

Guar Bean – A new industry for Northern Australia



JSCNA Submission

Key Messages

- Guar in Australia
- Products & Markets
- Integration into North
- Who is AGC
- Partnerships
- The Future.



Australian Guar Company

Vision: *To lead a sustainable Australian Guar Production & Processing Business, by increasing the value delivered to both growers & customers.*



Mission: *Deliver Guar Products of Quality & Consistency to consumers from world-class Australian Grain growers dedicated to industry leading practices.*

AGC – Business Plan

- Focus on steps to create required systems to deliver an integrated business from:



- Planting seed research & release to-
- Quality grain production to-
- Industry leading processing to-
- World Class Product manufacturing.

Our Objectives



- ❖ Recognised as Significant Grain Legume.
- ❖ Be a part of the “Northern Food Bowl Revolution”.
- ❖ Contribute significantly to agricultural growth in marginal or remote regions.
- ❖ Innovation in Product Utilisation as Insurance against market changes.
- ❖ Strengthen Global position of the group as preferred source of 1st Class Guar Products.

Timeline – Guar In Australia (*Early Days*)

- ❖ 1910 – First Introductions from US
- ❖ 1935 – Trialled on Darling Downs
- ❖ 1945 – Trialled at Cloncurry
- ❖ 1949 – Trialled in KRS NT
- ❖ 1954 – 2nd Introductions from US (NT DPI)
- ❖ 1964 – “Guar Shows Promise...1226kg/ha”
- ❖ 1972 – 3rd Introductions (John Doughton tour)
- ❖ 1972 – 1979 – NT DPI Research
- ❖ 1979 – “Australian Gum Products” – Ian Parkins



Timeline – Recent History in Australia

- ❖ 1981 – 4th Introductions (from USA)
- ❖ 1982 – “*Guar: A Potential Industrial Crop for the Dry Tropics of Australia*” (Doughton)
- ❖ 1984 to 1989 – CSIRO (Bondi Beech *et al*)
- ❖ 1985 – Australian Gum Products – Business Plan
- ❖ 2002 to 2006 – “The Big Push”
 - ❖ GIDA (2002)
 - ❖ Value Chain & Market Analysis (2004)
 - ❖ Guar Variety Evaluation (2005 – Col Douglas)
 - ❖ “Lambertius Period” – last commercial crops (2007)



Still No Industry after 40 Years?? – WHY?

- No Selection of pure seed varieties, with high yield & regional adaptation.
- No grower BMP. Lack of R&D on where, why, when, how & what.
- Weak/Inconsistent demand & price.
- No market for lower grades



TOP 2 ISSUES....

- No processing & manufacturing in Australia.
- Guar is the only **NATURAL FRAC GEL**

Industry Challenges



- ❑ Volatility in Australian Climate.
- ❑ Access to R&D Support.
- ❑ Being recognised as a “Crop of Choice”
- ❑ Ability to take advantage of resources
- ❑ Distance & infrastructure Challenges
 - ❑ Labour, equipment, storage, road & rail.
- ❑ Agronomic support and extension.
- ❑ Cost of Land, Manufacturing & Energy.

Guar Bean – Multi-Purpose

- Grain
 - Protein Source
- Forage
- Hay
- Silage
- Cover Crop
- Fresh Bean Market

