Tropical Pulses for Queensland

Professor Sagadevan Mundree
Director
Centre for Tropical Crops and Biocommodities
Institute for Future Environments
What are Pulses?

Pulses = Legumes with dry, edible seeds

- Chickpeas
- Field peas
- Kidney beans
- Lentils
- Mungbeans
- Lupines
- Cowpeas
- Faba beans
- Black-eyed peas
Chickpea and Mungbean – Two Important Pulses for Queensland

Chickpea (*Cicer arietinum*)
- Nutrient dense, good source of carbohydrates, minerals, protein (constituting 80% of the total dry seed mass)

Mungbean (*Vigna radiata*)
- It is regarded as a ‘green pearl’ due to high micro-nutrient content (Fe, Zn, Ca) and vitamins
- Good source of easily digestible proteins and essential amino acid lysine
Pulses – Key Facts

- Rich in protein
- High fibre content
- Low fat content
- Good sources of vitamins e.g. folate
- Gluten free
- Rich in micronutrients e.g. Fe and Zn
Global challenge to Sustain an Increasing Population

World population

Food production

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
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</thead>
<tbody>
<tr>
<td>1960</td>
<td>3 billion</td>
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<tr>
<td>2000</td>
<td>6 billion</td>
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<tr>
<td>2050</td>
<td>9 billion</td>
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Doubled

Required increase by 70%

FAO, 2009
Iron Deficiency: The Implications

- Poor pregnancy outcomes
- Altered physical and cognitive development
- Impaired immunity
- Increased morbidity

- Long and short term socio-economic implications
  - Loss of productivity
  - Increased healthcare costs
Generation of Elite Chickpea Varieties that accumulate more Iron

Transformation and Regeneration

In vitro grafting

Post-acclimatisation
Transgenic Chickpea accumulate more Iron
Allergies on the Rise

• Food allergies are emerging as a prominent concern in global health statistics.

• 1 in 20 Australian school children suffer from a food allergy (Allergy and Anaphylaxis Australia)

• Australia has a relatively high prevalence of peanut allergy. Almost 3 in every 100 children have a peanut allergy (Allergy and Anaphylaxis Australia)

• The Australian Society of Clinical Immunology and Allergy estimate the cost of allergy related illness to Australians is estimated at $21.5bn, a large portion of which is attributed to food allergy related incidences.
Responding To Market Demand

Foods from the Earth have launched their Notnuts spreadable paste range comprising of:

- Notnuts Smooth Butter
- Notnuts Sugar Reduced Butter
- Notnuts Chocolate Spread
- Notnuts Crunchy Butter

safe, tasty alternatives to traditional nut spreads equally at home in retail or as an ingredient
Dynamic research team across multiple organisations

Queensland Government
Department of Agriculture and Fisheries
Thank You