PRELIMINARY SURVEY VISIT

AREA V
RESEARCH

A. PRIOTRITIES AND RELEVANCE

A.3. A Copy of the Research Program of the Program Under Survey

In support to the national agenda and in consultations with stakeholders, the RDE themes are as follows:

RDE Themes	RDE Priority Areas
Quality Learning, Skills Development, and Literacy	Innovative teaching strategies; development and evaluation of functional education materials and modalities, and teaching strategies/approaches, motivation, and engagement; school climate; school and knowledge management; special education; remedial education; curriculum development and implementation; alternative learning system; assessment studies; soft skills; practical skills; adult education; language literacy; numerical literacy; data literacy; computer literacy; international studies; tracer studies; livelihood programs;; capacity building; capability building
Social Development, and Strong Institutions	Gender and development GAD; peace initiatives; community development; human security; justice; public policy and legislations; social rehabilitation; governance; organizational studies; behavioral studies; social institutions; ethics and public accountability; programs/project assessment; community needs assessment and interventions; partnerships and linkages; technology adoption; Institutional development; upgrading of laboratory and lecture facilities
Preservation of Culture	Multicultural studies; educational materials for IPs; indigenous knowledge systems and practices; development of materials for cultural knowledge and promotion; arts; language and literature studies; traditional dance, sports and music; halal studies
Environmental Protection, Conservation, and Risk Reduction	Environment rehabilitation studies; biodiversity; climate change adaptation; risk, hazard and mitigation; biosafety; natural resources conservation and management; bioremediation; flood control; waste management; ecological preservation and care; environmental impact assessment; tourism; agroecology; natural farming
Food Security and Poverty Reduction	Agricultural and fisheries research; biotechnology; innovations; quality food product development; technology development; halal food production; sustainable production; responsible consumption; organic agriculture; food testing; smart agriculture; precision farming; farm machineries; post-harvest facilities; vertical farming; indigenous food; food tourism; development of new breeds and varieties

RDE Themes	RDE Priority Areas
Good Health and Wellbeing	Nutrition; nutraceuticals; sports, physical education; physical fitness; sports psychology; health resiliency; psycho-social health; medical and medicinal studies; hygiene and sanitation; functional foods; food and water quality and safety; mental and emotional health; therapy; coping mechanism; preventive measures; emerging diseases; health management; traditional and alternative medicine; community health; risk assessment and mitigation; health informatics, regenerative medicine, emergency response medicine
Innovations in Science, Engineering, and Technology	Innovations and futures thinking; product and technology development; energy; materials science; nanotechnologies; robotics; artificial intelligence; internet of things; Science, Engineering, Communication, and Technologies (SECT) 4.0; biotechnology and OMIC technologies; inventions and discoveries; basic research; information technologies; electronics; drug discovery; mathematics; emerging technologies; fabrication; transport system; waste management; infrastructure; water systems; simulation studies; industrial and allied technology, Data Science and Analytics, GIS, Remote sensing, machine learning; quantum technology; smart cities
Sustainable Entrepreneurship and Management	Economics; micro and macro scale business; product development; marketing; commercialization; networking; franchising; financial management; business feasibility studies; risk and opportunities; value adding; value chain analysis; organizational management; quality service assessment; human resource management; production management; sustainable cooperative studies; Entrepreneurial studies

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19	25-19	CVML0000002558	Lumambas, Manny D.	Carcass and organ condemnation in cattle and carabaos slaughtered at Kabacan abattoir, Cotabato.	1
20	25-20	CVML0000002581	Macmod, Tajmir Jihar M.	Knowledge, attitudes and practices relating to rabies in the municipality of Pagalungan, Maguindanao.	1
21	25-21	CVML0000002533	Macoy, Jhon Mc Bern G.	Carcass quality of muscovy duck (*Cairina moschata*) supplemented with ginger (*Zingiber officinale*) decoction	1

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PREVALENCE OF GASTROINTESTINAL NEMATODES IN FREE-RANGE CHICKENS AT BRAVEHEART FARMS AND NURSERY AT BARANGAY PACO, KIDAPAWAN CITY

ANGELO JULES N. BALCITA

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY

MAY 2025

PREVALENCE OF GASTROINTESTINAL NEMATODES IN FREE-RANGE CHICKENS AT BRAVEHEART FARMS AND NURSERY AT BARANGAY PACO, KIDAPAWAN CITY

ANGELO JULES N. BALCITA

Thesis Manuscript Submitted to the Department of Veterinary Technology,
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BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY

MAY 2025

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BIOGRAPHICAL DATA

The researcher was born on October 3, 2001, in Katidtuan, Kabacan, Cotabato. He is a Filipino citizen and a devoted member of the Methodist faith. Moreover, he is the son of Thresie A. Balcita and Febe N. Balcita.

He began his academic journey at Matalam Central Elementary School, where he completed his primary education. Then, he pursued his junior high school studies at Gil B. Manalo High School and continued his senior high school education at Kabacan National High School.

In 2021, eager to pursue higher education, the researcher was admitted to the University of Southern Mindanao, initially enrolling in a Bachelor of Science in Computer Engineering. However, before the start of classes, his mother encouraged him to shift to the Bachelor of Science in Veterinary Technology. Taking her advice, he decided to pursue this path, and as of this writing, he is currently undertaking his tertiary education with dedication and commitment.

Beyond his academic endeavors, the researcher demonstrated strong leadership skills and an active commitment to student organizations. He served as the president of the Association of Veterinary Technology Students (AVTS) and holds the position of Vice President of the International Veterinary Students' Association Philippines – USM Chapter. Additionally, he contributed to campus journalism as the managing editor of The Mindanao Tech. Through his

dedication to veterinary technology, leadership, and academic excellence, the researcher has been making meaningful contributions to his field and the broader scientific community.