Greatest
Untapped
Agricultural
Resource



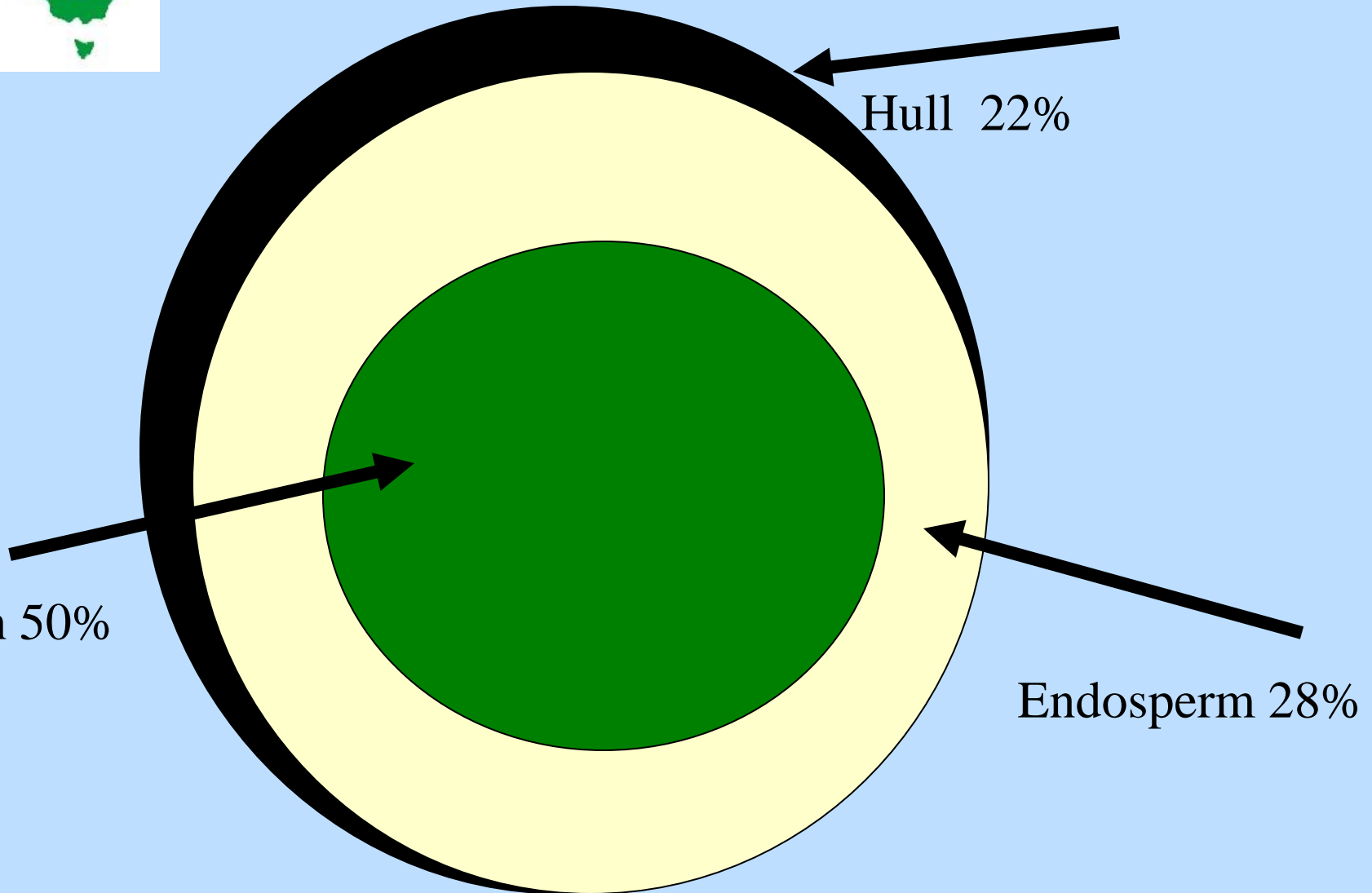
Features & Benefits of Guar

- ❖ *Drought tolerant & heat loving plant*
- ❖ *Legume – fixes Atmospheric Nitrogen*
- ❖ *Low production costs = Lower Risk*
- ❖ *Capacity as a multi-purpose enterprise*
- ❖ *Reduced level of pests (insects/diseases)*
- ❖ *Stable marketing system for growers*
- ❖ *Localised “primary” processing.*





