



PRELIMINARY SURVEY VISIT

AREA V RESEARCH

A. PRIOTRITIES AND RELEVANCE

A.5. Abstract of Researches Conducted

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2025

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
1	25-01	CVML0000002710	Aldamar, Jhon Paul A.	Body temperature, respiratory rate, pulse rate of sheep (<i>Ories aries</i>) and management practices among raisers in Aleosan, Cotabato.	1
2	25-02	CVML0000002569	Alpuerto, Josie A.	Body temperature, respiratory rate, pulse rate, and health management of cattle raised in Aleosan, Cotabato.	1
3	25-03	CVML0000002574	Antipuesto, Pretzel E.	Hematological profile, morbidity and mortality of ducks (<i>Cairina moschata</i>) supplemented with turmeric (<i>Curcuma longa</i>) juice.	1
4	25-04	CVML0000002580	Austria, Edanna Marie B.	The effects of cuban oregano (<i>Plectranthus amboinicus</i>) and turmeric (<i>Curcuma longa</i>) decoction wound healing in mice.	1
5	25-05	CVML0000002588	Balcita, Angelo Jules N.	Prevalence of gastrointestinal nematodes in free-range chickens at braveheart farms and nursery at Barangay Paco, Kidapawan City.	1
6	25-06	CVML0000002640	Bierneza, Denn Cloyd L.	Egg per gram counts of common gastrointestinal nematodes among cattle in selected Barangays of Tupi, South Cotabato.	1
7	25-07	CVML0000002586	Castro, Wences Grazyl T.	Body temperature, heart rate, respiratory rate, and health management of pet dogs (<i>Canis lupus familiaris</i>) in Midsayap, Cotabato.	1
8	25-08	CVML0000002551	Cullo, Geraldyn G.	Coccidiosis of rabbits in Pigcawayan, Cotabato.	1
9	25-09	CVML0000002565	Diestro, Albert Jon P.	Urinary casts and crystals of dogs in Barangay Poblacion, Tacurong City, Sultan Kudarat.	1
10	25-10	CVML0000002568	Docil, Juna Mae A.	Growth performance, dressing percentage and choice cuts weight of broiler (<i>Gallus gallus domesticus</i>) supplemented with guyabano (<i>Annona muricata</i>) leaf extract as water additive.	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2025

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
11	25-11	CVML0000002686	Dunque, Jennifer M.	Comparison of microbial load in pork among selected public markets in Cotabato Province.	1
12	25-12	CVML0000002597	Elumbaring, Valentin III, Y.	Assessing colliform level in water used for swine production at Carmen, Cotabato.	1
13	25-13	CVML0000002571	Estacion, Licel Belle D.	Growth and health performance of Muscovy duck (<i>Cairina moschata</i>) supplemented with ginger (<i>Zingiber officinale</i>) decoction.	1
14	25-14	CVML0000002579	Estardo, Gayle D.	Prevalence of gastrointestinal nematodes of cattle in selected Barangays in Tupi, South Cotabato.	1
15	25-15	CVML0000002711	Jabonero, Stephen Jhon	Body temperature and body scoring of pigs (<i>Sus scrofa domesticus</i>) and health management practices among hog raisers in Aleosan, Cotabato.	1
16	25-16	CVML0000002545	Lacson, Pampela Geraldine L.	Welfare practices for zoo animals in Davao riverfront crocodile park and zoo.	1
17	25-17	CVML0000002578	Limos, Brexter C.	Choice cuts weight of Muscovy ducks (<i>Cairina moschata</i>) supplemented with ginger (<i>Zingiber officinale</i>) decoction.	1
18	25-18	CVML0000002531	Lucero, Kenny Jannah Gessele B.	Fermented herbal juice supplementation of Rabbits (<i>Oryctolagus cuniculus</i>): effects on live weight, dressing percentage and meat organoleptic characteristics.	1
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 (<i>Cairina moschata</i>) supplemented with ginger (<i>Zingiber officinale</i>) decoction	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2025

