



Edible insect farming:

Learning from the Thai experience

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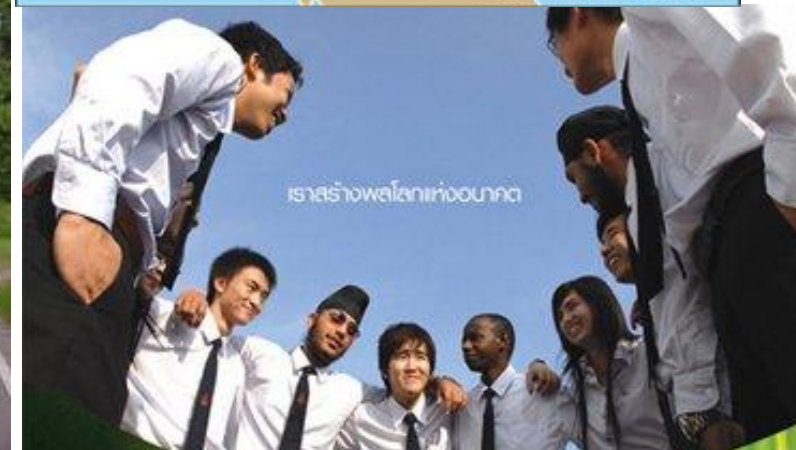
Khon Kaen University. Thailand



