

Forage growing for commercial purpose, hay production

A business case

Forage production for commercial use is a model for people who are not able or do not want to invest in dairy production, but are looking for a crop which is relatively easy to cultivate and for which a market already exists.

It is also a possibility to start on a small area with small investments to gather experience and gradually expand once the grower is more confident with the production and marketing of the product. Like that it is also a perfect way for youth to develop a business. In Western Kenya, forages are often sold fresh due to the bad reputation of hay, but *Brachiaria* can be dried well and transformed to high quality hay, making it a storable product that can be sold in times of higher demand and prices, like the dry season.

Year around scarcity in quality fodder (fresh and preserved) is characterizing the fodder market in Kenya and is offering chances to commercial fodder producers. *Brachiaria* hybrids produce high quality forage which qualifies for hay making.

The establishment of 1 ha of forages with seeds is at the first glimpse an expensive investment, but taking the period of use of minimum 10 years into consideration, the investment comes down and is much cheaper than other cash crops. Additional to the establishment costs yearly maintenance costs have to be considered. The two 'costs' together show how much a *Brachiaria* forage field of 1 ha does cost per year

Costs of 1 ha of *Brachiaria* forage / year

	Costs per year (KES)
Establishment costs for <i>Brachiaria</i> plots (being used for 10 years) (ploughing, harrowing, seed costs, fertilizer, seeding, weeding)	10,350
Maintenance costs per year (top dressing with mineral fertilizer, harvest, transport)	155,750
Total	166,100

The cost – benefit calculation shows the following picture

(based on data collected on farm and at trials on demo plots in Eldoret and Meru, as well as Mwangi, Onyango, 2019)

Cost benefit calculation for different Brachiaria from year 2 on

Brachiaria	Production cost per ha/year (KES)	Production in t DM/ha/year	Value of prod. / ha / year 400 KES/bale*	Income – prod. cost = Profit (KES)	Value of prod. / ha / year 300 KES/bale*	Income – prod. cost = profit (KES)
Not specified by Mwangi / Onyango	166,100	25,00	666,400	500,300	499,800	333,700
Mulato 2	166,100	16,00	426,000	259,900	318,000	151,900
Cayman (Meru)	166,100	23,50	626,400	460,300	469,800	303,700
Cayman (Eldoret)	166,100	20,40	544,000	377,900	408,000	241,900
Basilisk	166,100	17,80	474,400	308,300	255,800	189,700

* bales of 15 kg, but in reality, the often only have 12 kg

Cost benefit calculation for a professional farm in Eldoret with intensive machine use

Brachiaria	Production cost per ha/year (KES)	Harvested bales / ha / year Bales 12 kg	Value of prod. / ha / year 400 KES/bale*	Income – prod. cost = Profit (KES)	Value of prod. / ha / year 300 KES/bale*	Income – prod. cost = profit (KES)
Mixture of Hybrids and cultivars	61,000*	2250	900,000	839,000	675,000	614,000
Mixture of Hybrids and cultivars	166,100**	2250	900,000	733,900	675,000	508,900

* maintenance costs very reduced due to machine use (info from the farmer)

** calculation on basis of the 'usual' production costs

Depending on the choice of forage varieties and the applied management practice, the profitability of hay production can vary significantly. The better the conditions, choice of variety and management practice, the higher is the profitability.

Hay production with improved forages is a profitable business

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