

## MEDICINAL USES OF SNAIL MEAT FOR BOOSTING AGRIBUSINESS IN AKINYELE LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

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### **Abstract**

*This present study investigates medicinal uses of snail meat for boosting agribusiness in Akinyele Local Government Area of Oyo State, Nigeria. Data were collected using structured questionnaire. Purposive sampling procedure was used to select 320 respondents from the four Agricultural blocks in Akinyele LGA. Data collected were analyzed using descriptive and inferential statistics. The results on medicinal uses of snail meat to human and animal health showed highest mean values for snail meat but low in fat content (2.97) for healing acne causing bacteria (2.60) and for skin repair and regeneration issues (2.59). The results on how medicinal uses of snail meat could boost agribusiness showed that snail meats are sources of income for snail farmers (3.99), wealth creation (3.96), employment opportunities (3.73), food for man and animals (3.70) and a lucrative agribusiness for youths (3.56). The results further showed that there is significant difference in the mean ratings of respondents on medicinal uses of snail meat for boosting agribusiness in the study area ( $t = 2.597$ ;  $p = 0.031$ ). The authors concluded that snail meat is medicinally useful for human and animal health. The authors, therefore, recommended that there is need for more public awareness about the medicinal nature of snail meat and funding schemes should be established in order to encourage youth involvement.*

*Keywords: Boosting, Medicinal, Snail Meat, Health Benefit, Agribusiness.*

### **Introduction**

Snail meat is obtained from processed snail. It has many important nutrients, are low in fat, rich in protein and vitamins along with some essential minerals for the body such as magnesium, selenium, vitamin E and phosphorus (Kehinde, 2024). Therefore, the nutritional components in snails will have the following effects on the human body: Magnesium: Magnesium has the effect of supporting energy metabolism, making bones and teeth strong, and magnesium is also involved Regulate nutrients such as zinc, calcium, potassium and vitamin D. In 85g of snails contain about 212mg of magnesium, with that amount of magnesium providing up to 53% of the recommended daily magnesium for adult men and 68% of the recommended daily magnesium for women. Selenium is a part of the enzyme selenoprotein, which helps support endocrine and immune system function in the body (Oyewole et al, 2022). According to some recommendations, adult women and men need about 55 mcg of selenium each day (Okwuokenye et al, 2023). In 85g snails contain 23.3 mcg of selenium, providing 42% of the daily need. In addition, selenium also has antioxidant capabilities, reducing the risk of cancer, cardiovascular disease, arthritis, recurrent infections. Vitamin E: In snails contain vitamin E, this is a vitamin that plays an important role in the synthesis of red blood cells, metabolizing vitamin K and protecting cells against free radical damage. A lack of vitamin E can make it more difficult to control muscles, abnormal eye movements, or

liver and kidney problems. Therefore, adequate vitamin E intake will reduce the risk of age-related macular degeneration, diabetes, cancer, neurological and cardiovascular disorders. Phosphorus: In snails contain Phosphorus, this is a substance that maintains bone density and regulates nutrients, supports energy metabolism and it provides many essential nutrients for the human body. Fresh snails can be processed in many ways such as steaming, lemon grass and chili, baking with salt (Babatunde et al, 2019).

In Nigeria, snail meat is often used for cooking various sauces, stew, and soups. It is a dietary product, that be safely used by those people who are on a diet. Health benefits of snail during pregnancy cannot be overestimated (Kehinde, 2024). This meat contains plenty of useful minerals, which pregnant women need very much. There are plenty of calories in snails. Snail meat consists of protein. Moreover, it has no bad cholesterol. That is why snails are so useful. Snail meat contains plenty of calcium, iron, and magnesium. Therefore, it is actively used in cosmetology and medicine (Teixeira et al, 2018). In addition to containing significant sources of protein and low amounts of fat, snails are also good sources of iron, calcium, Vitamin A, and a number of other minerals. Vitamin A helps your immune system fight off diseases and strengthens your eyes. It also helps cells in your body grow. Babatunde et al. (2019) reported some disadvantages of eating snail meat on human health. Again, as a matter of note, because snails contain a lot of cholesterol, they increase the risk of cardiovascular diseases if eaten regularly. Medicinal uses of snail meat are numerous, but snails contain many types of parasites that cause disease in humans. If parasites in snails enter organs such as lungs, bile, intestines, liver, brain, kidneys, etc., it will seriously affect human health due to parasites causing cancer and organ failure. Therefore, this study was to investigate medicinal uses of snail meat for boosting agribusiness in Oyo State, Nigeria. The specific aims of the present study were to identify the medicinal uses of snail meat to human and animal health in the study area; and to determine how medicinal uses of snail meat could boost agribusiness in the study area. The following research questions was examined in this present study: (1) What is the medicinal uses of snail meat to human and animal health in the present study area? And (2) How does medicinal uses of snail meat boost agribusiness in the present study area?

