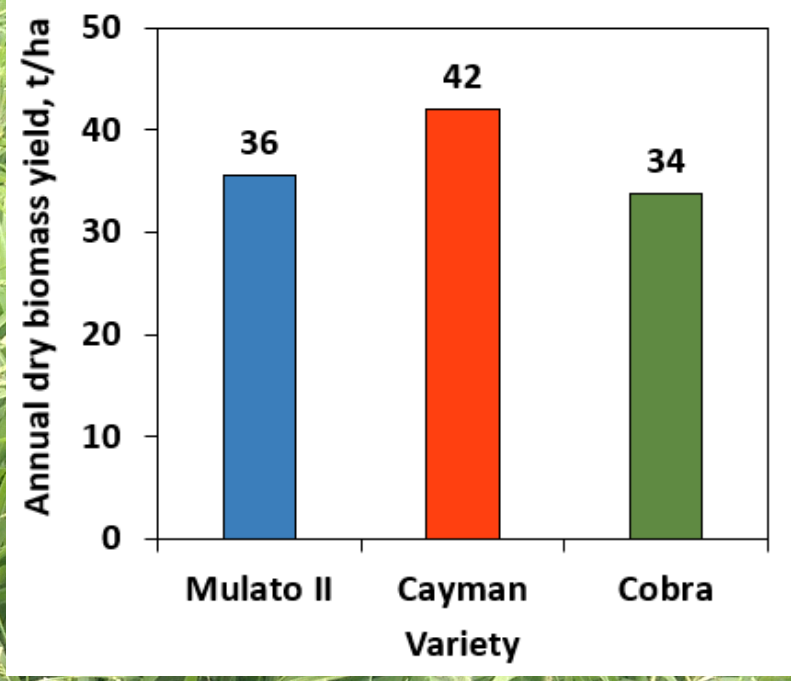
High performance forage plants for feed secure dairy and livestock production systems in Sub-Saharan Africa

We commercially deliver in the eastern, central and southern Africa regions seed of unique forage grass and legume varieties including Brachiaria hybrid grasses (Mulato II, Cayman and Cobra). The hybrids which have clear adaptation and nutritional quality advantages with potential improve to livestock and dairy production in the tropics and sub tropical environments have been developed out of an innovative hybridization of multiple apomictic species in the *Brachiaria* genus (Recently renamed *Urochloa*). Our grass and legume varieties have the potential to transform African livestock and dairy production systems that is currently under threat especially from drought and lack of more productive and drought tolerant forage species that are better adapted to the drier conditions which are intensifying with climate change

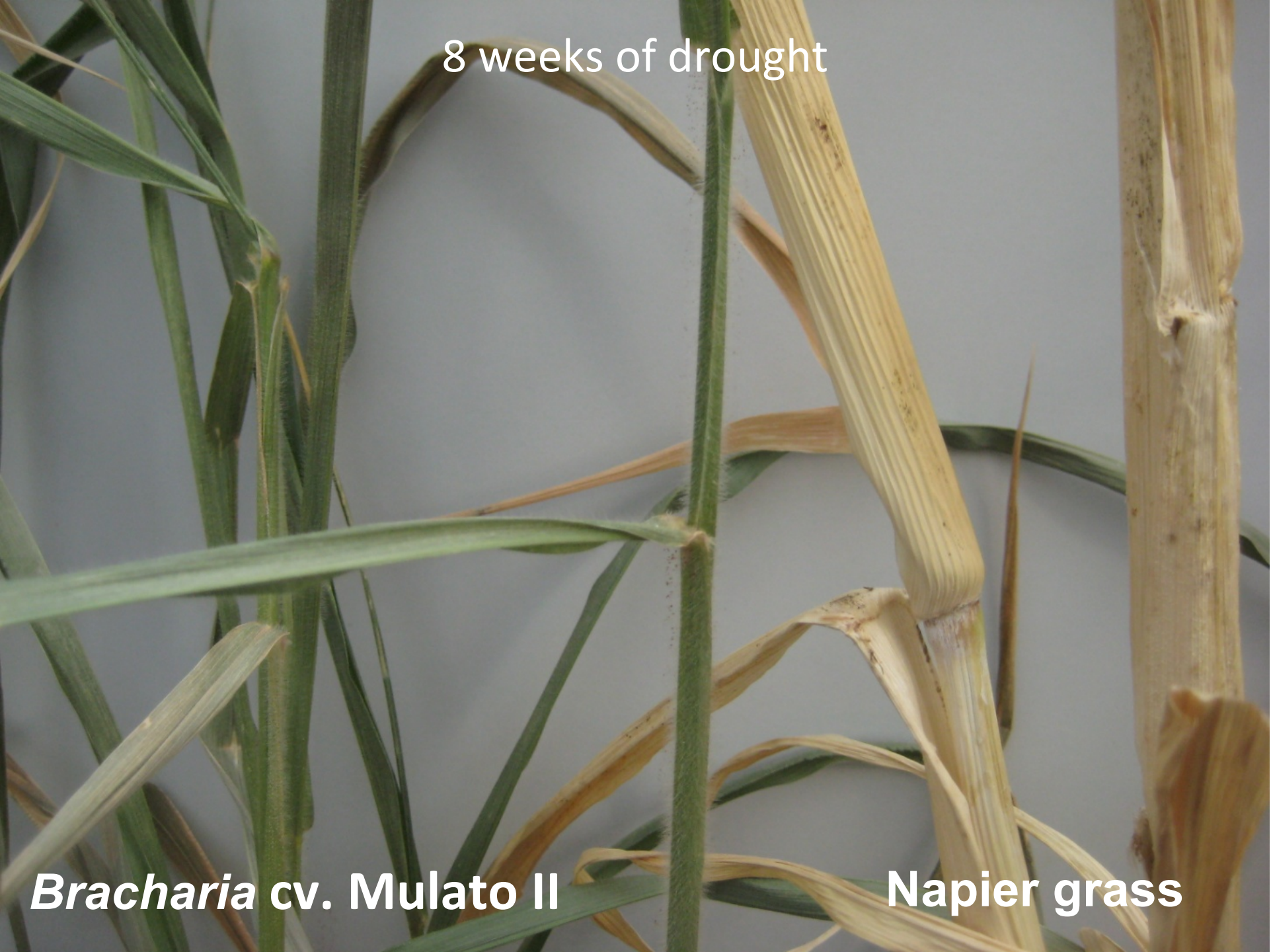
The brachiaria hybrids are easy to establish and could be direct seeded either through hand sowing, machine planting or indirectly through raising of seedlings first in nursery beds followed by transplanting into the field