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
22	25-22	CVML0000002589	Magbanua, Cyrus Mark L.	Common gastrointestinal helminths of dogs in Barangay Kilada, Matalam, Cotabato.	1
23	25-23	CVML0000002567	Manga, Christine Joy M.	Common gastrointestinal helminths of dogs in Barangay Bangilan, Kabacan, Cotabato.	1
24	25-24	CVML0000002658	Manggay, Jessyl O.	Common endoparasite of fresh water fish: Nile tilapia (<i>Oreochromis niloticus</i>) sold in different markets in Barangays of Midsayap, Cotabato.	1
25	25-25	CVML0000002550	Mapangal, Teresa M.	Animal welfare assessment among goat raisers in selected Barangays of Kabacan, Cotabato.	1
26	25-26	CVML0000002557	Narciso, Mary Kristine A.	Body temperature, respiratory rate, pulse rate, and health management of carabaos (<i>Bubalus bubalis</i>) raised in Aleosan, Cotabato.	1
27	25-27	CVML0000002570	Nogalada, Roland Kian T.	Tilapia (<i>Oreochromis niloticus</i>) growth: water quality and pond management practices in the Bureau of Fisheries and Aquatic Resources, Kabacan, Cotabato.	1
28	25-28	CVML0000002536	Payar, Meeve Shane V.	Presence of mange in dogs in selected Barangays of Pigcawayan, Cotabato.	1
29	25-29	CVML0000002544	Pradas, Hyke Lynn Diane J.	Characterization of the hematological profile and sensory evaluation of dark and white meat of broiler chickens (<i>Gallus gallus domesticus</i>) fed with fresh sweet potato (<i>Ipomoea batatas</i>) leaves.	1
30	25-30	CVML0000002583	Puyong, Evelyn B.	Visceral organs weight of muscovy duck (<i>Cairina moschata</i>) supplemented with ginger (<i>Zingiber officinale</i>) decoction.	1
31	25-31	CVML0000002555	Rivera, Jecelyn	Animal welfare awareness among cattle raisers in selected Barangays of Kabacan, Cotabato.	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2025

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
32	25-32	CVML0000002767	Roilo, Cesar John	Efficacy of pineapple (<i>Ananas comosus</i>) peel extracts against common gastrointestinal nematodes in layer chickens.	1
33	25-33	CVML0000002657	Saballero, Hanny Grace P.	Common gastrointestinal helminths of rabbit (<i>Oryctolagus cuniculus</i>) in selected Barangays of Aleosan, Cotabato.	1
34	25-34	CVML0000002554	Sotto, John Dave Albert T.	Knowledge, attitude, and practices towards rabies and its prevention and control in selected Barangays of Midsayap, Cotabato.	1
35	25-35	CVML0000002547	Taliad, Elvie Rose S.	Knowledge and practices on African swine fever among pig raisers in selected Barangays of General Santos City.	1
36	25-36	CVML0000002582	Tesoro, Kristine B.	Prevalence of liver fluke infection in carabao (<i>Bubalus bubalis</i>) in Matalam, Cotabato.	1
37	25-37	CVML0000002537	Tesoro, Lyslyn B.	Coccidiosis in Goats in Barangay Dagupan, Kabacan, Cotabato.	1
38	25-38	CVML0000002530	Toribio, Nissa Zhyne A.	Prevalence of goat coccidiosis in Barangay Dagupan, Kabacan, Cotabato.	1
39	25-39	CVML0000002553	Untua, Mac Harold B.	Growth performance of broiler chicken (<i>Gallus gallus domesticus</i>) supplemented with jute (<i>Corchorus olitorius</i>) via drinking water.	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2024