ANGELO JULES N. BALCITA
Researcher

ACKNOWLEDGMENT

The researcher would like to express his sincere gratitude to the Almighty God, who granted him life and a purpose to live, for His wisdom, unconditional love, and protection, especially throughout the conduct of this study.

Moreover, the researcher wishes to extend his sincere appreciation and everlasting gratitude to the people and institutions that contributed to the completion of this research.

First and foremost, heartfelt appreciation is extended to Ma'am Precious Amor Beso-Ferrer, his thesis adviser and the department chairperson, for her continuous support, patience, motivation, and invaluable advice. Her insightful comments and guidance have significantly contributed to the improvement of this study, for which the researcher will be forever grateful.

Sincere thanks are also given to Dr. Roland Y. Fajardo, co-adviser and department research coordinator, as well as the members of the guidance committee, Dr. Garry D. Lasaga and Dr. Khan J. Junatas, for their constructive suggestions and recommendations that enhanced the quality of this research.

Furthermore, the researcher extends his warmest appreciation to the faculty members of the Department of Veterinary Technology and the College of Veterinary Medicine for their support and encouragement throughout this academic endeavor.

Special gratitude is expressed to Sir Manny Piñol and Bernhart Immanuel Piñol, the owners of Braveheart Farms and Nursery, for their generosity in allowing the researcher to conduct his study on their farm.

The researcher is also profoundly grateful to his classmates and friends, especially Adrian Phillip Subaldo, Patrick Reyniel Quinalayo, Angel Auglind Pumbo, Diastine Earl Mercader, and April Joy Perfas, for the friendship, laughter, and unwavering support they have shared throughout his college journey.

In addition, warmest appreciation is extended to Regies Dinero and Judy Ann Balcita for their invaluable assistance during sample collection and testing. Their time and effort were crucial in ensuring the successful completion of this research.

The researcher also acknowledges his fellow AVTS officers and Committee Members Erlyn, Cedric, Kaela, Norlyn, Lorie, Neña, Jhoeshua, Precious Micah, Kylla, and Kyrelle for their teamwork and encouragement. Special thanks are also extended to Dr. Lilian A. Lumbao, AVTS co-adviser, for her motivation and guidance, which have been a source of inspiration throughout this journey.

Gratitude is also expressed to Sir Kenneth Vino for generously lending the researcher the *Clinical Veterinary Parasitology* book, which provided essential references and greatly contributed to the study.

Above all, the researcher expresses his deepest gratitude to his beloved family: Mamang Febe Balcita, Papang Thresie Balcita, Kuya Robert Balcita, and Ate Judy Ann Balcita, for their unwavering love, patience, and constant encouragement. Their emotional and financial support played a crucial role in making this academic journey possible, and for that, the researcher remains forever grateful.

Indeed, this study is a result of collective effort, and the researcher extends his sincerest thanks to everyone who played a role in its success.

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ABSTRACT

BALCITA, ANGELO JULES N. 2025. Prevalence of Gastrointestinal NematodesiIn Free-Range Chickens at Braveheart Farms and Nursery at Barangay Paco, Kidapawan City. BSVT Thesis. College of Veterinary Medicine, University of Southern Mindanao, Kabacan, Cotabato. 61 pp

Adviser: **PRECIOUS AMOR B. FERRER, MSAS**

Poultry plays a vital role in human nutrition, economic development, and scientific research. However, the poultry industry in the Philippines is increasingly affected by gastrointestinal nematodes (GIN), which compromise bird health and productivity. This study investigated the prevalence, intensity, and common genera of GIN infections in free-range chickens at Braveheart Farms and Nursery in Barangay Paco, Kidapawan City, Cotabato. A total of 103 chicken feces were examined through modified McMaster technique from February to March, 2025. A statistically significant association ($p<0.001$) was observed between sex and prevalence of GIN, where 9 out of 23 of male chickens (39.13%) tested positive compared to female chickens with 1 out of 80 (1.25%). The overall prevalence of GIN infection was 9.71%, with *Capillaria* spp. (5.83%) being the most prevalent, followed by *Ascaridia galli* and *Heterakis gallinarum* (both 1.94%). Male chickens also showed higher mean egg per gram (EPG) count of 633.33 indicating a moderate infection, whereas females had a mean EPG of 50, which falls within the light infection category. The findings

suggest a sex-related susceptibility to GIN, likely influenced by behavioral and hormonal factors. These results underscore the necessity for targeted parasite control strategies, particularly for male chickens in free-range systems, and support the implementation of improved farm management practices, regular monitoring, and further research into sex-based immunity and environmental risk factors.

Keywords: Epidemiology, free-range chickens, gastrointestinal nematodes (GIN), mcMaster technique, prevalence

COMMON GASTRO-INTESTINAL HELMINTHS OF DOGS IN BARANGAY KILADA, MATALAM, COTABATO

CYRUS MARK L. MAGBANUA

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY

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COMMON GASTRO-INTESTINAL HELMINTHS OF DOGS IN BARANGAY KILADA, MATALAM, COTABATO

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ACKNOWLEDGMENT

The researcher extends heartfelt appreciation to everyone who provided unwavering support throughout the journey of this study.

First and foremost, the researcher wishes to express deep gratitude to the Almighty God for constantly guiding his mind and heart on the right path, especially during challenging times.

He extends his heartfelt thanks to his adviser, Dr. Elizabeth C. Molina, for her patience, understanding, time, and insightful feedback, which significantly improved his study. The successful completion of this thesis would not have been possible without her guidance and support.

Also, he would like to thank the examining committee members, Ms. Precious B. Ferrer and Dr. AP Warren P. Adamat, for their valuable suggestions and insights on his study. He appreciates their role in his college journey.

Indeed, he wishes to express her heartfelt appreciation to his loving parents, Mr. Nestor C. Magbanua and Mrs. Jocelyn L. Magbanua.