มหาวิทยาลัยขอนแก่น
KHON KAEN UNIVERSITY



Golden Jubilee Convention Hall



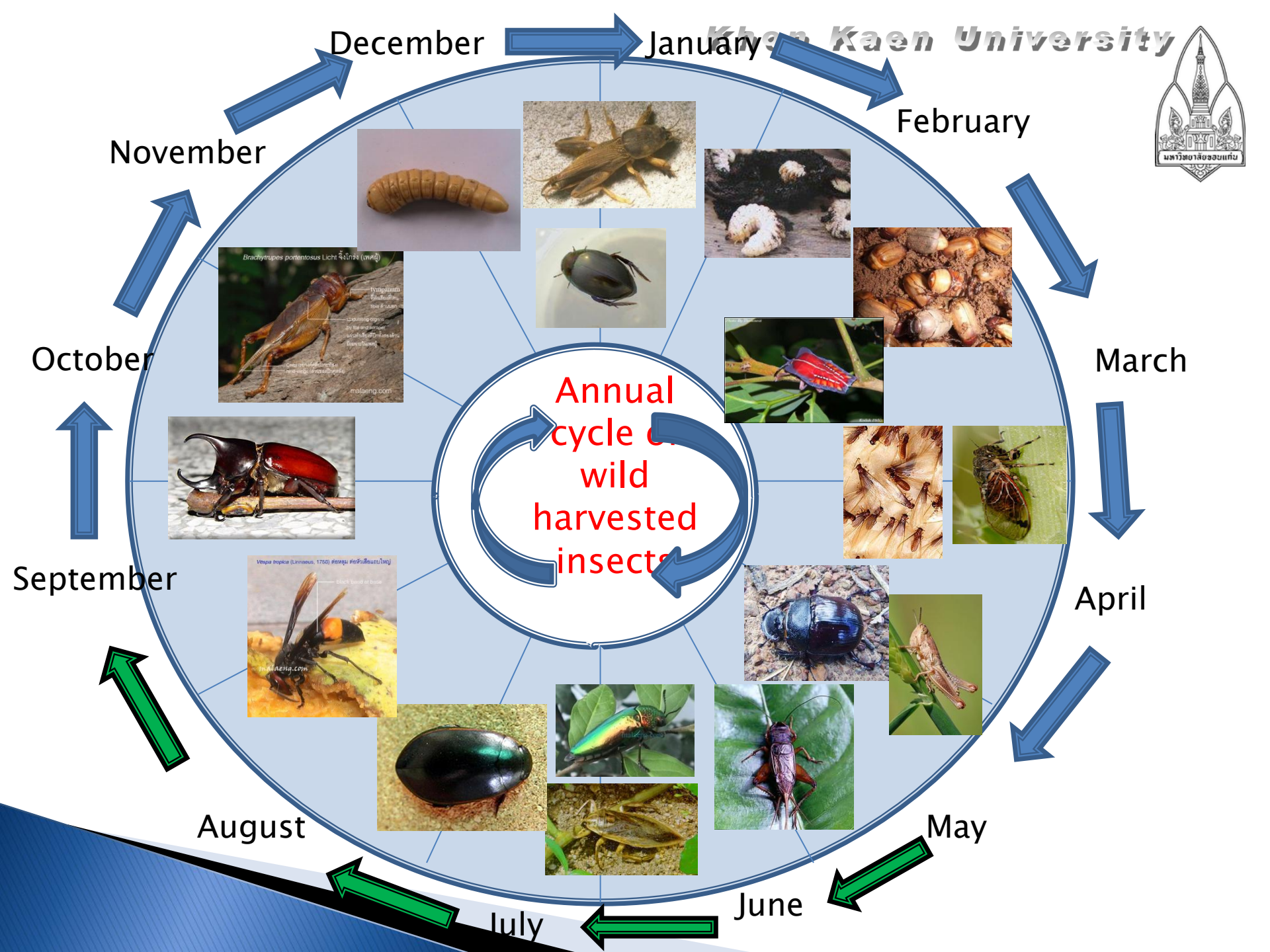
เราสร้างโลกแห่งอนาคต

ศูนย์ประชุมอเนกประสงค์กาญจนาภิเษก มหาวิทยาลัยขอนแก่น



Sources of edible insects in Thailand

- **Farming insects** –successful with palm weevil & cricket
- **Semi farming** : weaver ant, wasps
- **Wild collecting**: majority species



Farming of insects for food

- Developed from an economic crisis
- Two species farmed : cricket & palm weevil
- Only 1% of food species farmed
- Mealworm is farmed for animal feed.



Cricket Farming



Gryllus bimaculatus

- Native species
- Low feed cost
- shorter Life cycle (39–40 days)
- Less preferred eating



Acheta domesticus

- Introduced species
- Most popular species for farmers & consumers
- good taste, soft, nice color

Breeding containers

Concrete tube



Concrete block



Plywood boxes



Plastic drawers

Cricket diet

- Chicken feed with 14% and 21% protein content
- vegetables such as Pumpkins, morning glory leaves,





Eggs (11-14 days)



Adults: Male (40-43 days);



Nymphs (42-55 days)

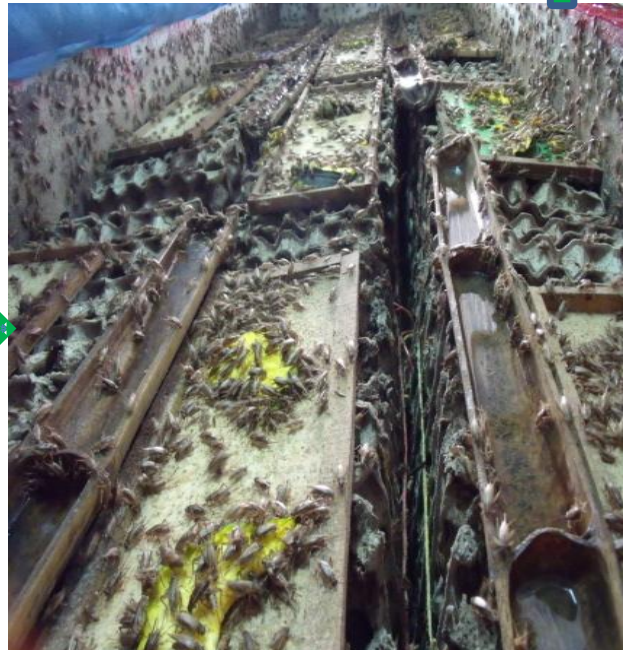
Life cycle of *Acheta domestica* L.