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
1	24-01	CVML0000002499	Calawigan, Jessa T.	Common gastro-intestinal helminths of backyard native chickens (<i>Gallus gallus domesticus</i>) in selected Barangays of Midsayap, Cotabato.	1
2	24-02	CVML0000002361	Calumpang, Lord Laurence M.	Common Ectoparasites of fresh water fish: Nile tilapia (<i>Oreochromis niloticus</i>) in Makilala Public Market, North Cotabato.	1
3	24-03	CVML0000002371	Candari, Camile S.	Prevalence of mange in dogs in two Barangays of Tulunan, Cotabato.	1
4	24-04	CVML0000002493	Cantero, Collen C.	Common gastro-intestinal helminths of backyard native chickens (<i>Gallus gallus domesticus</i>) in selected Barangays of Aleosan, Cotabato.	1
5	24-05	CVML0000002370	Cantomayor, Kim Devin C.	Growth and health performance of quails (<i>Coturnix coturnix japonica</i>) supplemented with turmeric (<i>Curcuma longa</i> L.) extract via drinking water.	1
6	24-06	CVML0000002386	Enterone, Eralyn B.	Growth and health performance of broiler chickens (<i>Gallus gallus domesticus</i>) given bio-organic formulation as water additive	1
7	24-07	CVML0000002434	Florendo, Prances Julia	Hematological profile of broiler chickens (<i>Gallus gallus domesticus</i>) given bio-organic formulation as water additive.	1
8	24-08	CVML0000002412	Felicitas, Julieta JR. S.	Common gastro-intestinal helminths of dogs in Barangay Malamote, Kabacan, Cotabato.	1
9	24-09	CVML0000002385	Galvan, Theodie D.	Common gastro-intestinal helminths of dogs in Brangay Apopong, General Santos City.	1
10	24-10	CVML0000002470	Grande, Nicole B.	Prevalence of liver fluke in carabao (<i>Bubalus bubalis</i>) in Tunggol, Datu Montawal Maguindanao.	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2024

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
11	24-11	CVML0000002398	Hayao, Krizzha Faith F.	Prevalence of gastro-intestinal nematodes in carabaos (<i>Bubalus bubalis</i>) at Matalam, Cotabato.	1
12	24-12	CVML0000002372	Hilario, Benjo R.	Presence of mange in dogs in selected Barangays of Matalam, Cotabato.	1
13	24-13	CVML0000002448	Janoras, Adrian Luise Q.	Growth performance of broiler chickens (<i>Gallus gallus domesticus</i>) fed with sweet potato (<i>Ipomoea batatas</i>) leaf powder	1
14	24-14	CVML0000002342	Macalimpas, Monisa L.	Prevalence of coccidiosis in goats (<i>Capra aegagnus hircus</i>) in selected in selected Barangays of Matalam, Cotabato.	1
15	24-15	CVML0000002474	Megrino, May Lan Whabe C.	Prevalence of lice and fleas among backyard native chickens (<i>Gallus gallus domesticus</i>) in Sta, Cruz, Midsayap, Cotabato.	1
16	24-16	CVML0000002396	Milliones, Jessa Mae D.	Egg per gram counts of common gastro-intestinal nematodes among backyard goats raise in selected Barangays of M'lang, Cotabato.	1
17	24-17	CVML0000002454	Morales, Ellaine Marie E.	Blood profile of broilers (<i>Gallus gallus domesticus</i>) supplemented with virgin coconut (<i>Cocos nucifera</i>) oil.	1
18	24-18	CVML0000002498	Olivero, Vincent Kyle A.	Backyard swine raisers' knowledge, attitudes and practices towards African Swine Fever in selected Barangays in Malungon, Sarangani Province.	1
19	24-19	CVML0000002463	Radores, Kurt Harold C.	Survey on the use of antibiotics among backyard pig raises in selected Barangays of Bansalan, Davao Del Sur.	1
20	24-20	CVML0000002642	Ramos, Vanessa Dane G.	Carcass characteristics of broilers (<i>Gallus gallus domesticus</i>) supplemented with virgin coconut (<i>Cocos nucifera</i>) oil.	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2024