Moreover, he would like to express his appreciation to his elder sister, Vienna Joy M. Baltazar; his brothers, Vincent L. Magbanua, Bryan Jiv L. Magbanua, and Joven L. Magbanua; and his youngest sister, Kea Mae L. Magbanua.

BIOGRAPHICAL DATA

The researcher was born on January 4, 2001, in Matalam, Cotabato. He is the youngest of the children of Mr. Nestor C. Magbanua and Mrs. Jocelyn L. Magbanua. He completed his elementary education at Matalam Central Elementary School in 2014 and his secondary education at Matalam High School in 2018. He graduated from Notre Dame of Matalam in 2020.

To pursue his dreams, he pursued Bachelor of Science in Veterinary Technology program at the University of Southern Mindanao, Kabacan, Cotabato.

With God's guidance, family, and friends, he fulfills his goal and dream of becoming a successful veterinary technologist.

CYRUS MARK L. MAGBANUA
Researcher

The researcher would like to dedicate the success of his study to her lovely girlfriend, Jamellah Flores, for making his college journey memorable.

Moreover, he would like to acknowledge his family and relatives for giving him strength, financial support, and spiritual encouragement they provided in his pursuit of education.

Gratitude is also extended to his closest friends who helped and shared unforgettable memories during his college life: Paul, Greg, Kenneth, Jacque, Shanen, Theodie, Cj, Ash, Fan, Tala, Francis, and Khareen for their support and bonding for five years. Without them, his college life would not be memorable.

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ABSTRACT

MAGBANUA, CYRUS MARK L. 2025. Common Gastro-Intestinal Helminths of Dogs in Barangay Kilada, Matalam, Cotabato. BSVT Thesis. College of Veterinary Medicine, University of Southern Mindanao, Kabacan, Cotabato. 45 pp

Adviser: **ELIZABETH C. MOLINA, DVM, PhD**

Gastrointestinal helminths are among the most prevalent parasites that lead to health problems in dogs globally, including in the Philippines. This study aimed to identify the common gastro-intestinal helminths affecting dogs in Barangay Kilada, Matalam, Cotabato based on their age and sex and the number of infected dogs. The study was conducted in Barangay Kilada, Matalam, Cotabato. A total of 100 dog fecal samples were gathered. These samples were examined using the fecal flotation technique at the Veterinary Parasitology in the College of Veterinary Medicine, University of Southern Mindanao, in Kabacan. The most common parasite identified was *Ancylostoma* spp.; while *Trichuris vulpis* and *Toxocara canis* were also observed. The life cycle of common gastrointestinal helminths in dogs involves the shedding of eggs in feces, development of larvae in the environment, infection through ingestion or skin penetration, larval migration through body tissues, and maturation into adult worms in the intestines, where they

reproduce and continue the cycle. In light of these results, the researcher recommends that homeowners implement preventive measures such as regular deworming and routine veterinary check-ups. Proper environmental management and observance of preventive protocols are crucial in reducing the risk of helminth infections and promoting better overall health of the dogs.

Keywords: Dogs, fecal samples, flotation technique, gastro-intestinal helminths.

COMMON ENDOPARASITES OF FRESHWATER FISH: NILE TILAPIA (*Oreochromis niloticus*) SOLD IN DIFFERENT MARKETS IN BARANGAYS OF MIDSAYAP, COTABATO

JESSYL O. MANGGAY

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY

JUNE 2025

COMMON ENDOPARASITES OF FRESHWATER FISH: NILE TILAPIA (*Oreochromis niloticus*) SOLD IN DIFFERENT MARKETS IN BARANGAYS OF MIDSAYAP, COTABATO

JESSYL O. MANGGAY

Thesis Manuscript Submitted to the Department of Veterinary Technology,
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BIOGRAPHICAL DATA

The researcher, Jessyl Ogdamina Manggay, is a 23-year-old student. She was born on the 2nd day of November 2001 at Upper Glad 1, Midsayap, Cotabato. She is the 4th child among the six children of Mr. Danilo M. Manggay and former Ms. Juvy A. Ogdamina.

She finished her elementary education at Dilangalen Central Elementary School. She pursued her secondary education at Midsayap Dilangalen National High School. She finished her Senior High School at Southern Christian College, where she was awarded Journalist of The Year in 2020.

She is pursuing a Bachelor of Science in Veterinary Technology at the University of Southern Mindanao. The interest of the researcher in veterinary technology stems from her childhood experiences with pets, growing up on a farm, and her desire to help improve the health and well-being of animals. Her dedication to this field is evident through her hard work in academics.

JESSYL O. MANGGAY
Researcher

ACKNOWLEDGMENT

Above anything else, the researcher would like to thank God for the divine guidance and strength that carried her through this journey and for the unwavering presence.

The researcher would like to express her deepest gratitude to her adviser, Dr. Lilian A. Lumbao, for her unwavering guidance, support, patience and expertise throughout this research journey. Her mentorship and encouragement have been invaluable.

To Dr. Elizabeth C. Molina for comments, constructive feedback, and pieces of advice that enabled the researcher to see through the seemingly unclear vision, and also to Ma'am Precious Amor B. Ferrer, who is also a member of the examining committee, for the valuable comments and suggestions.

To Dr. Roland Y. Fajardo, for his time, effort and guidance in checking every detail of her papers. For his constructive criticism which have significantly contributed to the quality of this work. His knowledge and dedication have been truly inspiring.

The researcher whole-kindheartedly extends her thanks to her friends, the tropang BNK: Kristine, Christvelle, Edanna, Greg, Cyrus, Paul, Harold, Trisha, Nicole, Patrick, Raffy, and many more for support during the hard times, love, laughter, and for the joyful and wonderful memories they have

brought in her life. Also, to her best friends, Blessie, and Roxsette, for comforting, supporting, and motivating her through her breakdown moments and for always being there by her side. For being one of her pillars of strength to continue and fight. And also to her fellow researcher friends, Lyka and Laurence, who have been a constant source of encouragement and whose insightful discussions and collaborations have enriched her understanding.

