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Strengthening fodder markets and testing forages under different irrigation technologies in Tanzania

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RESEARCH AIMS

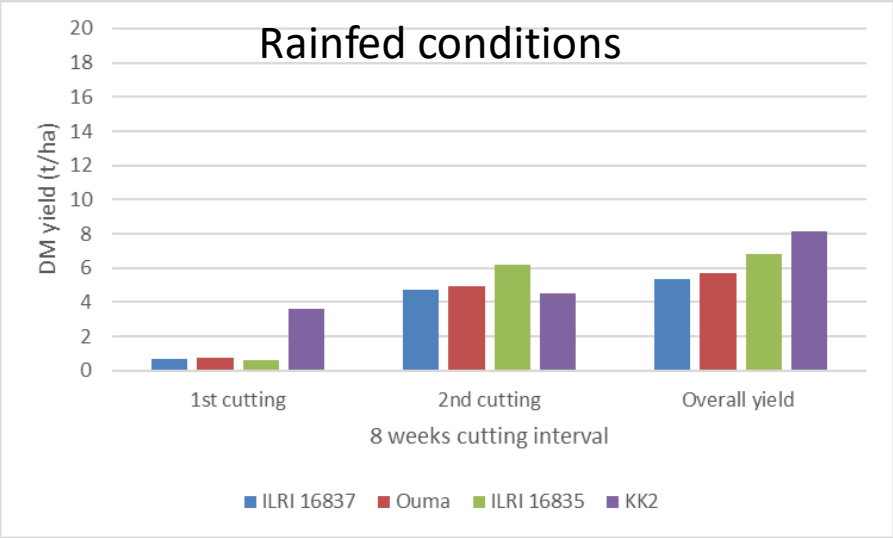
1. Evaluating the performance of Napier grass cultivars under different irrigation technologies
2. Farmer participatory preference evaluation of forages under different irrigation technologies
3. Stakeholder meetings to develop fodder markets in Babati district in Manyara region

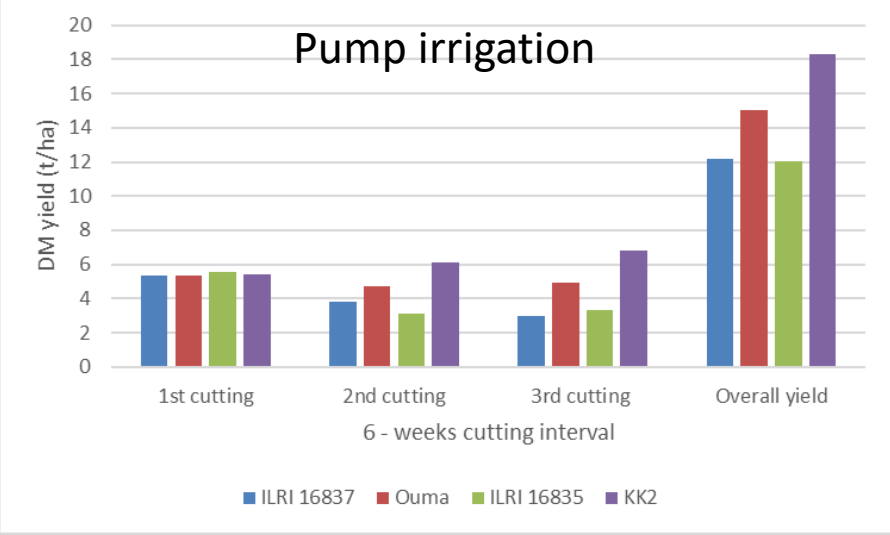
METHODOLOGY

1. Performance of Napier grass cultivars under different irrigation technologies
   - Napier cultivars – ILRI 16835, ILRI 16937, Ouma and Kakamega 2 (KK2) cultivars were evaluated
   - Irrigation technology – pump irrigation and rainfed conditions (control)
   - During the dry period of July to October 2017.
2. Farmer participatory preference evaluation of forages
   - Field days on farmers plots
3. Stakeholder meetings to develop fodder markets
   - Meeting with stakeholders - fodder value chains including producers (the farmers), fodder traders, transporters, consumers, research and extension officers.