Composition of Guar

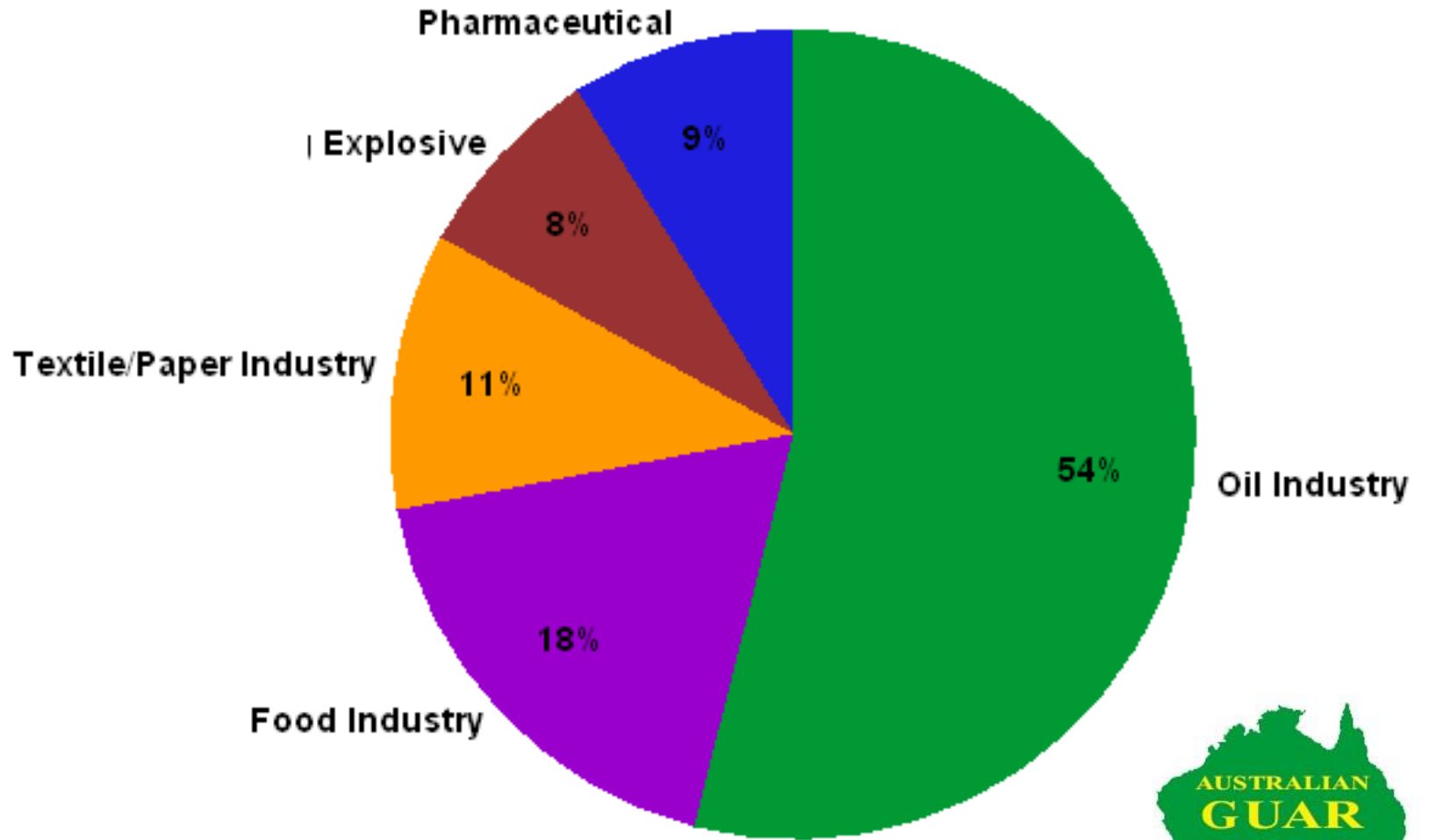


Guar Bean Processing Steps

- 1. Cleaning** – Remove sticks, stones, metal
 - 2. Splitting** – Aggressive mill to crack bean.
 - 3. Separator** – Sift **Protein Meal** off “crude cracks”
 - 4. Dehulling** – remove **Hull** from endosperm
 - 5. Powdering** – create **Guar Gum** (Powder)
- No Waste in the system.
 - Steps 1-3 can be mobile
 - All components are treated as separate products
 - Equipment is very specific + high energy use.