To her best man, Mark Jerald, for his unwavering belief in her, has been her driving force. For giving her encouragement and support through thick and thin, for the love and understanding that sustained her, and for helping and assisting her all through out the journey. Also, to his mother, Maria Geraldine, who have been there always for her, for supporting and caring for her as her own daughter.

Last but not least, the researcher is grateful to her dear father and mother, Danilo and Juvy, and her siblings, Dennis, Jovelyn, Ellen, Lovely, and Danica, for their unconditional love, prayers, financial support, sacrifices, and belief in her. Also, to her aunt Mirah and aunt Lorena for cheering her up by giving motivational words and for the financial support which greatly helped in the accomplishment of her study. The unwavering support of these people has been her rock, the guidance and encouragement that shaped her into the person she is today, for standing by her during the challenging times, and celebrating the successes with her. She is forever thankful for everything they have done for her.

This thesis would not have been possible without the guidance, support, and love of all these amazing individuals. Thank you from the bottom of her heart. And to the unseen hands that have contributed to this work, thank you for the tireless efforts.

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ABSTRACT

MANGGAY, JESSYL O. 2025. Common Endoparasites of Freshwater Fish: Nile Tilapia (*Oreochromis niloticus*) Sold in Different Markets in Barangays of Midsayap, Cotabato. BSVT Thesis. College of Veterinary Medicine, University of Southern Mindanao, Kabacan, Cotabato. 57 pp

Adviser: **LILIAN A. LUMBAO, DVM, MSAS**

The Nile tilapia stands out as one of the freshwater fish species in the Philippines from a commercial perspective. The presence of parasites poses a risk to the aquaculture industry. Public markets selling freshwater fish harboring endoparasites could potentially endanger consumers by exposing them to contaminated fish products. This study was conducted to determine the endoparasites of Nile tilapia (*Oreochromis niloticus*) sold in different markets in the barangays of Midsayap, Cotabato. Specifically, it aimed to determine the presence of endoparasites affecting the tilapia sold in different markets; identify the endoparasites of tilapia; and determine the endoparasites present in kidney, liver, stomach and intestines of tilapia. A total of 100 Nile tilapia sold in different markets in the barangays of Midsayap were used in the study, where 20 tilapia were collected from each of the five different market sources, namely Barangays of Sadaan, Upper Glad 1, Villarica, Central Katingawan and Bagumba. Each fish was dissected to access its internal organs to determine the presence of internal parasites. Results reveal that

only 6% of the total samples were infected with nematodes, 4% for the *Contracaecum* eggs and 2% for the *Contracaecum* larvae. The positive samples were found in Sadaan and Upper Glad 1 while fish from the rest of the barangays tested negative. The parasites were only found in the stomach (4%) and in the intestine (2%). The presence of parasite eggs in the digestive tract may be due to incidental ingestion rather than actual infection. The relatively low prevalence of parasites suggests that there is good management of tilapia aquaculture and limited availability of intermediate hosts in the primary source of tilapia.

Keywords: Endoparasites, Examination, Internal organs, Markets, Nile tilapia, Prevalence

CARCASS QUALITY OF MUSCOVY DUCK (*Cairina moschata*) SUPPLEMENTED WITH GINGER (*Zingiber officinale*) DECOCTION

JHON MC BERN G. MACOY

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY

JUNE 2025

CARCASS QUALITY OF MUSCOVY DUCK *(Cairina moschata)* SUPPLEMENTED WITH GINGER *(Zingiber officinale)* DECOCTION

JHON MC BERN G. MACOY

Thesis Manuscript Submitted to the Department of Veterinary Technology,
College of Veterinary Medicine, University of Southern Mindanao,
Kabacan, Cotabato in Partial Fulfillment of the
Requirements for the Degree of

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY

JUNE 2025

UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
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ACCEPTANCE OF THESIS

The thesis attached hereto, entitled "**CARCASS QUALITY OF MUSCOVY DUCK *(Cairina moschata)* SUPPLEMENTED WITH GINGER (*Zingiber officinale*) DECOCTION**" prepared and submitted by **JHON MC BERN G. MACOY** in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY** is hereby accepted.

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Adviser

2025.06.05
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BIOGRAPHICAL DATA

The researcher was born on August 29, 2003, in Sitio Liton, Kayaga, Kabacan, Cotabato. He is the second child of three siblings, with an elder sister and a younger sister of Mr. Fernando P. Macoy, Jr. and Mrs. Bernardita G. Macoy.

He completed his elementary education at Datu Mantawil Elementary School in 2015. He finished junior high school at Notre Dame of Kabacan, Inc. in 2019 and senior high school at Notre Dame of Matalam, Inc. in 2021. With his desire to pursue a higher education, he enrolled at the University of Southern Mindanao, College of Veterinary Medicine, taking up Bachelor of Science in Veterinary Technology.

JHON MC BERN G. MACOY
Researcher

ACKNOWLEDGMENT

The researcher extends his deepest gratitude to everyone who has helped and supported him during the conduct of this study. Above all, he was thankful to the Lord Almighty God for His divine guidance, wisdom, and blessing. Without His grace and strength, this endeavor would not have been possible.

Secondly, he would like to extend his heartfelt thanks to his thesis adviser, Dr. AP Warren P. Adamat, for his invaluable support, insightful guidance, and unwavering patience throughout the research process. His expertise and encouragement have been instrumental in shaping the direction and quality of this thesis.

The researcher also extends his sincere thanks to his research examining committee, Dr. Emerlie R. Okit and Dr. Lilian A. Lumbao, for their insightful suggestions and recommendations, which greatly helped improve the study. Additionally, he would like to thank Dr. Roland Y. Fajardo, the department research coordinator, Mrs. Precious Amor B. Ferrer, the department chairperson, and Dr. Rolando J. Garduque, OIC CVM Dean, for their time, guidance, and recommendations.