50 days)

Cricket farming process

Eggs (11-14 days)

45-60 days/cycle



Sales from cricket farms



Cricket

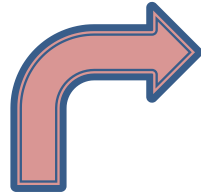


Cricket eggs

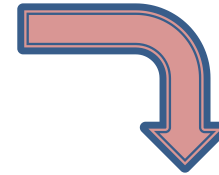


Cricket waste

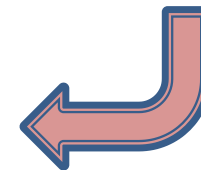
Farming Palm Weevils *Rynchophorus ferrugineus* Oliver



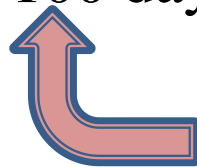
Eggs 5-7 days



Larvae 27-40 days



Pupae 10-15 days



Adults 80-100 days

Life Cycle



Traditional method



Improved process



Sago palms used
in rearing

Farming Palm Weevils

Feed Preparation



Breeding Method

37-45 days



Breeding stock



Sales from palm weevil farm



Live weevil



Breeding stock



Solid



Liquid

Biofertilizer



Income & cost production

Farmed insects	Cycle Duration (days)	Revenue/cycle (US\$)	Cost production (%)
House cricket	45	2,000–5,000	50
Palm weevil	37–45	3,500–4,000 (x6–7 cycles /year)	10

Remark: agriculture crops revenue (\$US)(6 hectare)
 Rice 700, sugarcane 2000, Cassava 1500
 Livestock 3200



Market pathway

Village markets:
unprocessed

Street vendors :
processed /cooked

Supermarket & Convenience store
Frozen packets, microwave ready



Village markets



Street vendor

► tourism

Khon Kaen University



Supermarkets & convenience store

en University

Microwave ready



Order through the Internet *Khon Kaen University*

Unique edible insects/bugs from Thailand and S.E. Asia.



£

NEW! Bag of Mixed Bugs (5 types)



£

Giant Edible Crickets



£

Edible Insect Nymphs (Rare)



£

Edible Thai silk worm larvae



£

Queen Weaver Ants (Rare)



£

Bamboo Worms (Dried & Bagged)

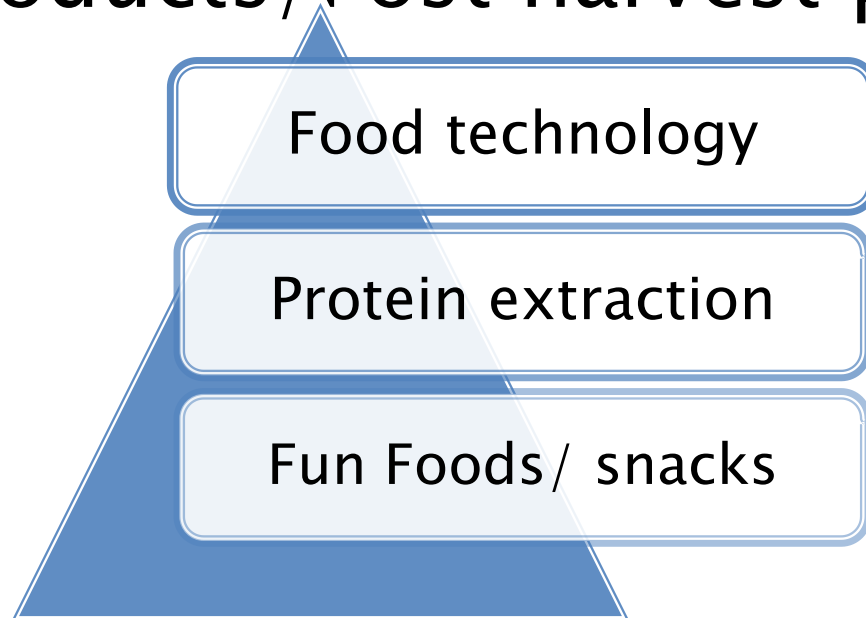




Challenges for edible insect farming

- Availability of suitable low cost insect diet
- Price and marketing controlled by middlemen
- Weakness in production (inbreeding) & marketing linkage
- Lack of co-operative groups for marketing

Future outlook

-  Potential as a new protein source
-  Best practice in intensive farming
-  New products/Post harvest processing



-  Sustainable wild harvesting
-  Food safety practice



Thank you





Dr Tasanee Jamjanya









Cricket products



noodle



Food bar