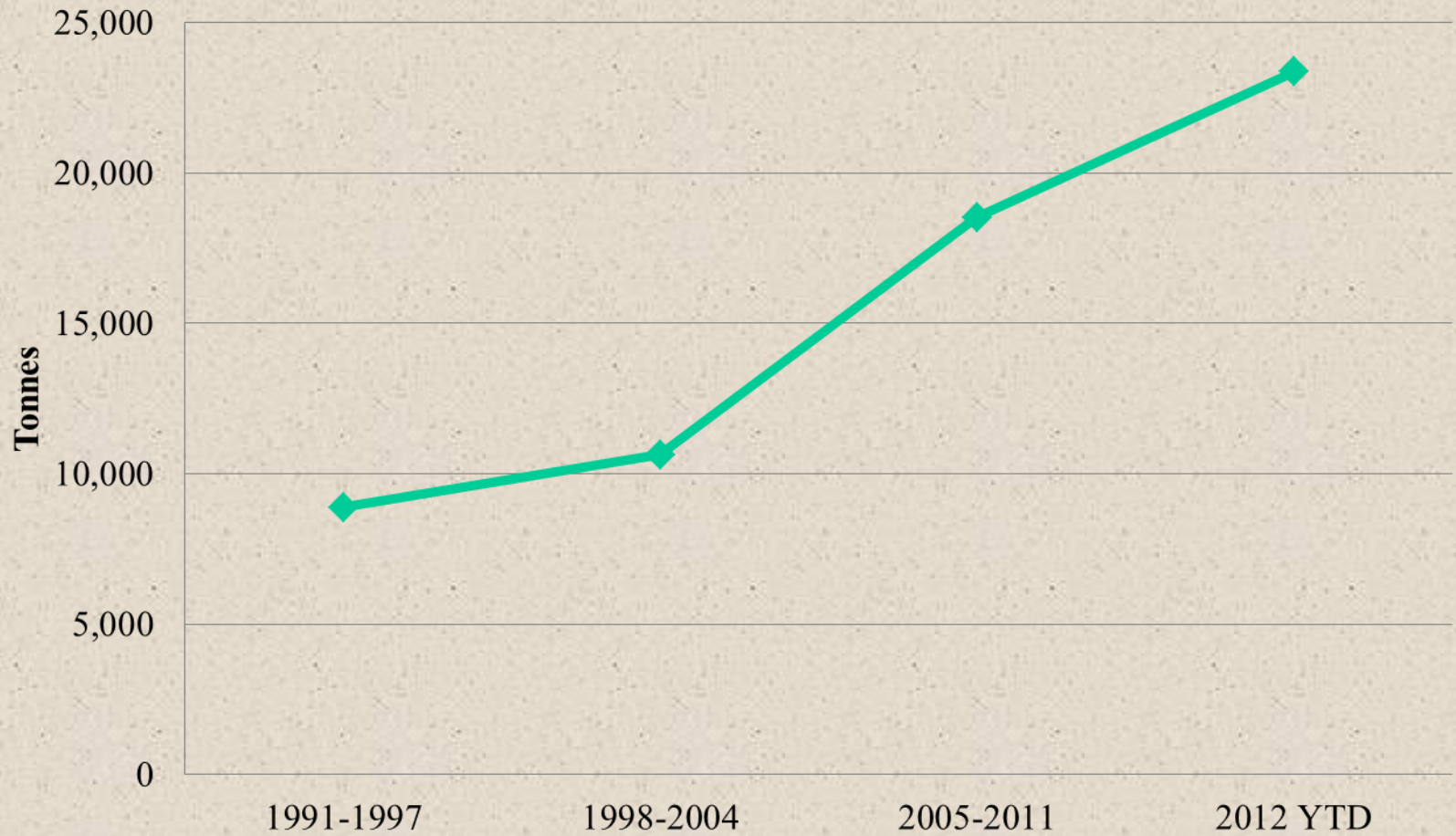
Industrial Applications of Guar



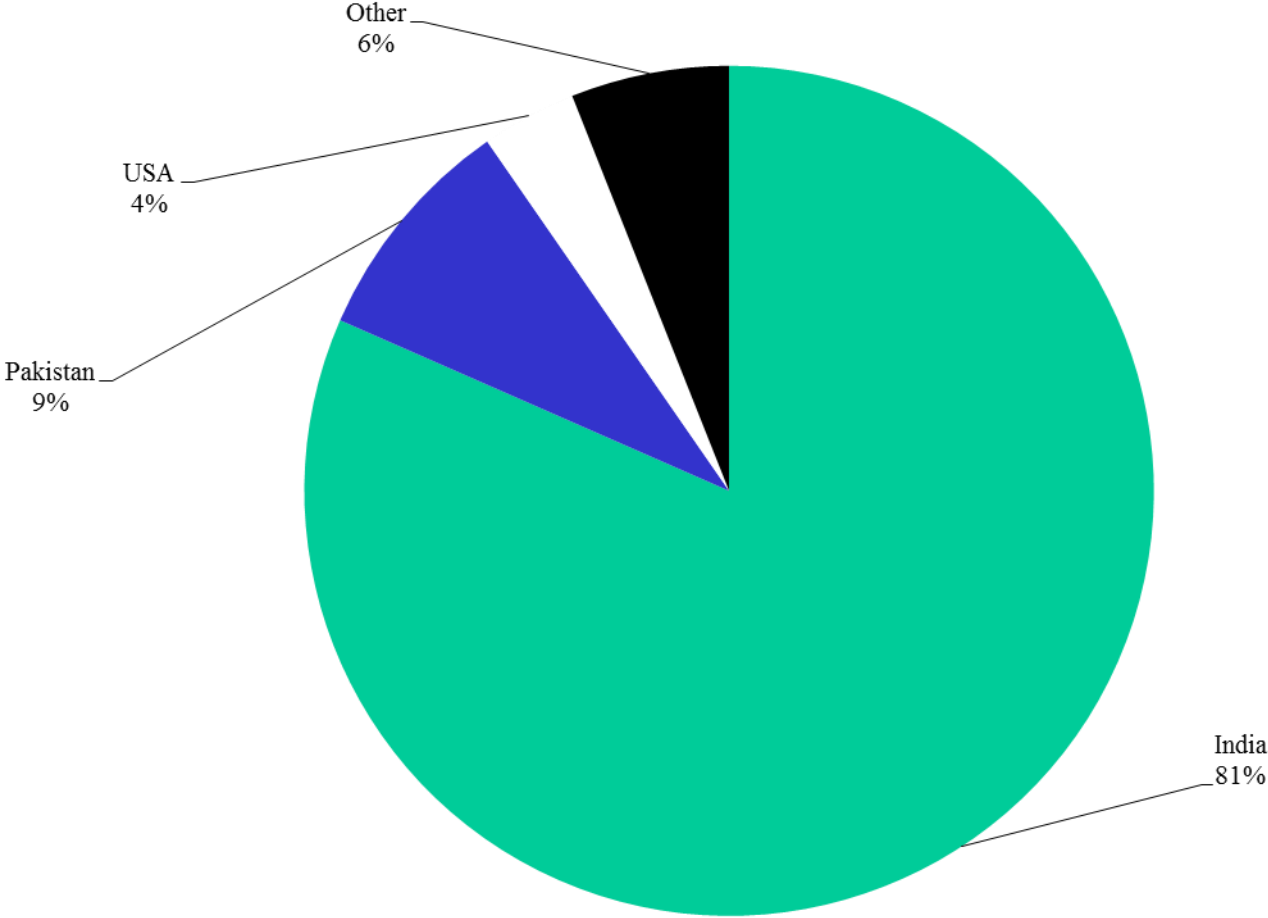
Historical Guar Gum Imports/Annum (kg)