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
21	24-21	CVML0000002475	Salugao, Jaziel A.	Effects of papaya (<i>Carica papaya</i>) leaf meal in growth performance of chicken.	1
22	24-22	CVML0000002404	Seguritan, Raffy B.	Health performance and blood profile of broilers (<i>Gallus gallus domesticus</i>) supplemented with jute (<i>Corchorus olitorius</i>) powder.	1
23	24-23	CVML0000002449	Tumilap, Patrick Kyle D.	Carcass characterization of broiler chicken (<i>Gallus gallus domesticus</i>) supplemented with jute (<i>Corchorus olitorius</i>) powder.	1
24	24-24	CVML0000002650	Usman, Mohammad Shaffier U.	Management practices among backyard goat raisers in selected Barangays of Datu Piang, Maguindanao.	1
25	24-25	CVML0000002359	Vido, Lyka O.	Microscopic external parasites of tilapia (<i>Oreochromis niloticus</i>) in backyard ponds.	1
26	24-26	CVML0000002432	Zarate, Rosalinda G.	Growth performance of broiler chickens (<i>Gallus gallus domesticus</i>) given sweet potato (<i>Ipomoea batatas</i>) leaves as alternative feeds.	1
27	24-27	CVML0000002492	Yusop, Bainor M.	Anthelmintic efficacy of chili pepper (<i>Capsicum frutescens</i>) fruit extract against gastrointestinal nematodes of backyard native chickens (<i>Gallus gallus domesticus</i>)	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2023

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
1	23-01	CVML0000002428	Abellano, Cherie Mae D.	Rabies prevention and control practices in dog-owning households in Barangay Perez, Kidapawan City.	1
2	23-02	CVML0000002496	Abogar, Katherine G.	Knowledge, attitudes, and practices towards rabies and its prevention and control in selected Barangay's of Bagumbayan, Sultan Kudarat.	1
3	23-03	CVML0000002488	Agad, Kristian Jano D.	Assessment on the knowledge, attitudes, and practices of backyard swine raisers relating to African Swine Fever among selected Barangays in Tantaran, South Cotabato.	1
4	23-04	CVML0000002504	Alido, Ivan Karl E.	Knowledge, attitudes, and practices towards African Swine Fever among swine raiser in Tacurong City.	1
5	23-05	CVML0000002436	Aloro, Quendolin S.	Clinical procedures, animal health services and management practices of veterinary clinics in Kidapawan City.	1
6	23-06	CVML0000002461	Antao, Marisa A.	Management and health practices of Equine raisers in Salama, Banisilan Cotabato.	1
7	23-07	CVML0000002422	Atatan, Almie A.	Sow and piglet management practices among backyard swine raisers in selected Barangays of Pikit, Cotabato.	1
8	23-08	CVML0000002494	Baculina, Joylie Rose D.	Prevalence and degree of infection of coccidiosis in goats (<i>Capra aegagrus hircus</i>) in Ladtingan, Pikit, Cotabato.	1
9	23-09	CVML0000002661	Balera, Janica May K.	Production and health management practices of backyard goat raisers in selected Barangays of Mlang, Cotabato.	1
10	23-10	CVML0000002378	Beatingco, Jackelyn C.	Production and health management practices among rabbit raisers in Midsayap, Cotabato	1
11	23-11	CVML0000002491	Dapal-ag, Rosabelle D.	Prevalence of Eimeria spp. Infection in Goats at Cabaya Farm, Aleosan Cotabato.	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2023

