



GIWA Barley Rationalisation

4th July 2019



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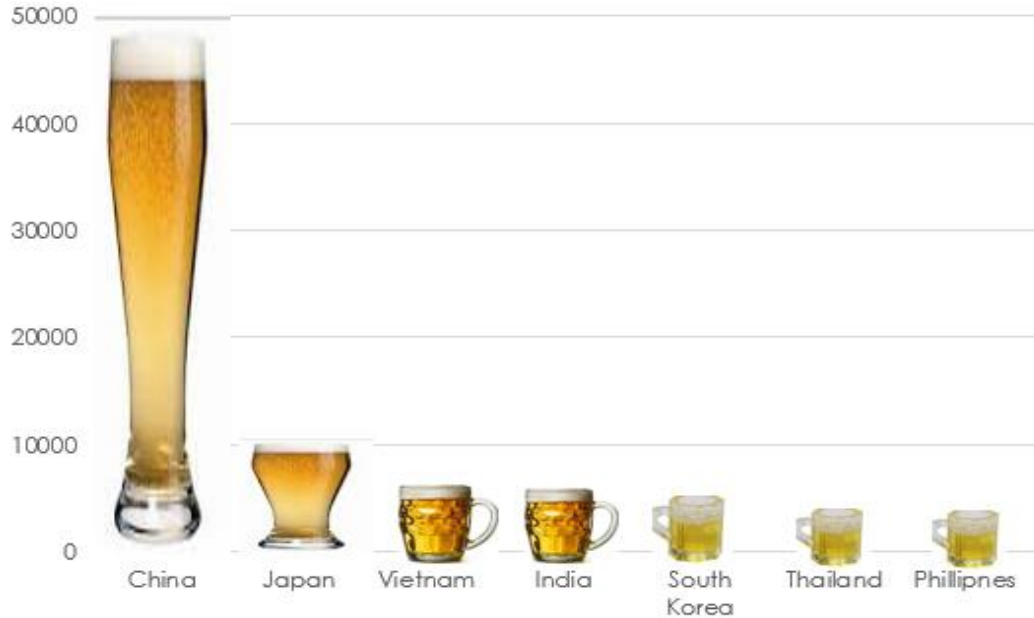
5) Sustainability

Beer Market APAC

| Issue | Consumption | Reason |
|--|-------------|-----------------------------------|
| China & Japan | Declining | Increased Price |
| India, Malaysia, Philippines & Vietnam | Increasing | Changing Lifestyle |
| Premium & Craft | Increasing | Rising Incomes |
| Dominance Main Brands | Increasing | Investment in Marketing & Channel |

Highest consumption of beer globally / Lowest per Capita Consumption

APAC Country Beer Consumption (mil L)



China



Japan



Vietnam



India



Sth Korea



Thailand



Philippines



APAC Country Beer Consumption Next 5 Years Growth



China



Japan



Vietnam



India



Sth Korea



Indonesia



Philippines



Malt Exporters Near Capacity Despite Expansions

Brazil has pulled a lot of extra demand for 2018-2019 due to:

- Premiumisation brewers shifting to higher malt consumption
- Full growth recovery (4-5%) consumption have pulled additional malt needs in short notice.

This led to :

- LATAM demand exceeding malting production capacity
- Extra flows from EU and NAM
- Some vessels from Australia.

As a consequence:

- Helped new global malting capacities reaching capacity in year 1 of operation in EU, AUS, VN (also counting in continuous growth in AFR @ 4-5%)
- Created some SnD stress in APAC when combined with continued growth in SEA

WA Malt Barley – Variety Development

| Variety | Application |
|------------------------|--|
| Bass (Flinders/Baudin) | Non GA Very well accepted variety Pipeline Banks sometime away |
| Latrobe | Approved Japan & Korea Grown Nationally |
| Planet | Yet to see critical mass uptake Still obtaining approvals |
| Spartacus | Malting well Target specific market to manage Immi |
| Scope | Agronomic benefits |

Chemical Residues

Understanding MRL Risks of Each Specific Markets & Match Varieties to Market

| Specific MRLs for Barley as at 24 April 2019 | | | | | | | | | | | |
|--|---------------------------------|-----------|-------|--------------|------------|-----------|--------------|------------------------|--------|--------------|---------|
| Barley, grain | Codex | Australia | China | EU | GCC# | Indonesia | Japan | South Korea | Taiwan | Thailand | Vietnam |
| Imazamox | 0.02 (EU Reservation at CCPR50) | 0.05* | | 0.05* | | | 0.01 Default | 0.01 Default | | 0.02 (Codex) | |
| Imazapyr | 0.7 (EU Reservation at CCPR50) | 0.7 | | 0.01 Default | | | 0.01 Default | 0.01 Default | | 0.7 (Codex) | |
| Imazalil | -- | -- | | 0.05* | 0.02 | | 0.05 | 0.05 (expires 31Dec21) | 0.01* | 0.01 Default | |
| Imazapic-ammonium | -- | 0.02 | | 0.01* | | | 0.01 Default | 0.01 Default | | 0.01 Default | |
| Diquat | 5 | 5 | | 0.02* | 5 (Codex) | 5 | 5 | 0.02 (expires 31Dec21) | | 5 (Codex) | 5 |
| Haloxypop | | | | 0.01* | | | 0.01 Default | 0.01 Default | 0.02* | 0.01 Default | |
| Saflufenacil | 1 | 0.2 | | 0.03* | 1 (Codex) | | 1 | 0.03 (IT) | 0.03 | 1 (Codex) | 0.01 |
| Glyphosate | 30 | 10 | | 20 | 30 (Codex) | | 30 | 20 (IT) | | 30 (Codex) | 30 |
| Fenitrothion | 6 | 10 | 5 | 0.05 | | | 5 | 0.01 (Default) | 0.3 | 6 (Codex) | 6 |
| Chlorpyrifos methyl | 3 | 10 | 5 | 6 | | | 6 | 3 (expires 31Dec21) | 3 | 3 (Codex) | |

- Not **just** Malting barley issue
- Country MRL can be difficult to understand/obtain
- Heightened awareness around Glyphosate
- NRS comply with Australian MRL not necessarily that of export markets

* Level of Detection APVMA MRLs listed in AUS # Other countries vary. Saudi GCC/Codex/EU/USA

Intervix/Intercept

Sentry (+Imazapyr)

BROUGHT TO YOU BY THE NATIONAL WORKING PARTY ON GRAIN PROTECTION (NWPGP)

Sustainability

Sustainable Farming

- SAI
- Direct & Contract growing.

Water consumption

- Plant consumption
- Waste water

GHG emissions

- Plant production
- Energy sourcing

Employee and Environmental Health & Safety

- Drive to 0



Waste Water Treatment / Initiatives

- Perth / Sydney / Tamworth Waste Water treatment plants commissioned.
- Replacement of Flat Bottomed steeps in Port Adelaide to Conical Type, resulting in water savings

GHG Emissions

- Gas and Power initiatives include optimization of kiln programs, improving the loading/levelling of the GK Kiln and installing heat exchangers.
- Renewable energy sourcing

Sustainable Farming (SAI)

- Cargill has aligned with the SAI Platform to promote sustainable agricultural production and practices.
- Our target is to buy 60% of malt barley requirements direct from the grower each year. This will result in 50% of tonnes accumulated direct from the grower having a minimum SAI Bronze accreditation in 2020/21.

Employee and Environmental Health & Safety

- Aligned to a defined Global Operating Model that supports delivery of **Zero Harm**.
- Improved discipline, governance and demonstrated EHS compliance.





Helping the world *thrive*