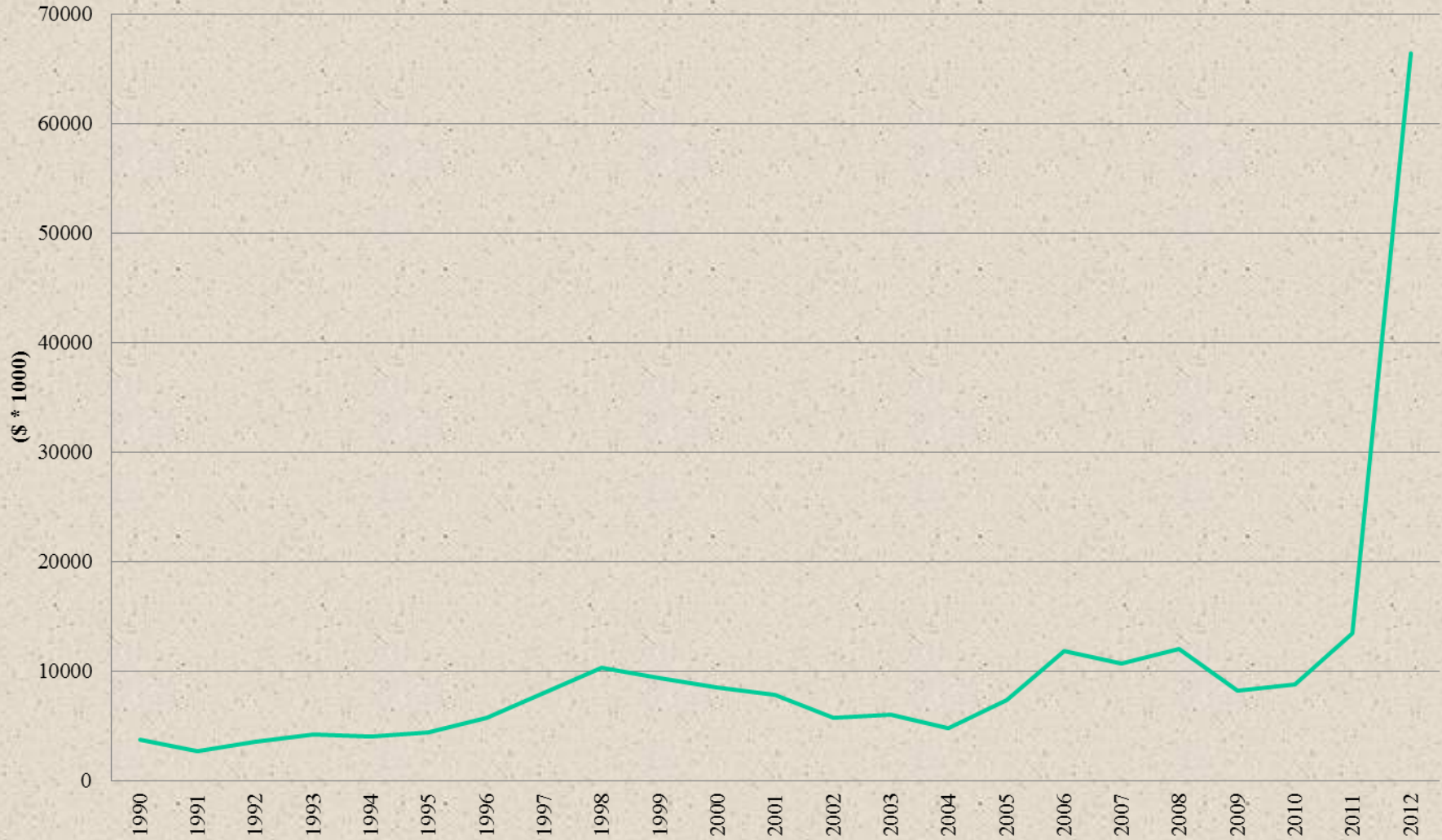
Australian Imports (Whole Grain Equivalent