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
12	23-12	CVML0000002374	Deita, Veena Marie A.	Coccidiosis in rabbits (<i>Oryctolagus cuniculus</i>) at Z' arrow rabbitry in Banga, South Cotabato.	1
13	23-13	CVML0000002405	Drapiza, Sherrie Lee N.	A survey on food, nutrition, and health management of pet animals among households in Poblacion, Kabacan, Cotabato.	1
14	23-14	CVML0000002437	Edzla, Rusaiffa D.	Perception towards antimicrobial resistance among backyard chicken farmers in Shariff Aguak, Maguindanao.	1
15	23-15	CVML0000002375	Escarilla, Patrick John C.	Knowledge, attitudes and practices on animal welfare among pet owners in selected Barangays of Tulunan, Cotabato.	1
16	23-16	CVML0000002426	Edem, Frinzi Shainah L.	Management practices of Philippine native and upgraded carabaos among backyard raisers in selected Barangays of Norala, South Cotabato.	1
17	23-17	CVML0000002472	Estaris, Eugene M. Jr	Animal welfare awareness among pet owners in selected Barangays of Lake Sebu, South Cotabato.	1
18	23-18	CVML0000002453	Fernandez, John Henry A.	Management practices among backyard swine raisers in selected Barangays of Pigcawayan, Cotabato.	1
19	23-19	CVML0000002425	Geca, Jayson S.	Assessment on goat production and health management practices among backyard goat (<i>Capra hircus</i>) raisers in selected Barangays of Tboli, South Cotabato.	1
20	23-20	CVML0000002382	Honrejas, Aimee Mar M.	The prevalence and degree of infection of common gastrointestinal nematode in goats (<i>Capra hircus</i>) in selected barangays of Mlang, Cotabato.	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2023

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
21	23-21	CVML0000002431	Galamiton, Ivan B.	Survey on control strategies against helminths employed by cattle raisers in selected barangays of Matalam, Cotabato	1
22	23-22	CVML0000002460	Guiamel, Wee Ahm A.	Biosecurity practices of backyard pig raisers against potential African swine fever infection in selected barangays of Kulan, Sultan Kudarat.	1
23	23-23	CVML0000002457	Ibanez, Jovel Jeff S.	Level of awareness of avian influenza among poultry raisers in selected barangays of Ezperanza, Sultan Kudarat.	1
24	23-24	CVML0000002471	Jinon, Angelika C.	A survey on household dog keeping practices in Poblacion 7, Midsayap, Cotabato.	1
25	23-25	CVML0000002423	Kumpa, Sittie Aima V.	A survey on household dog keeping practices in población 7, Midsayap, Cotabato.	1
26	23-26	CVML0000002381	Lawas, Lovely C.	Equipment, facilities, and management practices of selected veterinary clinics in Cotabato Province.	1
27	23-27	CVML0000002429	Lago, Apple Fritz C.	Knowledge, attitudes, and practices of backyard pig raisers related to African swine fever in selected barangays of Kabacan, Cotabato.	1
28	23-28	CVML0000002406	Limos, Orlyn Jean S.	Assessment of backyard chicken (<i>Gallus gallus domesticus</i>) production and health Management practices of the chicken raisers in selected Barangays of Pikit, Cotabato.	1
29	23-29	CVML0000002442	Maghari, Krisha Mae M.	Knowledge and practices of swine raisers on African swine fever in M'lang, Cotabato.	1
30	23-30	CVML0000002468	Makakua, Mailanie P.	Prevalence of common gastrointestinal nematodes in goats (<i>Capra aegagrus hircus</i>) in Carmen, Cotabato.	1
31	23-31	CVML0000002439	Mama, Fauzia S.	Demographics, canine vaccination and awareness on rabies among dog owners in Poblacion, Kabacan, Cotabato.	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2023