Moreover, he would like to thank Sir Dominic C. Carajay, his statistician, for analyzing the data and Sir Mauricio J. Magallon, Jr., for allowing the thesis to be conducted in his area.

He would like to express his appreciation to his panel of sensory

evaluators who took the time to evaluate the meat samples for this study. Their participation was instrumental in the completion of the thesis, and sincere gratitude is extended for their willingness to share their expertise and time during the study.

Moreover, he is forever thankful to his treasured and well-beloved friends: Kaye, Jessel, Clara, Licel, Evelyn, Adelle, Xyra, Gayle, Bea, Era, Denn, Brex, Albert, Kian and Alli. The researcher is thankful to the BINIs, who has been his constant source of joy and encouragement throughout this journey, and the researcher is deeply grateful. Their unwavering support, laughter, and companionship have made this challenging process not only bearable but also memorable for the past years.

Indeed, he is always grateful to his family, especially his very supportive parents, Mr. Fernando P. Macoy, Jr., and Mrs. Bernardita G. Macoy, as well as his siblings, Jhona Fern G. Macoy, and Jhanna April G. Macoy. The researcher is inspired to pursue this study because of their advice, prayers, sacrifices, and unconditional love. He is always thankful to his mother, Leralyn Gocotano, as well as Antonio Sosas, Ernie Gocotano, and Reylan Gocotano for the financial support, love, and understanding they provided throughout his studies. Although the road to success may not have been easy or straightforward, with the help of Almighty God and his loved ones, the researcher has made it this far. He would like to thank them so much.

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ABSTRACT

MACOY, JHON MC BERN G. 2025. Carcass Quality of Muscovy Duck *(Cairina moschata)* Supplemented with Ginger *(Zingiber officinale)* Decoction. BSVT Thesis. College of Veterinary Medicine, University of Southern Mindanao, Kabacan, Cotabato, 88 pp.

Adviser: **AP WARREN P. ADAMAT, DVM, MSAS**

Muscovy ducks *(Cairina moschata)* are one of the most popular duck-farming species due to their large size, high meat quality, and significant economic value to both small-scale farmers and major companies. The study was conducted to determine the carcass quality of Muscovy duck supplemented with ginger decoction. One hundred (100) 90-day-old healthy Muscovy ducks were used as experimental animals randomly distributed into five (5) treatments. Treatments 1, 2, and 3 were administered with one (1) liter of water added with ginger decoction at varying doses: 300 ml, 350 ml, and 400 ml, respectively. Treatments 4 and 5 served as the positive control (commercial vitamins) and negative control (plain water). The breast part of the duck was collected at approximately four months of age, with four ducks per treatment randomly selected, slaughtered, and subjected to a meat quality test. The results revealed that supplementing Muscovy duck with ginger decoction improved the quality of meat in terms of texture, color, odor, tenderness and taste. Among the treatments tested, the highest concentration of ginger decoction (400 ml per 1

L of water) consistently yielded the best results for both fresh and grilled carcasses. At the same time, the lower concentrations are the commercial vitamin-electrolyte supplements (positive control) and plain water (negative control). The findings suggest that increasing the concentration of ginger decoction enhances these quality attributes, with a dosage of 400 ml per liter being the most effective.

Keywords: Carcass quality, concentration, ginger decoction, muscovy duck, slaughtered

PREVALENCE OF GOAT COCCIDIOSIS IN BARANGAY DAGUPAN, KABACAN, COTABATO

NISSA ZHYNE A. TORIBIO

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY

MAY 2025

ACADEMIC INTEGRITY STATEMENT

I hereby declare and confirm with my signature that the Manuscript is exclusively the result of my own autonomous work based on my research and literature published, which is referenced immediately after the information is presented and listed in the reference section. I also declare that no part of the work submitted has been made in an inappropriate way, whether by plagiarizing, infringing on any third person's copyright, or falsifying data. Finally, I declare that no part of the Manuscript submitted has been used for any other paper in another higher education or research institution.

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The thesis attached hereto, entitled "**PREVALENCE OF GOAT COCCIDIOSIS IN BARANGAY DAGUPAN, KABACAN, COTABATO**" prepared and submitted by **NISSA ZHYNE A. TORIBIO** in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY** is hereby accepted.

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BIOGRAPHICAL DATA

The researcher was born on the 1st day of March 2001 in Dualing, Aleosan, Cotabato. She is the firstborn daughter among the three children of Mr. and Mrs. Nimrod H. Toribio, Sr.

She completed her elementary education at Villa Clara Elementary School in 2013, completed her junior and senior high school education at King's College of Isulan in 2020. The researcher then pursued her tertiary education at the University of Southern Mindanao, College of Veterinary Medicine, where she earned a degree on Bachelor of Science in Veterinary Technology.

Throughout this journey, she has always been thankful to the Almighty Father for all the love and support she received from her family, relatives, and friends. As always, they are her source of strength, inspiration, and motivation to finish and conquer her dreams in life.

NISSA ZHYNE A. TORIBIO
Researcher

ACKNOWLEDGMENT

All the hard work put into completing this manuscript would not have been possible without the people who helped, supported, and extended their time and effort to finish this study. Thus, the researcher would like to express her sincerest gratitude to the people who made this study successful.

Above all, she would like to thank the Almighty God for the heavenly knowledge, wisdom, source of strength, and motivation from Him daily.

Her profound gratitude is expressed to her adviser, Ma'am Precious Amor B. Ferrer, for her patience, time, expertise, and constructive criticism to improve her study. This thesis could not have been written successfully without her concern, supervision, and guidance. She is indebted to Dr. Josephine R. Flores, Dr. Elsa A. Gonzaga, and Dr. Garry D. Lasaga for their insights, suggestions, and recommendations, which significantly improved the study.

