

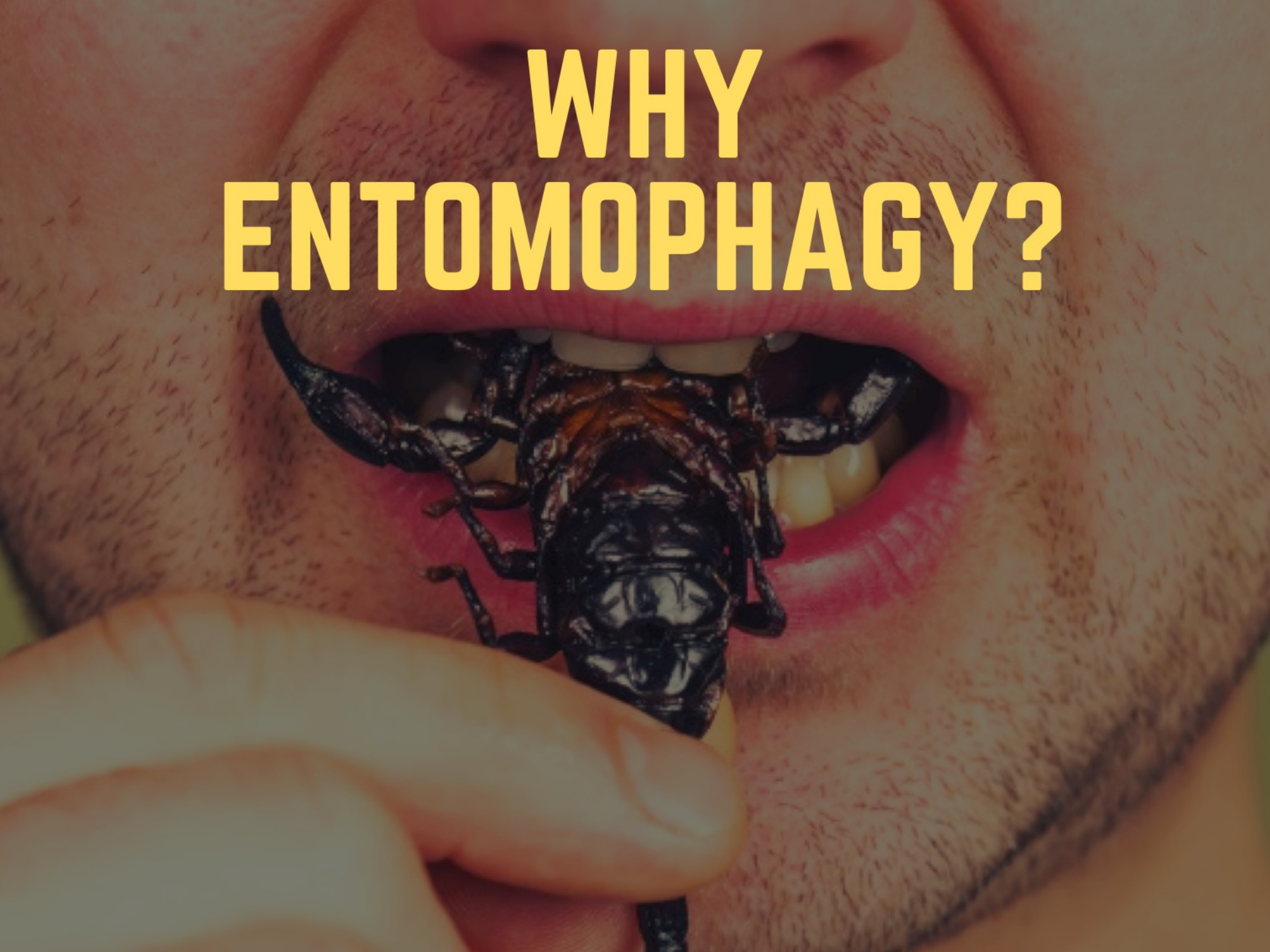
TUNKU ABDUL RAHMAN
UNIVERSITY OF
MANAGEMENT AND
TECHNOLOGY



**COULD INSECTS BE THE
WONDER FOOD OF THE
FUTURE?**

**PRESENTED BY:
PHUAH KIT TENG**

WHY ENTOMOPHAGY?



ISSUES ABOUT SUSTAINABILITY: WORLDWIDE FOOD CHALLENGES



Globally, 800 million out of 7.6 billion people suffer from hunger—one in 10 people

Food security ranked second among the 17 sustainable development goals in the United Nations 2030 Development Agenda

By 2050, world population is expected to reach 9.2 billion. To ensure food availability by 2050, the world needs to increase 70% of its food production

Replacing parts of the proteins obtained through the consumption of meat with insect-based substitutes thereby represents a strategic approach which would meet the challenges of developing sustainable food systems (Anankware et al., 2015; van Huis et al., 2013).

IS IT AVAILABLE?



