

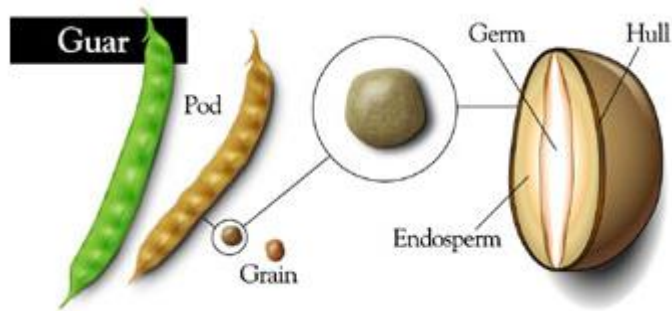
Guar is profitable for farmers

Guar is a bean that adds nitrogen back into the soils – thus is ideal for rotational crops – cotton, maize, sorghum, wheat and a wide range of herbs and spices

2 stage processing: Splitting plant and Milling plant

1/3 of the bean produces guar gum powder – to be milled

2/3rds is high quality protein and husk that is used for animal feed



The potential for farmers is to make up to R11,000 per hectare after all expenses.



Why guar

- Growing areas from Northern Botswana, throughout South Africa and into Mozambique.
- Dryland Yields range from 0.5 tons per ha in NW drought stricken areas to 2 tons in KZN
- Irrigation yields range from 2 tons to 4 tons .
- Guar is the clean, green solution to Fracking
- 7 million hectares of guar are grown in India and Pakistan annually.
- The USA alone imports 78% of the global guar gum powder and that only solves 32% of their current fracking needs.
- The global demand has grown to over 20 million hectares as China, Europe most of Africa and even Australia and New Zealand are developing their shale gas industries.

- Canada is looking to open 38,000 fracking (shale gas) wells in British Columbia alone – expected to add 10% to their GDP
- Fracking in the Karoo will come online in the next 24 months and we want it to be GREEN

Market opportunities for milled guar

Guar gum for **fracking** industry

Guar gum for the paper industry
SAPPI 12,000 tons/ year MONDI



Guar for the food industry SA
imports 2,500 tons/year

Guar gum for separating Platinum
Amplats 4,000 tons/year

Agronomical Characteristics

- Drought tolerant plant (300mm irrigation)
- Insects tolerant
- Disease tolerant
- Marginal land
- Fertilizer requirement-low (R5000 input cost)
- Fodder use
- Nitrogen fixing
- Pod is not prone to popping
- Strong taproot
- Indeterminate flowering



Ideal Growth Form of Sundown

- 50 To 70 cm in height
- 6-8 lateral branches
- Between 100 to 200 pods
- Each pod 6-9 seeds
- Potential dryland -3 tons
- Potential irrigated 4 tons
- Population 200000 per/ha