Her most profound and heartfelt gratitude to her parents, Mr. Nimrod H. Toribio Sr. and Mrs. Michelle A. Toribio, and her grandmother, Mrs. Nida C. Adalla, for their unending love, guidance, understanding, financial support, and reminders since day one to keep going and push her to finish college.

The researcher would also like to thank her friends, Ate Aimee, Ate Lyka, Christine, Lecy Joyce, Camille, Meeve Shane, Elyza, and Hykee Lynn, for the friendship, waves of laughter shared and for making her college journey memorable and bearable.

She would also like to convey her appreciation to the Association of Veterinary Technology Students and the rest of the College of Veterinary Medicine's faculty and staff for the lessons, experiences, memories, and support she received during her veterinary technology student journey.

Indeed, the researcher would like to express her sincere gratitude and appreciation to everyone who was not mentioned. The endeavor would not have been possible without their help. May God shower them with endless blessings.

Throughout this journey, she has always been thankful to the Almighty Father for all the love and support she received from her family, relatives, and friends. As always, they are her source of strength, inspiration, and motivation to finish and conquer her dreams in life.

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ABSTRACT

TORIBIO, NISSA ZHYNE A. 2025. Prevalence of Goat Coccidiosis in Barangay Dagupan, Kabacan, Cotabato. College of Veterinary Medicine, University of Southern Mindanao, Kabacan, Cotabato, 54 pp

Adviser: **PRECIOUS AMOR B. FERRER, MSAS**

Coccidiosis is a protozoan infection that affects goats' health, growth, and reproduction. This study aimed to determine the prevalence of coccidiosis in goats based on age, sex, and rearing practices in Barangay Dagupan, Kabacan, Cotabato. The study was conducted from September to October 2024 at the Parasitology Laboratory, College of Veterinary Medicine, University of Southern Mindanao. A total of 150 goats were examined using the Simple Salt Flotation Technique; where 90 goats (60%) tested positive for coccidiosis. Prevalence by age showed 0–5 months: 18.67%, >5–12 months: 20.67%, and >12 months: 20.67%. However, age showed no significant association with infection (χ^2 = 0.535; p = 0.765). Male goats had a higher infection rate (32%) than females (28%), with a significant relationship observed between sex and infections (χ^2 = 4.87; p = 0.027). Regarding rearing systems, semi-confined goats had the highest prevalence (20%), followed by free-range (18.67%), tethered (12%), and confined (9.33%). A highly significant association was found between rearing type and infection rate (χ^2 = 12.3; p = 0.006). The study highlights the

importance of management practices and sex in the occurrence of coccidiosis. Effective control measures and improved goat-rearing systems are recommended to reduce the diseases impact in the area.

Keywords: Coccidiosis, goats, prevalence, Simple Salt Flotation Technique

CARCASS AND ORGAN CONDEMNATION IN CATTLE AND CARABAOS SLAUGHTERED AT KABACAN, ABATTOIR

MANNY D. LUMAMBAS

Thesis Manuscript Submitted to the Department of Veterinary Technology,
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Kabacan, Cotabato in Partial Fulfillment of the
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MAY 2025

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I hereby declare and confirm with my signature that the Manuscript is exclusively the result of my own autonomous work based on my research and literature published, which is referenced immediately after the information is presented and listed in the reference section. I also declare that no part of the work submitted has been made in an inappropriate way, whether by plagiarizing, infringing on any third person's copyright, or falsifying data. Finally, I declare that no part of the Manuscript submitted has been used for any other paper in another higher education or research institution.

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ACCEPTANCE OF THESIS

The thesis attached hereto, entitled "**CARCASS AND ORGAN CONDEMNATION IN CATTLE AND CARABAOS SLAUGHTERED AT KABACAN ABATTOIR, COTABATO** prepared and submitted by **MANNY D. LUMAMBAS** in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY** is hereby accepted.

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BIOGRAPHICAL DATA

The researcher was born in Cotabato City on February 14, 1999. He resides at Magatos, Kabacan North, Cotabato. He is the 4th son among the five siblings of Mr. Kunib Lumambas and Mrs. Zalika Dansalan.

The researcher finished his primary education at Kilada Elementary School, Matalam, Cotabato. During those years, he joined many extracurricular activities in the field of science and arts.

He graduated in Kabacan National High School for his secondary education. During his high school years, he joined both intra and extracurricular activities. He was also an active member of the Boy Scout of the Philippines.

He pursued his tertiary education at the University of Southern Mindanao, Kabacan, Cotabato and took up Bachelor of Science in Veterinary Technology.

MANNY D. LUMAMBAS
Researcher

ACKNOWLEDGMENT

The researcher would like to express deepest gratitude to Almighty Allah for the guidance, strength, courage and everlasting love throughout his college journey.

Sincere appreciation and thanks is due to Dr. Emerlie R. Okit, his thesis adviser, who patiently checked the manuscript, and for giving him valuable suggestions, sharing her knowledge and above all, for her unending support in the completion of the study.

Hearfelt thanks to the members of the examining committee, namely: Ms. Precious Amor B, Ferrer, and Dr. Lilian A. Lumbao for the knowledge they shared and encouragement. Thanks to the faculty and staff of the Department Research Coordinator and to the Dean Dr. Elizabeth C. Molina. Sincere thanks and appreciation to the Kabacan slaughterhouse meat inspector, Mr.Sammuel T. Gurrero for his confirmation on the findings regarding the lesions and suggestions for the improvement of the study.

Special thanks to the Municipal Mayor of Kabacan, Hon. Evangeline Pascua Guzman and Head of the Agriculture Office, Mrs. Eda Palomero for allowing the researcher to conduct the study.

