

Scaling up of high value multipurpose trees and their management practices at multiple scales: homestead to landscape

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Planned activities

1. Measure yield data for high value trees (HVT) 6 varieties of Avocado (Persea americana) in Lemo;
2. Assess quality data of avocado fruit (in terms of fruit size, appearance, colour and farmers preference);
3. Quick assessment on the existing stocks to identify status of the apple fruit tree varieties

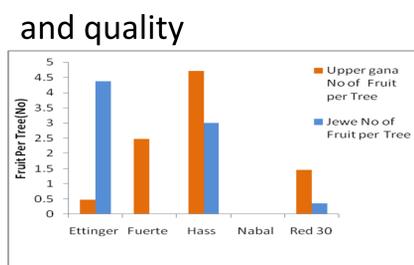
Deliverables	Progress	
	Until Nov 2021 (2020/21 cropping season)	Until May 2022 (December 2021-May 2022)
Data analysis and Journal article preparation	<ul style="list-style-type: none"> Measured avocado yield data in different sites following COVID 19 safety measures (Fig. 1). We harvested and weighted 1800 fruits from five cultivars grown in 30 smallholder farmlands. Socio economic survey and status of avocado in Lemo (Fig 1) and apple in Maichew. Manuscript submitted for review- "Cultivar-Specific and Mixed-cultivar allometric models and estimation of fruit weight and yields of five Avocado varieties in Ethiopia" 	To submit a journal article: 'Assessment of Persea Americana Miller (Avocado) improved variety growth performance, yield and income contribution to food security of rural households, the case of Lemo woreda (district), Southern Ethiopia'

Key lessons

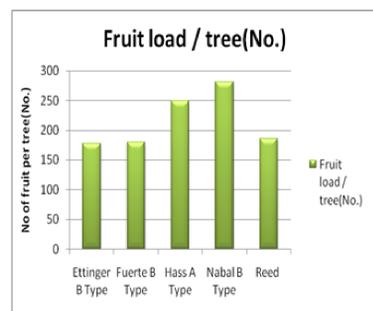
- Avocado varieties begin to produce fruit in 2 to 4 years
- Significantly highest mean fruit load was recorded for Nabal 281 (Fruit tree⁻¹) and Hass 249 (Fruit tree⁻¹).
- Positive correlation between fruit load and crown diameter for each cultivar, and stronger for Ettinger ($r = 0.7$), and for Nabal ($r = 0.64$).
- Fruit weight correlates significantly with fruit diameter and length
- 80% of the fruit yield used for house consumption
- 20% for sale, a household could generate income of 3000 birr year⁻¹
- Farmers preferred the test of Hass avocado variety
- Proper tree management practices is key to improve yield, fruit size and quality



Yield measurement of avocado tree varieties in Lemo. Photo credit: ICRAF/Mulugeta Mokria



Fruit yield performance, after two years, across sites



Fruit yield performance, after five years, among varieties

Partnerships

- Ministry of Agriculture and Natural Resources
- Ethiopian Environment and Forest Research Institute
- Local Universities in Africa RISING operating regions and private farms (e.g., Butajira nursery site, Wachemo University)
- Leveraging on other ongoing projects funded by other donors

Core partners