## **Methods**

### ***Research Design***

Quantitative research design by means of administration of structured questionnaire was utilized for executing the study. This design was adopted to offer the authors opportunity to have personal contact and interaction with the study participants (Bryman, 2007).

### ***Study Area***

The study was carried out in Akinyele Local Government Area of Oyo State. Akinyele LGA was formed in 1976, out of which Ido Local government was carved out in 1989, leaving it with its present structure of 12 wards with headquarters at Moniya. It is bounded in the east by Lagelu LGA, by Afijio LGA in the North, by Ibadan North LGA in the South, and in the West by Ido LGA. It had a population of 211, 811 in 2006 with 105,594 male and 106,217 female, at 4.14% population growth rate. It is 222 square kilometers in area. Akinyele LGA has been divided into 3, as follows; Akinyele Main Local Government Headquarters at Moniya, Akinyele East LCDA Headquarters at Ikereku and Akinyele South LCDA Headquarters at Igbo Oloyin. The economic activity is predominantly dominated by Farming as Agriculture claims major engagement of the population. People also engage in Artisan works, Communication services, Recreation service providers, Transportation, Construction works as well as Trading.etc. The prestigious International Institute of Tropical Agriculture is established in Akinyele Local Government.

### ***Research Instrument***

The questionnaire has 2 sections: Section A comprised of the medicinal uses of snail meat and response options were measured on a three-point scale of highly medicinal (3), moderately medicinal (2), medicinal (1) and not medicinal (0) and the individual mean scores were found for each responses and the decision rule was based on a mean value of 1.5 for each item. Section B comprised of how medicinal uses of snail meat boost agribusiness in the study area and the response options were measured on a four-point scale of strongly agree (4), agree (3), disagree (2) and strongly disagree (1) and the individual mean scores were found for each responses and the decision rule for the research questions was based on a mean value of 2.5 for each item.

### ***Validation and Reliability of Research Instrument***

The instrument was subjected to face and content validity by 3 experts in health sector and the reliability coefficient value was ( $r = 0.98$ ) using split-half method.

### ***Sampling Procedure***

Purposive sampling technique was used to select 80 respondents each from the four agricultural blocks (Moniya, Ijaye, Alabata and Olorisaoko) in Akinyele LGA, Oyo State making the sample size 320 respondents.

### ***Method of Data Collection***

The data collection method includes direct visits to the snail farmers, marketers, processors and traditional healers in the study area, personal observation and structured questionnaires were used to obtain data from the respondents. The questionnaire titled: Medicinal Uses of Snail Meat for Boosting Agriculture in Oyo State, Nigeria (MUSMBA) developed by the researcher through literature review.

### ***Data Analysis***

Data collected from the respondents were analyzed using descriptive statistics such as mean and standard deviation and inferential statistic such as t-test. The Mean and Standard Deviation was used to analyzed the research questions and the t-test was used to test the null hypothesis at a significance level of 0.05.

### **Results**

*Research Question 1: What is the medicinal uses of snail meat to human and animal health in the present study area?*

Table 1 showed that the entire respondents agreed that snail meat is medicinally useful to human and animals in the study area. Snail meat for correcting male potency and female libido (2.00), snail meat for healing atherosclerosis and liver diseases (2.32) and snail meat for normalizing protein deficiency (2.12) while It is used for correcting calcium and magnesium deficiency (1.99) with higher mean value. Except that the respondents disagreed that snail meat aids the process of protein excretion out of the body (1.34) which is the lowest mean value. It could be noted that snail meat has several medicinal benefits and many more yet to be discovered.

**Table 1: Mean and Standard Deviation of Medicinal Uses of Snail Meat to Human and Animal Health in the Present Study Area.**

Items	Mean	SD	Remarks
1. Snail meat for correcting male potency and female libido.	2.00	0.92	Agree
2. Snail meat for healing atherosclerosis and liver diseases.	2.32	1.00	Agree
3. Snail meat for normalizing protein deficiency.	2.12	0.95	Agree
4. It is used for correcting calcium and magnesium deficiency.	1.99	0.76	Agree
5. Snail meat for restoring bone strength cartilaginous.	1.76	0.62	Agree
6. Snail meat contains useful minerals for pregnant women.	2.61	1.02	Agree
7. It is used for weight watching due to low cholesterol level.	2.03	0.84	Agree
8. Snail meat is a rich source of vitamins.	1.93	0.70	Agree
9. Snail meat contains Tryptophan and Selenium.	1.91	0.69	Agree
10. Snail meat improves blood count.	2.01	0.90	Agree
11. Snail meat acts against certain forms of cancer and cough.	1.54	0.72	Agree
12. Snail meat is a healthy source of Omega-3.	2.52	1.01	Agree
13. It improves heart health in human beings.	1.66	0.59	Agree
14. Snail meat and water prevent and used to treat stroke sickness.	1.93	0.71	Agree
15. Snail meat is very low in fat content.	2.97	1.06	Agree
16. It is used for cosmetology and medicine.	2.21	0.99	Agree
17. It is used to repair and regenerate skin issues.	2.59	1.00	Agree
18. It is used for healing acne causing bacteria.	2.60	1.02	Agree
19. Snail meat aids the process of protein excretion out of the body.	1.34	0.66	Disagree
20. Snail meat as snacks when drinking alcohol is harmful to health.	1.52	0.76	Agree