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ABSTRACT

LUMAMBAS, MANNY D. 2024. Carcass and Organ Condemnation in Cattle and Carabaos Slaughtered at Kabacan Abattoir, Cotabato BSVT Thesis. College of Veterinary Medicine, University of Southern Mindanao, Kabacan, Cotabato. 31 pp

Adviser: **EMERLIE R. OKIT, DVM, MSc. TVs, PhD**

Abattoir can be a valuable source of information on the occurrence of animal diseases, and even those without clinical signs can be identified. This study aimed to determine the carcass/organ condemnation in slaughtered cattle and carabaos at Kabacan Abattoir. Specifically, the study aimed to determine the percentage of cattle and carabaos slaughtered according to species, carcass/organ condemned, and the causes of carcass and organ condemnation. Primary data were obtained from actual meat inspection conducted at the slaughterhouse from September 2023 to December 2023. All carcass/organ condemnation records from January 2020 to August 2023 in cattle and carabaos at the Kabacan Municipal Agriculturist Office were taken as secondary data. According to species, cattle slaughtered totalled 9,352 (88.70%) and 1,191 (11.30%) carabaos from 2020 to 2023 and 2,630 (90.80%) in 2023. For carabaos, 323 (15.20%) were slaughtered in 2020, 351 (14.10%) in 2021, 250 (8.25%) in 2022, and 267 (9.22%) in 2023.

In 2022, more cattle were slaughtered indicating an overall increase in the number of cattle slaughtered. No condemnation was recorded in any of the organs particularly the liver, lungs and kidney of cattle and carabaos slaughtered and inspected from 2020 to 2023. All organs examined did not show any visible lesion that would warrant condemnation. Thus, all carcass/organs were marked as passed for consumption. The study concludes that the number of slaughtered cattle and carabaos varies according to species and year of slaughter. No organs/carcass were condemned in cattle and carabaos slaughtered at Kabacan Abattoir from 2020 to 2023. All inspected carcass/organ of slaughtered cattle and carabaos during the duration of the study passed the inspection and were considered safe for public consumption.

Keywords: Abattoir, Carcass, Condemnation, Organ, Slaughtered

ASSESSING COLIFORM LEVEL IN WATER USED FOR SWINE PRODUCTION AT CARMEN, COTABATO

VALENTIN, III Y. ELUMBARING

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY

MAY 2025

ASSESSING COLIFORM LEVEL IN WATER USED FOR SWINE PRODUCTION AT CARMEN, COTABATO

VALENTIN, III Y. ELUMBARING

Thesis Manuscript Submitted to the Department of Veterinary Technology,
College of Veterinary Medicine, University of Southern Mindanao,
Kabacan, Cotabato in Partial Fulfilment of the
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BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY

MAY 2025

ACADEMIC INTEGRITY STATEMENT

I hereby declare and confirm with my signature that the Manuscript is exclusively the result of my own autonomous work based on my research and literature published, which is referenced immediately after the information is presented and listed in the reference section. I also declare that no part of the work submitted has been made in an inappropriate way, whether by plagiarizing, infringing on any third person's copyright, or falsifying data. Finally, I declare that no part of the Manuscript submitted has been used for any other paper in another higher education or research institution.

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The thesis attached hereto, entitled "**ASSESSING COLIFORM LEVEL IN WATER USED FOR SWINE PRODUCTION AT CARMEN, COTABATO**" prepared and submitted by **VALENTIN, III Y. ELUMBARING** in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY** is hereby accepted.

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BIOGRAPHICAL DATA

The researcher was born on the 13th day of July, 1999 at USM Hospital Kabacan, Cotabato. He is the youngest among the six children of Mr. Valentin B. Elumbaring Jr. and Mrs. Eufrecina Y. Elumbaring.

He finished his elementary education at Dolo Central Elementary School in 2014 and secondary education at Nazareth High School of Bansalan Inc. in 2018. He graduated Senior High School education at Tagum City National High School under the Humanities and Social Sciences in 2020.

He pursued to tertiary education he enrolled at the University of Southern Mindanao, College of Veterinary Medicine for the degree Bachelor of Science in Veterinary Technology.

Throughout his journey, he has been grateful and thankful to Almighty God and for all the love and support he received from his siblings and friends who served as his inspiration and motivation to fulfill his dreams.

VALENTIN, III Y. ELUMBARING
Researcher

ACKNOWLEDGMENT

Foremost, the researcher expresses profound gratitude to God, who has been a guiding presence, a refuge, and a listener during times of uncertainty. Through faith, he found success and positive outcomes in the thesis, despite the challenges faced along the way. God has laid out a plan for success, and supported his efforts from start until completion of his study.

Sincere thanks and gratitude to his adviser, Dr. Emerlie R. Okit, for her guidance and assistance throughout the study. Dr. Rolando J. Garduque, Dr. Lillian A. Lumbao, and Ms. Precious Amor B. Ferrer, the Department Chairperson, for providing valuable feedback and suggestions during the thesis defense, and to Dr. Roland Y. Farjardo, the Department of Research Coordinator, for his guidance and recommendations.

Great appreciation to the Municipality Mayor of Carmen, Cotabato Hon. Regelio T. Talino for allowing the conduct of the study in barangays Tondo and Tacupan Carmen, Cotabato. The Biology, Water Laboratory in-charge Dr. Ellen Tanabe, for her assistance in water examination and valuable insights in the analysis. Special thanks are also extended to the residents of the barangays for their open participation in the study.

Thanks to his friendships including Cm Ashria Katog, and Harvey Docdocil, for their financial and emotional support. Most importantly, special thanks to his loving sisters, especially Analyn Y. Elumbaring and Aireen Joy Y.

Elumbaring for their financial support and guidance both in good and difficult times. He also acknowledges his sister-in-law Teresa B. Lorenzana and his brothers John Rey Elumbaring, Mark Jason Elumbaring, Nino Elumbaring, and uncle Jerome Elumbaring for their emotional support. He is thankful as well to his lover Charlo Antenor and Josephia Cornelio and Lalaine Darroca for their inspiration and prayers.