The varieties are fast growing and high yielding , maturing in 10-12 weeks for first harvest and 6-8 weeks for subsequent harvests



The high yielding hybrids are also suitable for cut and carry systems and are able to regrow fast and maintain good ground cover over many harvesting cycles. The forage biomass can be fed directly to livestock but also preserves well in the form of hay with good quality for baling or could be could be ensiled.

The brachiaria hybrids have high persistence in the field, regrow fast after harvest, and maintain good ground cover even four years after initial establishment and multiple harvest cycles (direct grazing or cut and carry)



We have conducted drought tolerance trials under controlled and natural field conditions and showed that improved brachiaria hybrids such as Mulato II are more drought tolerant compared than other cultivated and naturally occurring species that farmers in Kenya have previously relied on. In the current picture the Mulato II clearly withstood eight weeks of total drought in a high temperature greenhouse while napier grass (Pennisetum purpureum) was completely dry before the end of the fourth week


The varieties are remarkably more drought tolerant compared to other cultivated and naturally occurring species that farmers in Kenya have previously relied on. In the current picture the grasses have withstood a long interseason dry period of over six months in lower Nyakach area of Kisumu

The hybrids are well adapted to low fertility and acidic soils.

We have carried out trials in a variety of soils in Kenya ans supplier seed to farmers in different areas and soils and got positive feedback on the performance of the varieties


Our brachiaria varieties are suitable for cut and carry systems and do not need to be chopped before feeding since they are soft and more palatable

The hybrids are soft, have high palatability, digestibility with crude protein content of up to 18% making them suitable for beef and dairy production for large and small ruminants whether under controlled grazing or open field

Our brachiaria hybrids are also suitable for direct grazing and have capacity to regrow fast and maintain good ground cover over many grazing/harvesting cycles

Our varieties increase livestock productivity. They additionally enable farmers to save on time usually spent in search of livestock feed and avoid conflicts over pasture. especially women to have more time for other essential responsibilities at home


Cayman

Cobra

Farmers are already going to scale on the larger parts of their farms with the brachiaria forage grasses. In this picture a farmer in Litein, Kenya has planted the varieties on about two acres of land to address his need for fodder for his dairy cows. The region especially experience grass shortage during the dry season and this seriously reduces dairy productivity

Litein, Rift Valley of Kenya: A field established by a farmer himself after following planting instructions shared with them at seed purchase


A successful smallholder field established in a drier area of Homabay Kenya

Mwea, Central Kenya: A field Mulato II established by a farmer himself after following planting instructions shared with them at seed purchase

Mwea, Central Kenya: A field Cayman established by a farmer himself after following planting instructions shared with them at seed purchase

Innovative approaches are starting to emerge in the way farmers are integrating the grasses into their larger farms. In this picture a farmer in Kitale area of Kenya has relayed dry bean in between rows of brachiaria grass in a field that has been producing the grass for the last three years

Further integration with other organic manure sources such as farmyard/animal manure would ensure higher and sustainable yield increases for both the cereal and brachiaria forage grass mixtures that farmers grow. With the brachiaria significantly contributing to manure production at the farms

Adoption of the new brachiaria varieties by farmers is leading to the emergence of women and youth entrepreneurs who are engaged in commercial nursery production of brachiaria seedlings which they then sell to farmers to transplant into their larger field at the onset of seasonal rains. This approach is especially useful for many areas where rainfall is less predictable and direct seeded plots run the risk of failure under low rains


A ready brachiaria seedling nursery


We are undertaking research to develop an Africa based Brachiaria seed system to meet African and global demand for the seed

Field trials to map out potential seed production sites in Kenya to serve African and global markets for hybrid brachiaria pasture seed.

Multiple sites with potential for brachiaria seed production identified. Further work on seed quality optimization underway.


Brachiaria seed production trials


Brachiaria seed production trials in Migori county of Kenya

Advantage Crops Limited

Seed with an edge

- More effort is under way to further diversify the varieties of forages available to farmers