

INSECTS FOR FOOD! FACTORS INFLUENCING CONSUMER ACCEPTANCE AND QUANTITY CONSUMED OF EDIBLE WINGED TERMITES

Carolyne Nafula Kisaka¹, Oscar Ingasia Ayuya¹, George Owuor¹

¹Department of agricultural economics and agribusiness management, Egerton University, Kenya. P.O BOX 536-20115, Egerton.



BACK GROUND

- The World increased population growth, incomes and urbanization have resulted in high animalbased protein demand (FAO, 2013).
- ❖Innovative solutions like edible insects consumption need to be researched and explored to sustainably meet the rising animal-based protein demand.
- In Kenya, edible insects value chains have been subsistent (FAO, 2013).
- ❖Despite edible winged termites (EWT) value chain transforming from subsistence to commercial, empirical evidence on its consumers perception, acceptance and demand determinants still remain scanty.
- perception, Information on consumers acceptance and demand determinants is of great support to the current efforts to commercialize the edible insects value chains.

RESEARCH QUESTIONS

- 1. How do Kenyan consumers perceive edible winged termites (EWT)?
- 2. What are the Kenyan consumers socioeconomic, institutional and EWT characteristics that significantly influence acceptance and quantity consumed?

Determinants of acceptance and quantity consumed in rural households

| | Acceptance | | Quantity cons | Quantity consumed | |
|--------------------|------------|-----------|---------------|-------------------|--|
| Variable | APE | Std. Err. | UAE | Std. Err. | |
| Age | 0.001 | 0.001 | 0.007 | 0.036 | |
| Gender | -0.003** | 0.023 | -0.113** | 0.027 | |
| Education | 0.012** | 0.080 | 0.029** | 0.065 | |
| Members over5 | 0.010 | 0.154 | 0.018*** | 0.098 | |
| Children below5 | 0.037 | 0.221 | 0.176*** | 0.164 | |
| Income | -0.134*** | 0.526 | 0.442*** | 0.483 | |
| Native | 0.018** | 0.368 | 0.073** | 0.382 | |
| Termite attributes | 1.010*** | 2.557 | 2.322*** | 2.066 | |
| Convenience | 0.192 | 1.029 | 0.339** | 0.948 | |
| Culture | 0.042*** | 0.247 | 0.148*** | 0.198 | |

Determinants of acceptance and quantity consumed in urban households

| Urban | Acceptance | Acceptance | | Quantity consumed | |
|--------------------|------------|------------|-----------|-------------------|--|
| Variable | APE | Std. Err | UAE | Std. Err | |
| Age | 0.001*** | 0.019 | 0.006*** | 0.014 | |
| Gender | -0.002 | 0.274 | -0.106** | 0.150 | |
| Education | 0.008** | 0.088 | 0.013** | 0.157 | |
| Members over5 | 0.006 | 0.092 | 0.005 | 0.095 | |
| Children below5 | 0.024 | 0.204 | 0.126** | 0.396 | |
| Income | -0.086** | 0.495 | -0.266*** | 0.248 | |
| Native | 0.011 | 0.150 | 0.049*** | 0.095 | |
| Termite attributes | 0.650*** | 3.917 | 1.035*** | 2.987 | |
| Convenience | 0.124** | 1.605 | 0.098** | 0.988 | |
| Culture | 0.027 | 0.189 | 0.094 | 0.113 | |



Raw edible winged termites



Blanched edible winged termites

CONCLUSION

Among other Consumers socioeconomic and institutional factors, perceived edible winged termite attributes is the major acceptance and quantity consumed determinant.

METHODOLOGY

- Cross sectional data from 192 rural and 192 urban consumers.
- *Factor analysis (Jollife, 2002) used to determine consumers' perception of EWT.
- Craggit model (Cragg, 1971) used to determine the factors influencing acceptance and quantity consumed of EWT.



Sun-dried edible winged termites



Fried edible winged termites

SIGNIFICANCE

SIGNIFICANCE

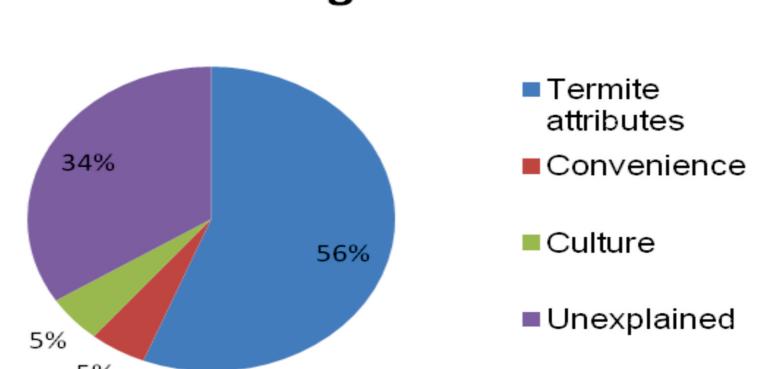
Acceptance and quantity consumed are influenced differently by different factors for rural and urban households so different approaches should be used in promotion.

FURTHER RESEARCH

Consumers perception, acceptance and quantity consumed of grasshoppers and or Crickets

RESULTS

Consumers perception of edible winged termite



REFERENCES

- 1.Cragg, J. G. 1971. Some statistical models for limited dependent variables with application to the demand for durable goods. *Econometrica*, 39: 829–844.
- 2. FAO, 2013. Edible insects: Future prospects for food and feed security. FAO forestry paper 171, Rome, Italy. 3. Jollife, I.T. 2002. Principal Component Analysis, Springer, New York.

Acknowledgement: Special thanks to CESAAM, Egerton University, consumers and enumerators. Contact: Oscar Ingasia Ayuya, ingasiaoa@gmail.com