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
32	23-32	CVML0000002490	Mancera, Gilden Ksa Phil A.	Assessment of knowledge, attitudes, and practices, relating to gastrointestinal parasites and anthelmintic resistance among goat raisers in Bansalan, Davao Del Sur.	1
33	23-33	CVML0000002433	Mantawil, Jefferey B.	Animal welfare awareness among the local residents in selected Barangays of Kabacan, Cotabato.	1
34	23-34	CVML0000002380	Mayon, Lady Nel Dyan T.	Growth and health performance of broilers (<i>Gallus gallus domesticus</i>) supplemented with madre de agua (<i>Trichanthera gigantea</i>) leaf powder in Población, Hagonoy, Davao del Sur	1
35	23-35	CVML0000002459	Miranda, Orando A. Jr.	Survey on rabies prevention and control practices in dog-owning households in población, Tulunan, Cotabato	1
36	23-36	CVML0000002419	Nanlabi, Gwynieth Claire E.	Assessment of backyard chicken production and health management practices among chicken raisers in selected barangays of Aleosan, Cotabato.	1
37	23-37	CVML0000002458	Nartea, Jan Ilyoyd V.	Prevention and control management practices on African swine fever among pig farmers in Pikit, North Cotabato.	1
38	23-38	CVML0000002489	Orion, Romeo James A.	Assessment if knowledge, attitudes, and practices, relating to gastrointestinal parasites and anthelmintic resistance and its control among goat raisers in Matanao, Davao del sur	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2023

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
39	23-39	CVML0000002477	Paguya, Jay Valiant A.	Coccidiosis in Goats (<i>Capra hircus</i>) at triple p farms, Katidtuan, Kabacan, Cotabato.	1
40	23-40	CVML0000002368	Parochelin, Karen Joy S.	Strategies of rabies control among local government units in the second district of South Cotabato.	1
41	23-41	CVML0000002440	Pagabangan, Jan Hendrick B.	Animal welfare awareness among pet owners in Surallah and Santo Nino South Cotabato	1
42	23-42	CVML0000002400	Paman, Jade C.	African swine fever awareness among hog raisers in affected barangays of Makilala, Cotabato.	1
43	23-43	CVML0000002401	Pulalon, Rufaida S.	Growth and health performance of broiler (<i>Gallus gallus domesticus</i>) supplemented with turmeric rhizome powder (<i>Curcuma longa</i>) in barangay Pedtad, Kabacan, Cotabato	1
44	23-44	CVML0000002476	Salon, Ana Marie C.	Knowledge, attitudes, and practices of poultry raisers on avian influenza in selected barangays of Tacurong City, Sultan Kudarat	1
45	23-45	CVML0000002649	Sadulang, Shaun Art T.	Coccidiosis in broilers (<i>Gaullus gallus domesticus</i>) at MC and Ella poultry farm in Mlang, Cotabato.	1
46	23-46	CVML0000002435	Rapuza, Carlo G.	Feline panleukopenia cases in veterinary clinics of Kidapawan City, North Cotabato (2014-2021).	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
 Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2023

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
47	23-47	CVML0000002465	Santua, Samira A.	Prevalence and intensity of infection of common gastrointestinal nematodes in goats in Banisilan, Cotabato.	1
48	23-48	CVML0000002407	Surdao, Jayson S.	Level of awareness of poultry raisers on avian influenza in selected Barangays of Banga, South Cotabato.	1
49	23-49	CVML0000002417	Tabelin, Novelle Angelie S.	A survey of the common small animal surgical procedures in some veterinary clinics in Davao City.	1
50	23-50	CVML0000002355	Tabura, Carl Byron M.	Prevalence of coccidiosis on game fowl chickens in selected backyard raisers in Barangay D. Ledesma, Tacurong City.	1
51	23-51	CVML0000002445	Tantong, Mansor M.	Practices on cattle management among backyard raisers in selected Barangays of Kabacan, Cotabato.	1
52	23-52	CVML0000002399	Talilisin, Noraima K.	Geographics of pigs, knowledge, attitudes, and practices on African Swine Fever among pig raisers in Matalam, Cotabato.	1
53	23-53	CVML0000002373	Taya, Noha A.	Awareness on caprine arthritis encephalitis of backyard goat raisers in selected Barangays of Pikit, Cotabato.	1
54	23-54	CVML0000002456	Torres, Vincent Philip D.	Knowledge, attitudes, and practices on animal welfare among pet owners in selected Barangays of Kabacan, Cotabato.	1
55	23-55	CVML0000002377	Udao, Mohamad Ali P.	Production and health management practices of backyard swine raisers in selected Barangays of Matalam, Cotabato.	1
56	23-56	CVML0000002403	Usman, Mailanie	Health and management practices of backyard native chicken raisers in selected Barangays of Isulan, Sultan Kudarat.	1