ENTOMOTOURISM

 **TheStar** Foodies jump for joy after discovering fried grasshopper vendor

Foodies jump for joy after discovering fried grasshopper vendor




NATION

Wednesday, 25 Aug 2021

5:53 PM MYT

Related News



NATION 11h ago 
Joy in winning and giving

STARPICKS 21h ago 
Hong Leong Bank to host inaugural 'Digital Business Day'

STARPICKS 4h ago 
Business and law studies in the new normal



KOTA BARU (Bernama): Few would have imagined there were this many deep-fried grasshopper lovers in the country.

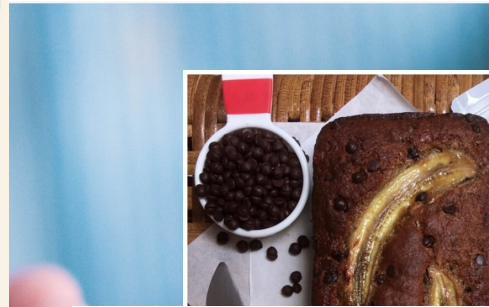
Yet the demand has led sisters Emi Zuhaida, 35, and Emi Zuhaika Husain, 25, to start a business supplying not just customers in Kelantan, but Johor, Selangor, Negri Sembilan and Pahang as well.

Emi Zuhaida said a producer of the exotic snack in Pasir Puteh sends them a batch of 100gm jars of the insects every two days or so, which she sells for RM16 each.



ento 100% Pure Cricket Powder 100g
★★★★★ 2 reviews
RM29.90 MYR

Size



Zoé x ento High Protein Banana Bread (1 loaf x 760g)



Zoé x ento High Protein Cranberry Oatmeal Cookies (24 pieces x 25g)

RM60.00 MYR

ADD TO CART

BUY IT NOW

25g)

RM30.00 MYR

ADD TO CART

BUY IT NOW





EAT HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION, AND PROMOTE SUSTAINABLE AGRICULTURE



United Nations 2030 Development Goal



Pupal Stage

Lifespan: 8-10days,
NO Feeding,
NOT moving



Adult

Lifespan: 8-12 days,
Mates and lays eggs



Eggs

(320-700 eggs,
hatched in 3-6 days)

**The black soldier fly
life cycle**

Prepupal Stage

Lifespan: 7-10days,
NO Feeding, Migrate to dry
site



Larvae Stage

Lifespan: 10-20days,
Feeding Stage

CAN MALAYSIAN ACCEPT IT?





MS. KIMMY
(20 YEARS OLD)

"Basically, for me insect is not harmless. I am afraid they will bite me. Therefore, I will never get near to any insect and never try any insect meal."



MS. HO
(23 YEARS OLD)

"I feel gross when I saw the insects and I will only try once if its in whole body size. I more accept if its in powder."



MS. CHAN
(23 YEARS OLD)

"I dont feel they are gross. I just curious whether the insect is really made for human consumption, whether it is hygiene and will cause allergy"



MR. AZURE
(31 YEARS OLD)

"Aiyerrr....so gross also you can eat? I will not dare to try it. I scare I will get allergy by eating the insects."



MR. NEO
(34 YEARS OLD)

"Insect meal is a good source of protein and I can eat it as a snack whenever I am hungry."



MR. BERNARD
(39 YEARS OLD)

"Thats so gross. I will not try it even I know its more environmental friendly. I just cant accept it as my daily diet."



**MS. FONG
(63 YEARS OLD)**

"Yer...are you sure we can eat insect? I dont want to try it at all. I dont even know whether its clean or not"



**MR. ANDREW
(68 YEARS OLD)**

"I don't want to eat and try. I cant imagine really got people eat insects. I feel its so gross and cruel especially the one who eat the live insects"

A woman with a distressed expression, holding up her hands in a 'stop' gesture, with the text 'FOOD NEOPHOBIA' overlaid in large yellow letters.

FOOD NEOPHOBIA

Will you try and consume insect?



Curious about
the taste and
texture

23.7%

Alternative
source of
protein

6.5%

Concern on
food safety

6.9%

As a medical
perception

3.7%

Total Respondents: 871

If You Have Tried Eating Bugs, What Kind of Bugs Did You Eat?

NEVER

70.8%

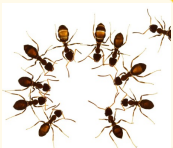
A Type
of Beetles (1.7
%)



Others (3.5%)

3.5%

Ants (11.1%)



Crickets
(5.3%)



Scorpion
(3.4%)



Silks
worms/meal
worms/pupae
(4.2%)

Total Respondents: 871

..... If you are deliberately eaten insects, did you like what you tried?

Tried it,
feel good
(1%)



Tried it, it
was okay
(12.6%)



Tried it but
didn't like it
(14.8%)

I will never
try insect
(71.5%)



Total Respondents: 255
(Who had tried edible insects)

Would you be confidence eating bugs, if they were hidden in the food somehow ?