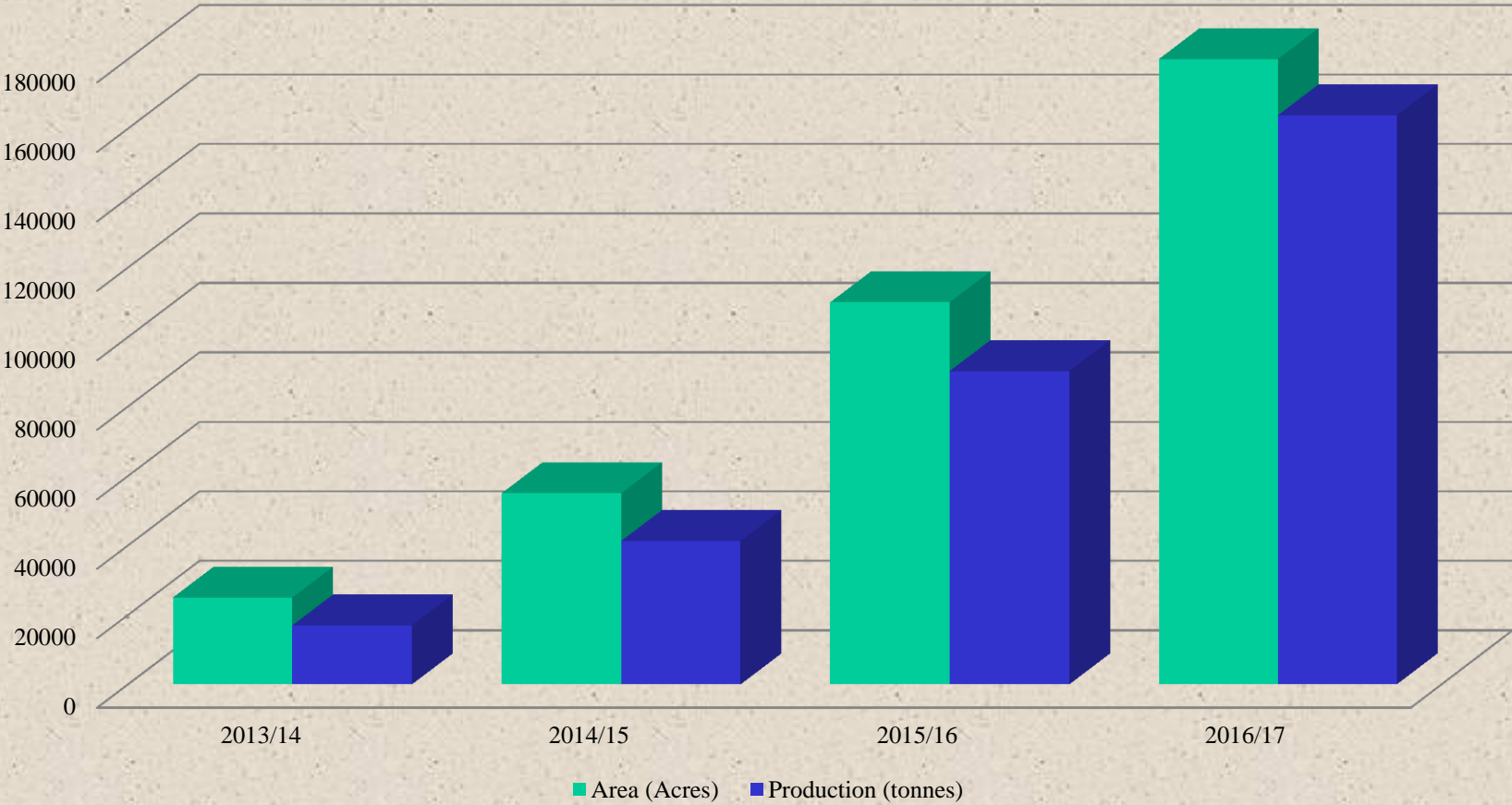
Australian Imports – Country of Origin



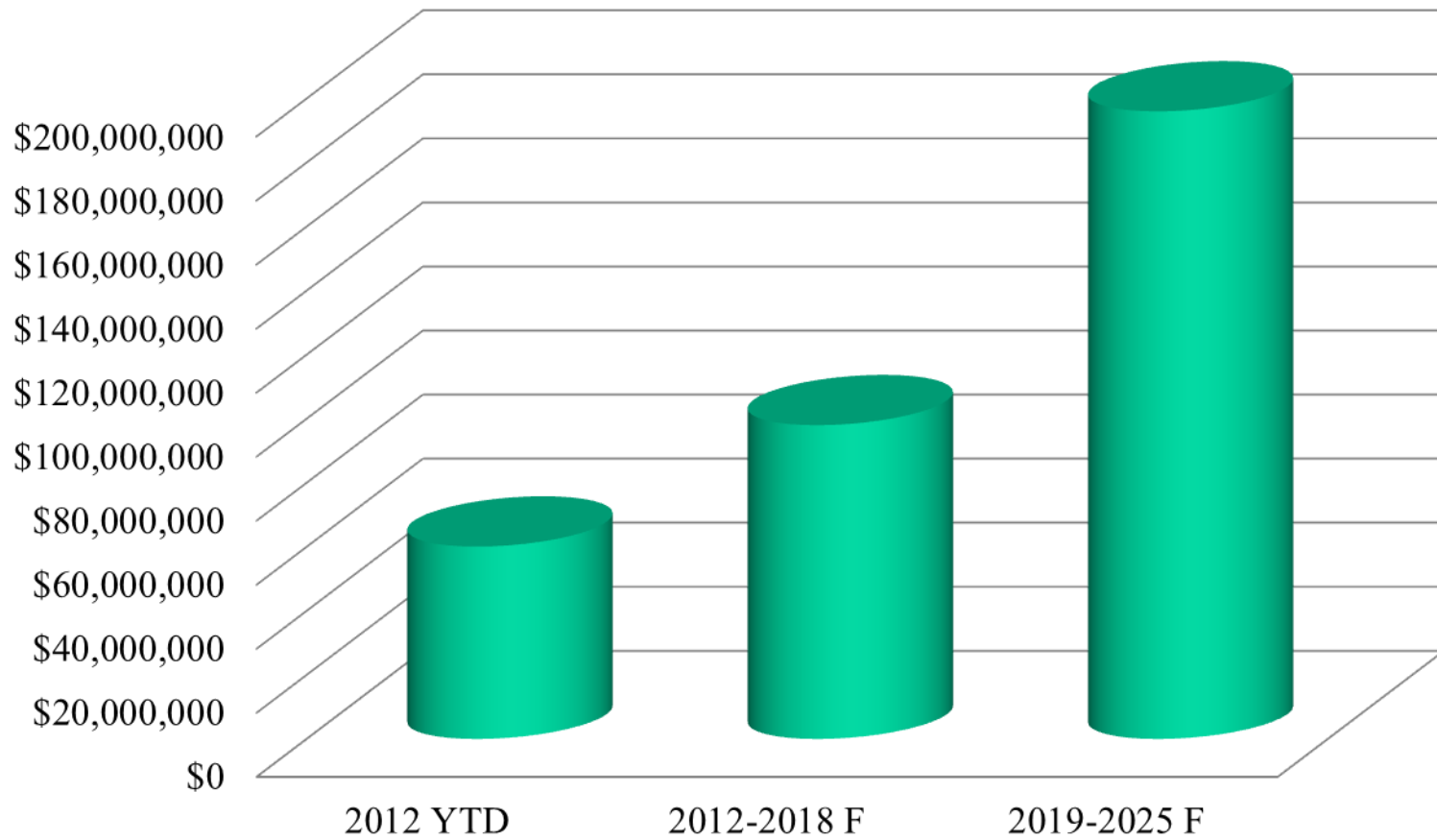
Import Value of Guar* into Australia (\$CIF)



Australian Guar Bean Projections



Forecast Domestic Value of Guar Used



Global Guar Market



- ❑ Oil & Gas demand remains strong (60% of all sales, India 80% share).**
- ❑ Other industrial uses also positive**
- ❑ China & US remain dominant destinations for Indian Guar**
- ❑ Demand is up 10% same time 2012**
- ❑ Indian exports 2012/13 = 408,000 tonne Gum.
Worth \$3.9Billion = 1.36Million tonne Beans.**
- ❑ Pakistan Production estimated at 100,000t/year**
- ❑ US Production set to equal/exceed Pakistan**

Global Overview (cont.)



