

Year round fodder production in arid Rajasthan using rain water harvested from roof-top

Livestock being backbone of arid farming system provide 50 per cent of farm income to the farmers. Nutritious fodder like hybrid napier to take care of balanced nutrition to dairy animals can be grown with rain water harvested from roof-top.

Bajra napier hybrid is a perennial fodder source which is an inter-specific hybrid between bajra and napier having the fodder production potential of 400 t ha⁻¹. As a sole fodder it provides higher energy (TDN 60%) and protein (10-14%). It can be grown as a sole fodder as well as mixed fodder system with fodder legumes during different seasons.



Bajra napier hybrid grown with harvested rain water



Planting material of bajra napier hybrid

Proximate composition of nutrients

Crops	CP (%)	ADF %	NDF %	Ca (%)	P (%)
Bajra napier hybrid	13.34	45.57	77.67	0.39	0.26
Cowpea	18.71	54.07	68.23	2.45	0.33
Clitoria	23.13	55.50	62.20	1.88	0.37
Lablab	17.32	54.75	66.95	1.89	0.41
Lucerne	22.15	44.60	52.13	0.65	0.35

Technology description

Area of the roof: 2500 m², **Size of tanka:** 3 lakh litre

Area under cultivation: 0.1 ha

Crops grown: Bajra napier hybrid at 3 m x 1 m (perennial)

Intercrop crops: Kharif - Cowpea, Rabi - Lucerne

Production of green fodder (Year round):

Napier	Cowpea	Lucerne	Total
17t	1.2t	6.7t	24.9t



Intercropping of fodder legumes



Stall feeding of green fodder to cattle

Benefits

- Technology is good for dairy farmers to support 4 dairy animals with requirement of 15 kg green fodder head⁻¹ day⁻¹
- Eco-friendly sustainable and high yield forage production system with balanced ration
- Production of 1 kg green fodder from Napier hybrid require 42 litre water which is much lower than fodder bajra (180 litre), sorghum (193 litre) and maize (153 litre)
- Fixed cost of solar system can be recovered within two years.
- Provide round the year supply of highly nutritive green fodder with better protein and energy to the animals
- Revenue generated from 0.1 ha in a year: Rs 49800