I'd eat either way

9.1%

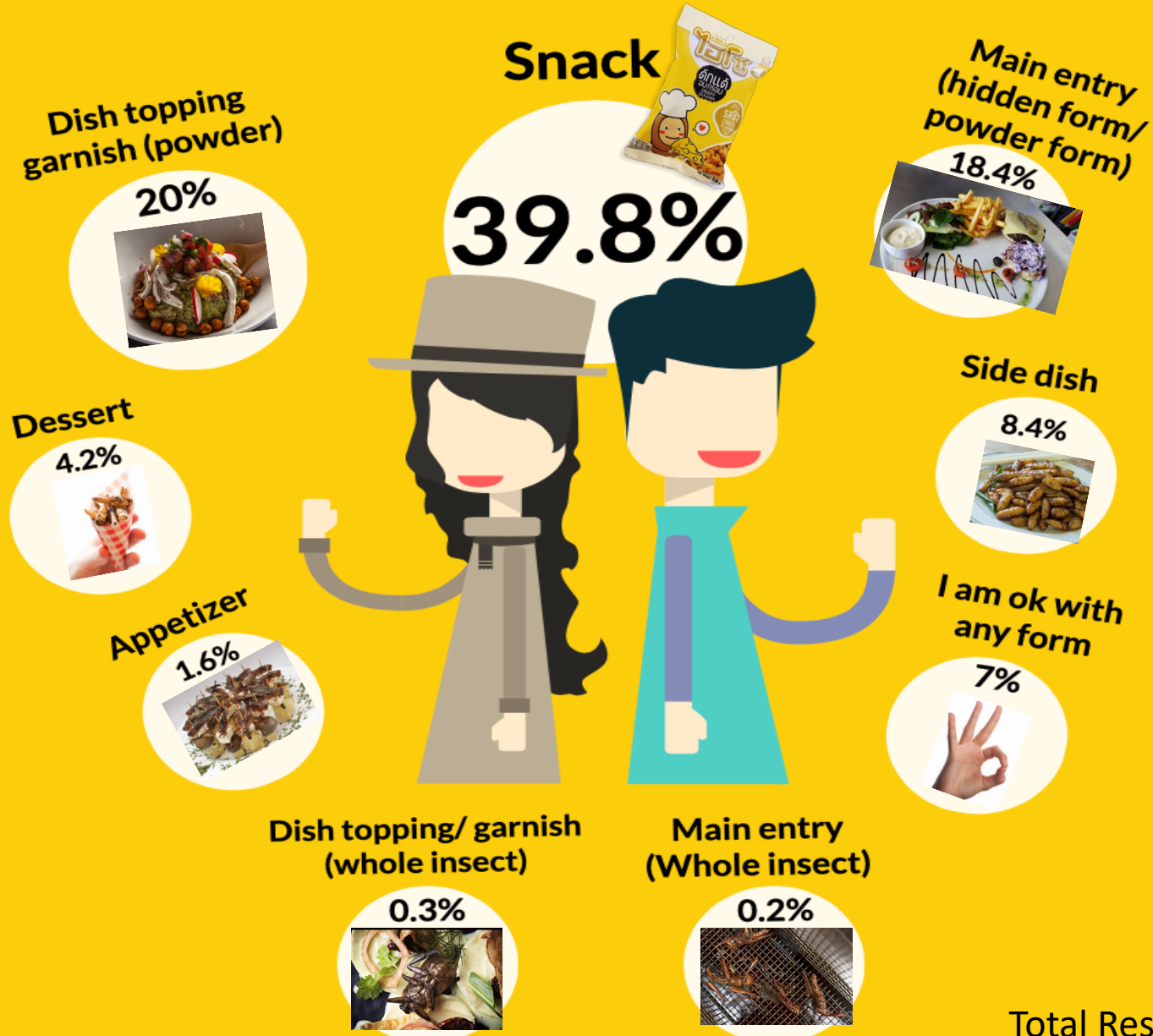
Yes, I am more comfortable if I couldn't see the bugs

39.2%



Total Respondents: 871

Will you be more comfortable to include edible insects in your diet, if its in a different form from such as _____?



Total Respondents: 871

A close-up photograph of a person's mouth and lips as they eat a cricket. The cricket is held by a pair of wooden chopsticks. The person's teeth are visible, biting into the insect. The background is a soft, out-of-focus grey.

HOW TO INCORPORATED INSECTS INTO MALAYSIA DIET?

How to Incorporated Insects into Consumer's' Diet?



Educating the environment and health benefits of insect food



Appealing to the taste bud (Getting people to taste them and decide for themselves)



Getting insects into processed foods (e.g. insect burgers, insect flour cereal bar)



Introducing Insect Snacks



Making insect food products cheap compare to others food products.





**"The bug in our diet:
Throw away everything you
think about eating insects it's
the future of protein and he
future is now"**

Thank You For Listening

**Presented By:
Phuah Kit Teng**

**Email Address:
phuahkt@tarc.edu.my**