- ❑ US Gum demand is 190,000 tonne (650K Beans)**
- ❑ US represents 25% World Trade**
- ❑ US & India investing heavily in R&D. Focus is varietal performance, product quality, and extending applications.**
- ❑ Demand for Feed components (germ and Hull), is particularly strong in European markets.**
- ❑ Australia's potential is noted in global trade discussions (producer & consumer), however, not considered significant yet.**

Australian Demand



- 7th Largest Global Reserves of Recoverable Shale Gas – 437 t.cu.ft (5%)**
- 6th Largest Global Reserves of Recoverable Shale Oil – 17,500 million barrels (5%)**
- Major Basins Include:**
 - Canning (Kimberley, WA)**
 - Cooper (North South Australia)**
 - Georgina & Beetaloo (NT & West QLD)**

Australia's North



Re-Evaluate Capacity & Utilisation
of the Northern Region of Australia.



Australia's North



- 1.5 Million Ha Pastoral Country
- **WA** – Kimberley / West Pilbara
- **NT** – Katherine / Barkly
- **QLD** – Gulf to Cape to CQ
- *All with varying strategies to manage agriculture & diversity.*

Australia's North



- Pest Animals & Woody Weeds
- Productivity managed by Carrying Capacity & Supplementary Feeding
- Vast Land & Water Resources.
- Balance of Production Sustainability & Environmental Mgt of Resources

Australia's North



- Low Protein Environment
- Long distances (cost of protein)
- Significant Resources (Land & Water)
- Changes in Livestock Markets
- Why is it receiving so much attention?

Guar in Northern Australia



- ❖ Protein source - pastoral or intensive sectors.
- ❖ Local Processing = Cheaper Protein
- ❖ Able to expand market reach - Exports
- ❖ Develop drought proofing strategies
- ❖ Make Supply Chain “Local” = Efficient

- ❖ Diversification = Risk Management

Australia's North



- Complexity of integration
- Remoteness & Infrastructure
- Resource Access & Native Title
- Climate Change & Implications
- How to build a system that meets the needs and challenges of Australians & the world?

Guar Production in Pastoral Enterprises.



- Heat Loving Legume – well suited
- Resource utilisation optimised
- Cash Crop Opportunity
- Provision of High Quality Protein
- Sustainable Productivity Management

Priorities— 2014/15



- ❖ Release of new varieties this summer.
- ❖ Regional performance & suitability trials
- ❖ Build Mobile Splitting Plant.
- ❖ Develop markets for Protein & Hull
- ❖ Expansion projects into Pastoral Enterprises
- ❖ Establish FULL Processing Plant
- ❖ Continue significant R&D program
- ❖ Displace Imports & Reach Export Capacity



4/. Research & Development Priorities

☀ Climate & Environment

☀ Varietal Selection & Breeding

☀ Regional Agronomy Packages

☀ Soils, Nutrition & Rhizobia

☀ Integration with Pastoral North

❖ VERY LOW SUPPORT FOR NEW
SUBSTANTIAL INDUSTRIES

Economic Value of Guar Down-Under

- ❖ Import Displacement
- ❖ Diversity for Grain Growers
- ❖ Regional development in expansion projects
- ❖ Productivity & Sustainability of Pastoral Enterprises & Communities.
- ❖ Development in Industries like Aquaculture
- ❖ Innovation in Food, Environmental & Agricultural products and applications.



Partnerships with AGC

- ❖ Grant & Funding Schemes
- ❖ R&D, Commercialisation
- ❖ Product Innovation
- ❖ Network development
 - ❖ Livestock sector / forums / conferences
 - ❖ Indigenous Pastoral Development Projects
 - ❖ Pastoral Lease Administration - Streamline
 - ❖ Regional Project Involvement



Indigenous Pastoral Development Projects



- ❖ Aim to engage with Councils that have development plans / objectives
- ❖ Create a partnership that delivers positive outcomes for these communities. **Long-term**
- ❖ Headline Project – *Napranum Land Council*
 - ❖ Weipa, Cape York – FNQLD.
 - ❖ Working relationship with Council & TO's
 - ❖ Training/employment + infrastructure/investment.
 - ❖ Integrate Farming & Livestock Operations – INCOME
 - ❖ Other Community Activities – eg “Market Gardens”

Summary



- Diverse consumer base for all Guar biproducts, with strong demand. *“Australian Made”*
- A legume crop with excellent adaptation, and low risk profile. *Growth across north Australia*
- Deliver a simple, effective, grower driven value chain. *Sustainable Grower Profitability*
- Business Plan derived from 40 years of trial & error. *Deliver through Innovation*

Questions to Ponder



- ❖ How would Australia's north be utilised if on any other continent?
- ❖ Is the Great Artesian Basin more than a national Icon?
- ❖ Can we make more dams a reality?
- ❖ Do State Governments have to be such significant landholders?
- ❖ Shouldn't Australian Farmers be recognised as world class resource managers?