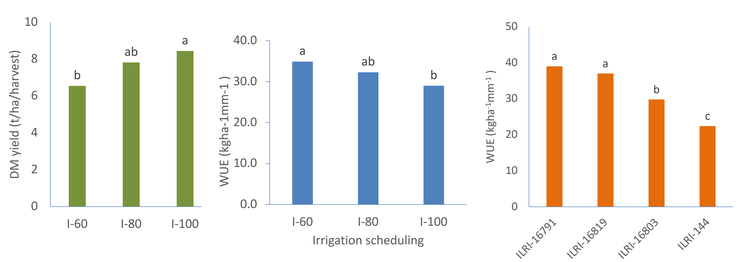
Context

- Agricultural water is **becoming scarce** due to climate change.
- **Rainfed feed production alone** has increasingly become insufficient to meet livestock demands across SSA
- **Irrigated forages** have potentials to fill dry season feed gaps
- Forage genotypes that have **high water use efficiency** (WUE) and drought tolerance are essential
- ILRI Genebank collections offer such opportunities

Our innovative approach

- **More than 80 ILRI Genebank Napier grass** (*Cenchrus purpureus*) **collections** were screened for drought tolerance on-station
- **Three of the screened Napier accessions** (ILRI-16791; ILRI-16819; and ILRI-16803) and *P. maximum* (ILRI-144) were further evaluated for water use efficiency in a field trial under three different irrigation scheduling:
    - Irrigation to full crop requirement (I-100)
    - Irrigation to 80% of requirement (I-80)
    - Irrigation to 60% of requirement (I-60)



INITIATIVE ON
Livestock and Climate

Improving water use efficiency of forages to cope with drought conditions

- Significant variations were observed among the forage genotypes in WUE, indicating the importance of varietal selections for irrigated fodder development
- Deficit irrigation improved water WUE of forages compared with full irrigation, with I-80 proving optimal DM yield and WUE
- Given the water limitation in the smallholder system in SSA, deficit irrigation appeared to be a good option to produce fodder
- The extra water saved from deficit irrigation could be used to irrigated other land or to support other household needs

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Progress/outcomes

- Currently working with NARS to **facilitate release of potential forage genotypes as varieties**
- Participatory field trials, demonstration and capacity building activities helped **create awareness among farmers** in the use of small-scale irrigated fodder development
- By partnering with farmer dairy cooperatives, **small scale irrigated fodder technologies were adopted** by more than **one thousand farmers** over four years in Ethiopia
- **Suitability maps for irrigated fodder** produced and shared with stakeholders for future investment and development opportunities

Photo credit: Apollo Habtamu (ILRI)

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