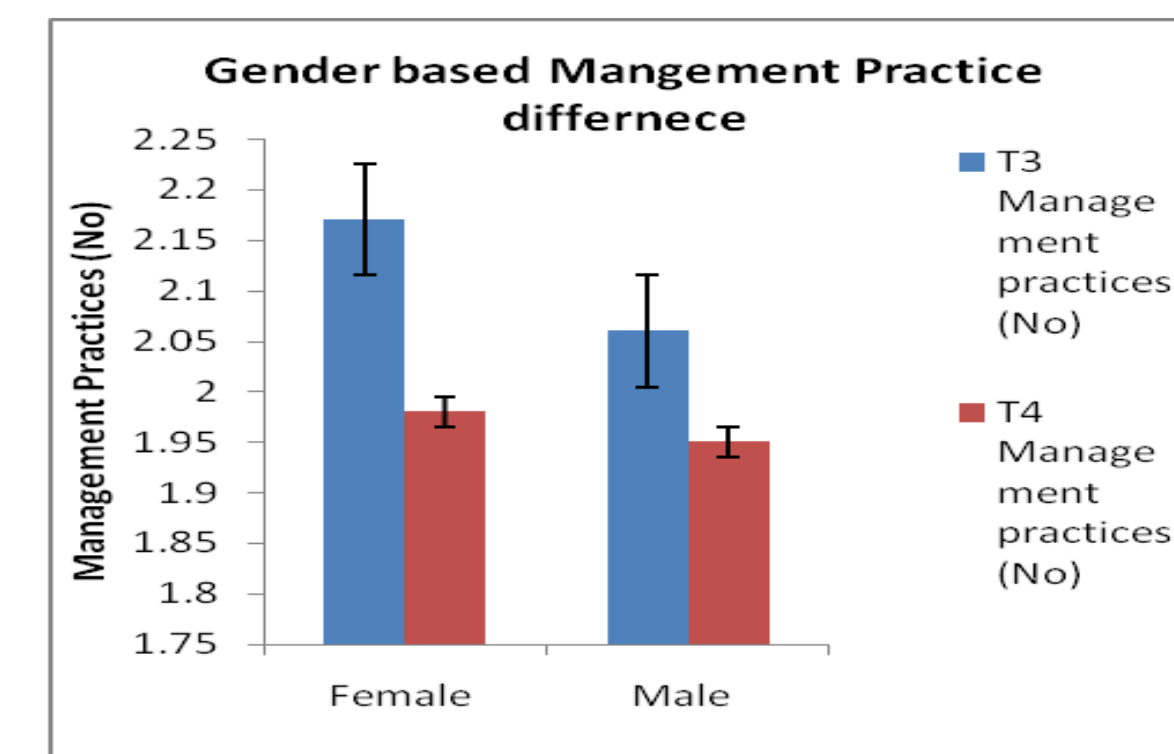
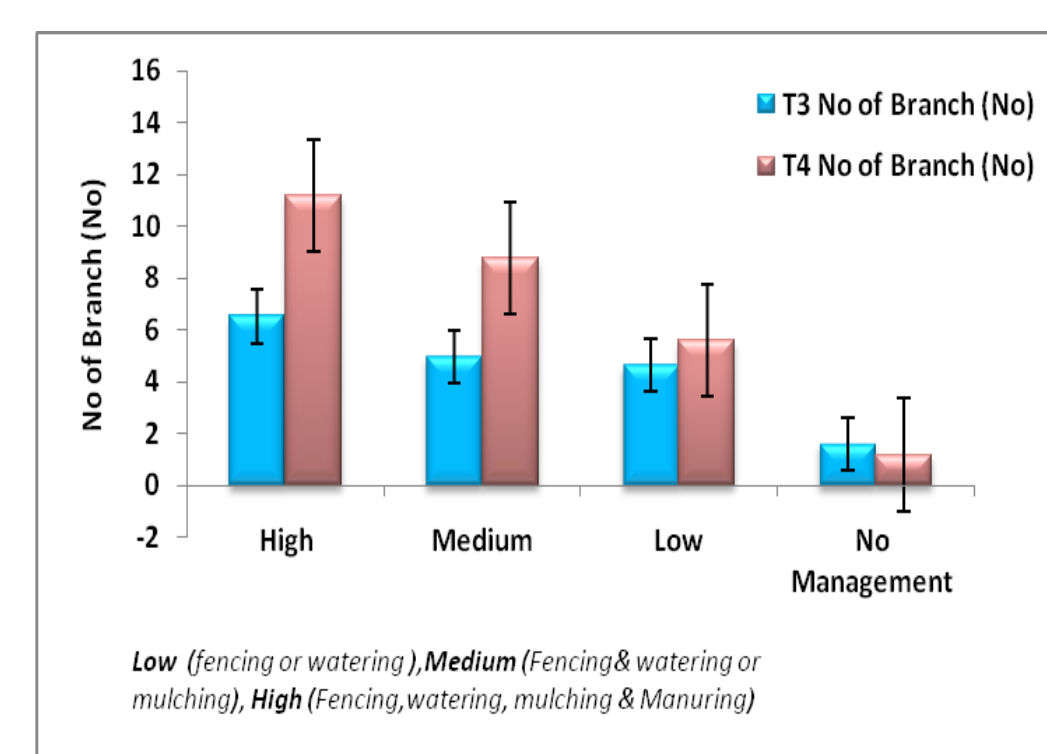


Fig. 2, growth performance and effect of management practices and gender across sites



Fig.3 constructed shed net and mother blocks at shaya nursery Sinana, and capacity building

Core partners



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