Spineless Cactus – A Green Gold
An Amazing Species for Arid & Semi Arid Regions

Cactus (*Opuntia ficus indica*) also known as Cactus pear is tolerant to drought, high temperature and frost, adaptive to hot arid environment because of xerophytic characters, easy to establish, versatile multipurpose plant including food, fodder, fuel, fertilizer and fashion (bio leather), has potential of carbon sequestration for clean environment. BAIF initiated Cactus R & D work during 2015 with a support of NABARD.



BAIFs R & D work

- Cactus arboretum with 100+ accessions.
- Standardized propagation & production technology.
- Growth, yield & nutritional evaluation of collected accessions.
- Standardized protocol for cactus feeding in small & large ruminants.
- Assessed financial viability of cactus cultivation.
- Established a Pilot Cactus Park to demonstrate 5 F uses.
- Supplied > 2 lakh cladodes through decentralized nurseries.
- Established 900 + demonstrations on farmers field.
- Partnership with international & national organisation.



FOOD (FRUIT)

- Rich in vitamins (A, B1, B2, C, E), Minerals (Ca, K, Mg, Fe, P), Polyphenols, Fibres, Carbohydrates, Betalains.
- Average fruit weight: 109 gm, Brix (%): 15.9



FODDER

- Cactus is rich in minerals (Ca, P, K, Mg and Na) and moderate level of protein (5-7%)
- Results indicated high palatability & enhanced body weight in goat and cattle.
- Replacement of 25% green fodder with cactus feeding.
- Water intake reduced by 25 to 30 %.



FUEL (BIOGAS)

- Cactus meets the criteria of energy crop; 50-60 % methane.
- It has high percentage of biodegradable volatile solids and relatively low lignocellulosic content.
- Cactus biomass alone produce 7 to 10 m^3/ton of methane.
- Co-digestion of cactus with cattle dung (80:20) enhances biogas yield.



FERTILIZER

- Residue from digestion processes is a valuable liquid fertilizer. It contains organic matter, phosphorus and potassium, which are essential for plant growth and soil health.
- Biogas and biofertilizer provides combines benefit of renewable energy, effective organic waste management and sustainable agricultural practices which supports a greener, more environment friendly and resilient future.



FASHION (BIO LEATHER)

- Bio leathers are free from animal cruelty, environmental friendly manufacturing process with almost zero Pollution
- It is praised for its soft texture, biodegradable, durable, breathable & water resistance.
- Resistance to abrasion, rubbing, and tearing.



Impacted SDGs


Training & capacity building

Pilot Vegan Leather production unit


Nursery techniques and Production Technology


Cactus Field Demonstrations-900+

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