KEY RESEARCH FINDINGS

Dry season performance of Napier grass varieties in Mawemairo village



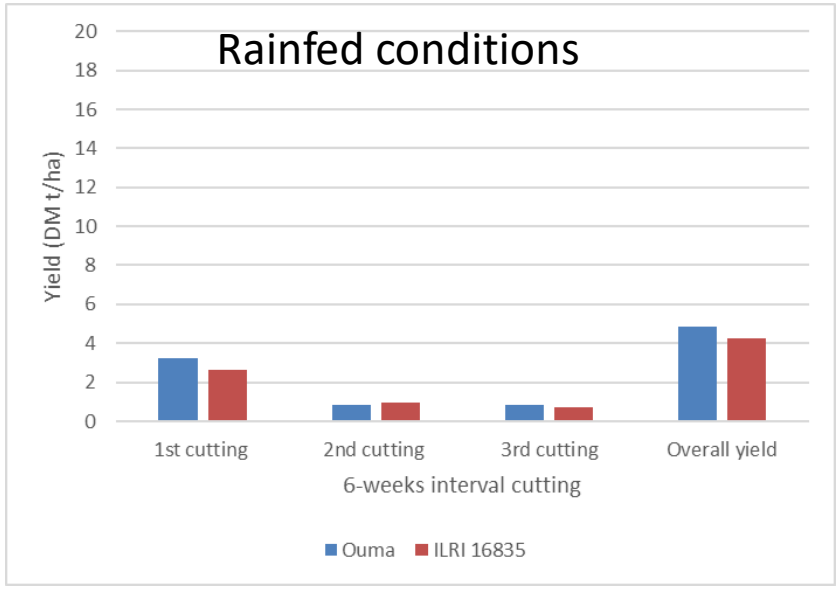


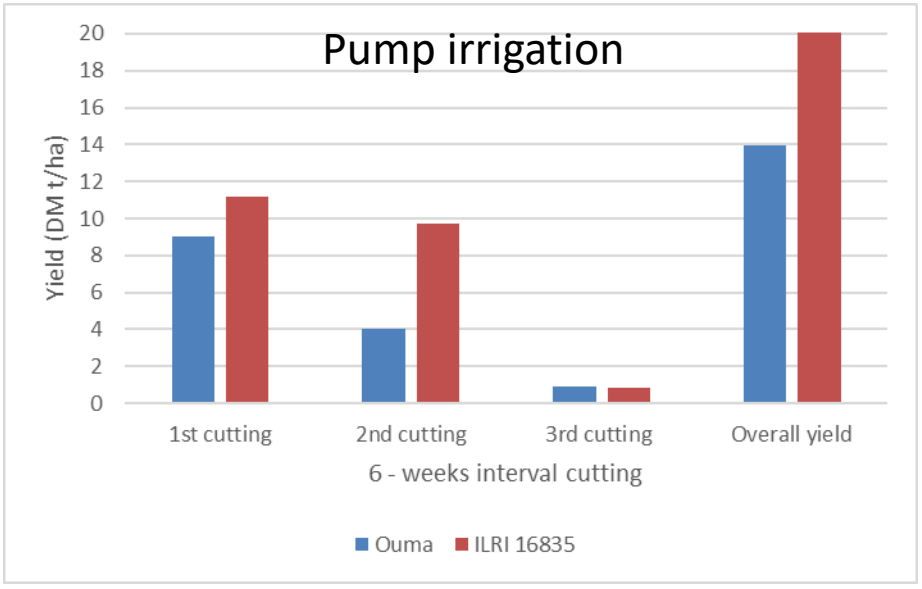
1. Napier grass under rainfed conditions could only be cut twice (in 8 weeks). Napier grass under the irrigation technology were cut three times (in 6 weeks).

