

# 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

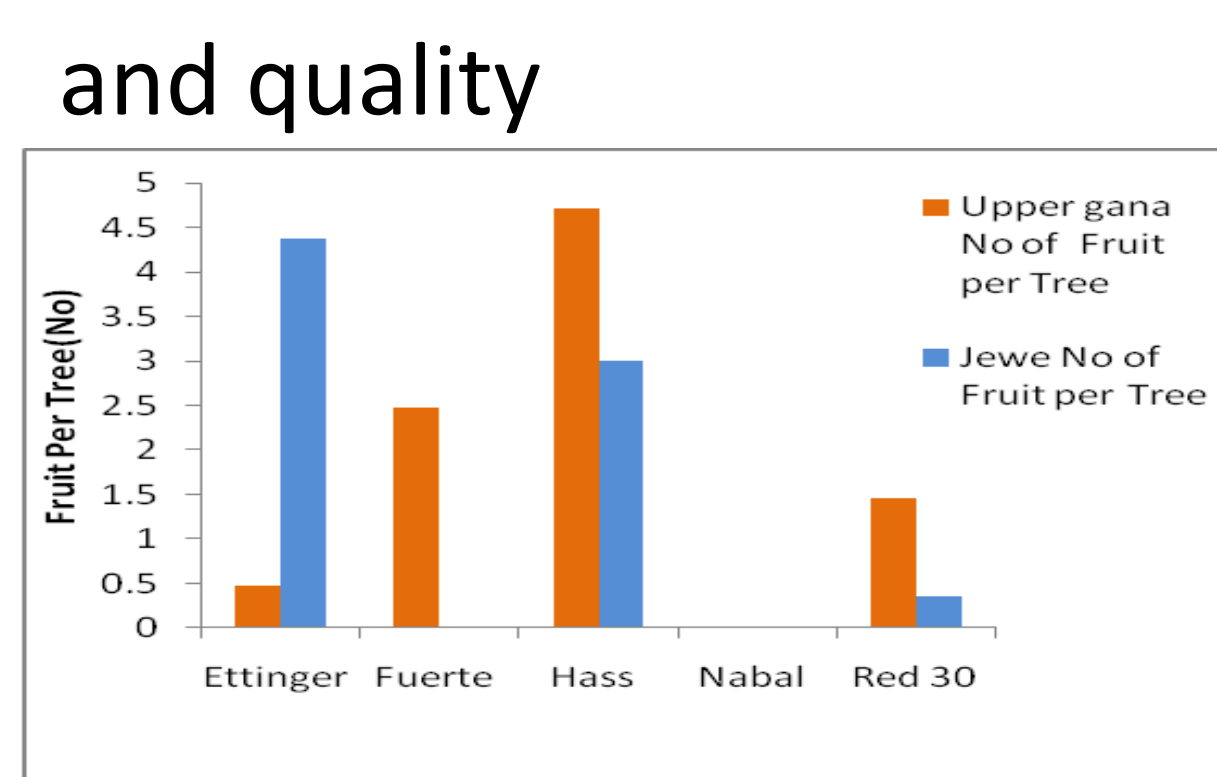
Deliverables	Progress	
	Until Nov 2021 (2020/21 cropping season)	Until May 2022 (December 2021-May 2022)
Data analysis and Journal article preparation	<ul style="list-style-type: none"> <li>Measured avocado yield data in different sites following COVID 19 safety measures (Fig. 1).</li> <li>We harvested and weighted 1800 fruits from five cultivars grown in 30 smallholder farmlands.</li> <li>Socio economic survey and status of avocado in Lemo (Fig 1) and apple in Maichew.</li> <li>Manuscript submitted for review- "Cultivar-Specific and Mixed-cultivar allometric models and estimation of fruit weight and yields of five Avocado varieties in Ethiopia"</li> </ul>	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

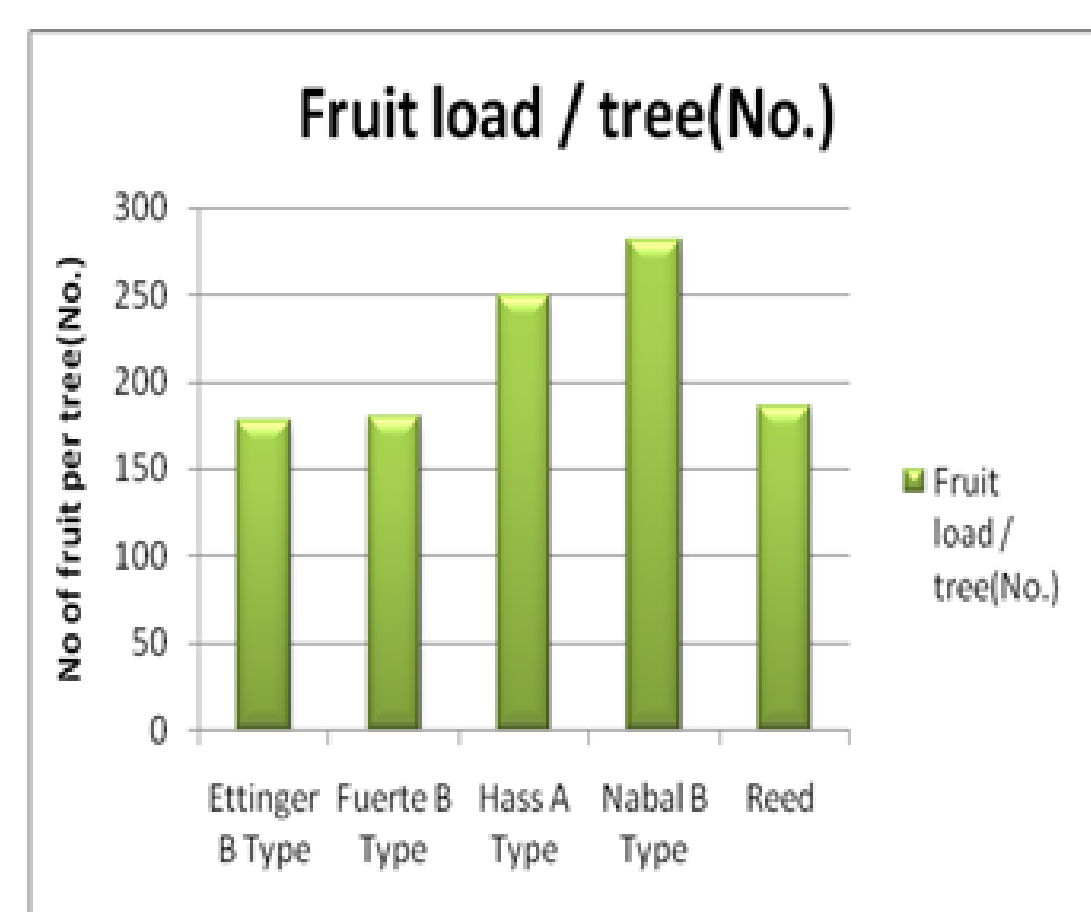
- Avocado varieties begin to produce fruit in 2 to 4 years
- Significantly highest mean fruit load was recorded for Nabal 281 (Fruit tree<sup>-1</sup>) and Hass 249 (Fruit tree<sup>-1</sup>).
- Positive correlation between fruit load and crown diameter for each cultivar, and stronger for Ettinger (r = 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<sup>-1</sup>
- 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