Lastly, the researcher would like to express his sincere gratitude and appreciation to everyone who was not mentioned. The endeavor would not be possible without their help. May God shower them endless blessings.

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ABSTRACT

ELUMBARING, VALENTIN, III Y. 2025 Assessing Coliform Level in Water Used for Swine Production at Carmen, Cotabato. BSVT Thesis. College of Veterinary Medicine, University of Southern Mindanao, Kabacan, Cotabato. 45 pp

Adviser: **EMERLIE R. OKIT, DVM, MSc, TVS, PhD**

Successful swine production requires good water quality. The importance of water in addressing challenges related to swine are vital for optimal production outcomes in animal health, welfare and standards. Water is essential to sustain life. It is one of the most essential compounds for physiological processes of cells, tissues and organs. However, the presence of *Escherichia coli* in water sources can lead to gastrointestinal infection and reduced growth rates, affecting overall production efficiency and economic viability and causing financial losses. The study aimed to determine the presence of *E. coli* fecal contaminants and the most probable number of fecal coliform from different water sources used for swine production in Carmen, Cotabato. The study was conducted in Carmen, Cotabato in December 2024 and at the College of Science and Mathematics, Biology, Water Laboratory, USM, Kabacan, Cotabato. A total of 30 water samples from tap and deep well water sources were collected and examined using Multiple Tube Fermentation Technique. Tap water exhibited a higher level of fecal coliform contamination,

resulting in ≥46.3 Mean MPN/100 mL of samples, with 100% of the samples testing positive for fecal coliforms and 40% of the deep well water samples (DWW 2 and DWW 3), testing positive, resulting in ≥32.0 Mean MPN/100 mL of samples, and 60% of deep well water samples (DWW 1, DWW 4 and DWW 5) were negative. It is concluded that the all tap water supply and 40% of deep well water in barangays Tondo and Tacupan, Carmen, Cotabato are not safe for consumption for pigs since they had been found to be contaminated with *E. coli* bacteria. It is recommended that tap water and deep-well water in the affected farms should not be used for drinking, or food preparation unless properly treated.

Keywords: *Escherichia coli*, Multiple Tube Fermentation Technique, swine, water

PREVALENCE OF GASTROINTESTINAL NEMATODES OF CATTLE IN SELECTED BARANGAYS OF TUPI, SOUTH COTABATO

GAYLE D. ESTARDO

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY

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PREVALENCE OF GASTROINTESTINAL NEMATODES OF CATTLE IN SELECTED BARANAGAYS OF TUPI, SOUTH COTABATO

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Thesis Manuscript Submitted to the Department of Veterinary Technology,
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JUNE 2025

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ACCEPTANCE OF THESIS

The thesis attached hereto, entitled "**PREVALENCE OF GASTROINTESTINAL NEMATODES OF CATTLE IN SELECTED BARANGAYS OF TUPI, SOUTH COTABATO**" prepared and submitted by **GAYLE D. ESTARDO** in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY** is hereby accepted.

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BIOGRAPHICAL DATA

The researcher was born on the 12th day of August 2002 at Odi. St., Lagao, General Santos City, South Cotabato. She is the third daughter among the four children of Mr. Franklin M. Estardo, Sr. and Mrs. Rosile B. Diaz.

She finished her elementary education at Katangawan Central Elementary School in 2015 and her junior at Johnny Ang National High School on 2019 and senior high education in Stratford International School Inc. in 2021.

She pursued her tertiary education at the University of Southern Mindanao, College of Veterinary Medicine and took up Bachelor of Science in Veterinary Technology.

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In the name of almighty God, the most gracious and most merciful. Foremost, the researcher is very thankful to Him who is always a good provider, for giving her knowledge, strength, ability and opportunity to undertake this study and complete it satisfactorily;

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ABSTRACT

ESTARDO, GAYLE D. 2025. Prevalence of Gastrointestinal Nematodes of Cattle in Selected Barangays of Tupi, South Cotabato. BSVT Thesis. College of Veterinary Medicine, University of Southern Mindanao, Kabacan, Cotabato, 75 pp

Adviser: **ROLANDO D. GARDUQUE, DVM, MPS**

Cattle play a vital role in the agricultural economy and rural livelihoods, serving as a key source of meat, milk, draft power, and income for millions of farmers worldwide. Gastrointestinal nematodes (GINs) are among the most significant parasitic threats to cattle worldwide, causing substantial economic losses due to reduced productivity, poor weight gain, decreased milk yield, and increased susceptibility to other diseases. This study aimed to determine the prevalence of gastrointestinal nematodes in relation to age, sex, and place of origin among cattle in selected barangays of Tupi, South Cotabato. The study was conducted in barangays Bunao, Cebuano, Linan, Palian, and Poblacion Tupi, in South Cotabato, from January to February 2025 and at the College of Veterinary Medicine, USM, Kabacan, Cotabato. A total of 100 fecal samples from cattle were collected and examined using the salt flotation technique. Out of 100 animals examined, 46% of cattle were positive for GINs. However, statistical analysis revealed that the prevalence was not dependent on the age of the cattle (p =.647). Cattle aged more than 12 months old showed the highest infection rate at 54%, compared to those aged 0 to 3

months and more than 3 to 12 months old. Similarly, statistical analysis showed no significant difference in terms of sex and prevalence (p =.87), although female cattle showed a higher observed prevalence. In terms of place of origin, statistical analysis revealed a highly significant relationship (*p* =<.001) between the prevalence and place of origin. Barangay Poblacion had the highest prevalence, 95% (19/20), among the five barangays. This study highlights the importance of determining the prevalence of GIN infection in cattle and the associated risk factors to lessen their economic impacts.

Keywords: Cattle, Fecal flotation technique, Gastrointestinal nematodes, Prevalence, Risk factors