2. Napier varieties (Ouma and KK2) superior than Napier hybrids (ILRI 16835 and ILRI 16837)

KEY RESEARCH FINDINGS

Dry season performance of Napier grass varieties in Gichameda village





1. Napier grass under rainfed conditions could only be cut twice (in 6 weeks). Napier grass under the irrigation technology were cut three times (in 6 weeks).

2. Napier varieties (Ouma) superior than Napier hybrids (ILRI 16835) in rainfed conditions only – indication of drought tolerance

KEY RESEARCH FINDINGS

Napier grass accession	Selection criteria					
	Greenness	Growth vigour	Tallness	Disease tolerant	Pest tolerant	Perceived yield capacity
ILRI 16835	3.2	2.5	3.2	2.9	2.9	3.2
ILRI 16837	2.7	1.9	2.6	2.2	2.2	3.2
Ouma	3.1	2.9	2.5	3.2	3.3	3.1
ILRI 16803	2.7	2.2	1.5	2.1	2.2	2.7
KK2	2.9	2.4	1.9	2.7	2.8	2.9
Mean	2.9	2.4	2.3	2.6	2.7	3.0
LSD (P<0.05)	0.27	0.25	0.31	0.28	0.27	0.25

- Used Likert scale of 1 to 4 where 1 = poor, 2= fair, 3 = good, and 4 = very good.
- Farmers perceived cultivars ILRI 16835 and Ouma to be of higher quality in terms of greenness.
- Ouma, ILRI 16835 and KK2 were less attacked by diseases and pests.

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IRRIGATED FODDER IN PICTORIALS

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STAKEHOLDER MEETINGS TO DEVELOP FODDER MARKETS IN BABATI DISTRICT

- Stakeholder assessments of opportunities
  - The current government policy that restricts cattle movement to reduce conflict between crop and livestock farmers is stimulating fodder markets and catalyzing production of fodder within irrigation schemes.
  - Improved genetics that require higher quality fodder driving fodder markets
  - Extreme seasonality results in longer dry periods and fodder scarcity
  - Fodder demand fodder is high but supply is low
  - Fodder trading infrastructure exists in and around bigger cities like Arusha but emerging now in the peri-urban areas and within villages.

STAKEHOLDER MEETINGS TO DEVELOP FODDER MARKETS IN BABATI DISTRICT

- Stakeholder assessment of key challenges
  - Inadequate water for irrigation hence farmers tend to give priority to crops irrigation.
  - A lack of clear pricing guidelines of fodder with traders setting the prices over producers.
  - Traders take advantage of the perishable nature of green fodder after harvest favours to offer low prices
  - The fodder prices fluctuate seasonally (dry and wet seasons), hence supply is erratic

STAKEHOLDER MEETINGS TO DEVELOP FODDER MARKETS IN BABATI DISTRICT

- Proposed solutions
  - Farmer discussed this at length during the meetings and concluded to form a fodder producers' association with smaller groups around fodder marketing
  - To overcome transportation problems (high cost) to the markets, farmers decided to establish joint fodder marketing points closer to the production areas.
  - Farmers requested for more training on how to produce fodder and assess quality for pricing purposes
  - Farmers want to be linked to sources of quality forage seeds

KEY MESSAGES

1. Small scale irrigation has potential to double fodder yield during the dry months of the year when there is high demand for quality fodder
2. Small scale irrigation has potential to act as a pull factor for fodder trading and hence alleviate dry season feed shortages
3. Collective action amongst fodder trading actors could transform fodder marketing
4. Farmers are getting more interest in improved forages and hence high demand for quality forage seeds and planting materials

RECOMMENDATIONS

1. Research has demonstrated the possibility to double Napier grass yield in dry season: There is need to scale out the use of small scale irrigation to produce forages during the dry seasons of the year
2. Though KK2 and Ouma produced more yields, farmers preferred ILRI 16835 due to other characteristics: Farmers' preferences need to be accommodated when choosing types of forages.
3. There is need to promote high yield forages under irrigation technologies'
4. There is need to strengthen collective action amongst fodder trading actors to transform fodder marketing especially in rural areas.

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