Note. n=320, SD = Standard Deviation.

*Research Question 2: How does medicinal uses of snail meat boost agribusiness in the present study area?*

**Table 2: Mean and Standard Deviation on How Medicinal Uses of Snail Meat Boost Agribusiness in the Present Study Area.**

Items	Mean	SD	Remarks
1. Source of food for man and animals.	3.70	0.67	Very High
2. Source of income for snail farmers.	3.99	0.99	Very High
3. Source of employment opportunities.	3.73	0.92	Very High
4. Lucrative agribusiness for youths.	3.56	0.71	Very High
5. Employment for snail farmers.	2.93	1.00	High
6. Employment for snail markers.	3.11	0.90	High
7. Opportunity for snail processors.	2.52	0.62	High
8. Availability of snail products for trading.	2.50	0.60	High
9. Source of wealth creation.	3.96	0.98	Very High
10. Source of agribusiness expertise.	2.55	0.67	High
11. Snail farming is a career in agribusiness.	3.06	0.91	High
12. Snail farming training for youths.	2.51	0.77	High

Note. n=320, SD = Standard Deviation.

Table 2 showed that the entire respondents agreed that snail meat is medicinally useful and could boost agribusiness in the study area. Snail meat are sources of income for snail farmers (3.99), wealth creation (3.96), employment opportunities (3.73), food for man and animals (3.70) and a lucrative agribusiness for youths (3.56) with highest mean values. It could be deduced that snail meat is not only

medicinal but could be a booster for agribusiness and can reduce youth dependency on white collar job and can as well contribute to food security.

### Hypothesis Testing

*Research Hypothesis:* There is no significant difference in the mean ratings of respondents on medicinal uses of snail meat boosting agribusiness in the study area.

**Table 3: Summary of t-test between Medicinal Uses of Snail Meat and Boosting Agribusiness.**

Variable	t-value	p-value	Decision
Medicinal uses of Snail Meat	2.579	0.031	Significant

### Boosting Agribusiness

Note. Level of Significant at  $p < 0.05$ .

Table 3 showed that ( $t=2.59$ ;  $p=0.031$ ) testing at 0.05 level of significance simply means that the null hypothesis one was rejected and restated that ‘there is significant difference in the mean ratings of respondents on medicinal uses of snail meat boosting agribusiness in the study area. This connotes that the medicinal uses of snail meat listed in this study could positively boost agribusiness with various employment opportunities such as snail meat rearing, marketing, processing and training of youths in the study area.

### Discussions

The analysis of research question 1 revealed that the entire respondents agreed that snail meat is medicinally useful to human and animals in the study area. This result corroborates the findings of Olawumi et al., (2021) who found that snails are also non-timber forest product and have multipurpose benefits. Babatunde et al., (2019) reported that all forest products are beneficial to humanity and snails are used to treat sicknesses in both human and animal health management.

The analysis of research question 2 revealed that the entire respondents agreed that snail meat is medicinally useful and could boost agribusiness in the study area. These results support the findings of Teixeira et al., (2018) who found that processed snail meats attracts more profit and is a good source of wealth creation in agribusinesses. Oyewole et. al., (2022) concluded that breaking, cracking and boiling are commonest method of processing snails in Nigeria.

The analysis of research hypothesis revealed there is significant difference in the mean ratings of respondents on medicinal uses of snail meat boosting agribusiness in the study area. This finding is in agreement with the findings of Olawumi et al., (2021) who discovered that socio-economic contributions of forest products to livelihoods can boost agribusiness. Kehinde (2024) also found that wealth creation and empowerment through snail production and research can boost agribusinesses.

### Conclusions

This study concluded that snail meat is medicinally useful for human and animal health and more medicinal benefits are yet to be discovered. It was also concluded that snail meat is capable of boosting agribusiness in the study area by serving as sources of income, employment opportunities, food for man and animals and a lucrative agribusiness for youths in the study area.

### Recommendation

The study therefore recommended that there is need for more public awareness about the medicinal nature of snail meat and funding schemes should be established in order to encourage youth involvement.

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