University of Southern Mindanao
KUNDO E. PAHM LEARNING RESOURCE CENTER
Kabacan, Cotabato
College of Veterinary Medicine Library
List of Undergraduate Theses
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
2023

No.	Acc. No.	Barcode Number	Author	Title	Number of copies
57	23-57	CVML0000002462	Utlang, Kent Patrick A.	ASF prevention and control management practices of backyard hog raisers in Barangay San Isidro, Midsayap, North Cotabato.	1
58	23-58	CVML0000002481	Uyag, Norma A.	Goat production and health management practices among backyard goat raisers in selected Barangays of Carmen, Cotabato.	1
59	23-59	CVML0000002421	Wata, Rosalia L.	Diseases causing mortality among dogs in selected veterinary clinics of General Santos City 2017-2021	1
60	23-60	CVML0000002390	Zuyco, Charlen Joy P.	Production and health management practices among rabbit raisers in Banga, South Cotabato.	1

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

ANGILO 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

USM-CVM LIBRARY

ANGELO JULES N. BALCITA

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

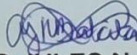
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY



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.



ANGELO JULES N. BALCITA
Printed Name and Signature

2025.06.06
Date



UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines



Management System
ISO 9001:2015
www.tuv.com
ID: 9108634167

APPROVAL OF THESIS MANUSCRIPT

Name	ANGELO JULES N. BALCITA
Major	
Degree Sought	BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
Specialization	
Thesis Title	PREVALENCE OF GASTROINTESTINAL NEMATODES IN FREE-RANGE CHICKENS AT BRAVEHEART FARMS AND NURSERY AT BARANGAY PACO, KIDAPAWAN CITY

APPROVED BY THE GUIDANCE COMMITTEE

PRECIOUS AMOR B. FERRER, MSAS

Adviser

2025.06.09
Date

Statistician
(Optional)

Date

ROLAND Y. FAJARDO, DVM, MSc.

Co-Adviser

(Optional)
2025.06.09
Date

ROLAND Y. FAJARDO, DVM, MSc.
Department Research Coordinator

Date

PRECIOUS AMOR B. FERRER, MSAS

Department Chairperson

2025.06.09
Date

JOSEPHINE R. FLORES, DVM, MVS
College Research Coordinator

2025.06.09
Date

ROLANDO J. GARDUQUE, DVM, MPS
OIC CVM Dean

2025.06.09
Date

Study No: 2024-2025 BSVT 041
Index No: MG-CVM-015386
Recorded by: Jaflores

RECORDED:

RESEARCH & DEVELOPMENT OFFICE
LYDIA C. PASCUAL, PhD

Director for Research and Development

2025.06.10
Date

Recorded by: Jaflores

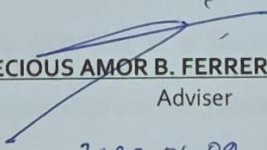


UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines

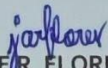


ACCEPTANCE OF THESIS

The thesis attached hereto, entitled "PREVALENCE OF GASTROINTESTINAL NEMATODES IN FREE-RANGE CHICKENS AT BRAVEHEART FARMS AND NURSERY AT BARANGAY PACO, KIDAPAWAN CITY" prepared and submitted by ANGELO JULES N. BALCITA in partial fulfillment of the requirements for the degree of BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY is hereby accepted.


PRECIOUS AMOR B. FERRER, MSAS
Adviser

2025.06.09
Date


JOSEPHINE R. FLORES, DVM, MVS
College Research Coordinator

2025.06.09
Date

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.

TABLE OF CONTENTS

	Page
PRELIMINARIES	
Title Page	i
Academic Integrity Statement	ii
Approval of Thesis Manuscript	iii
Acceptance of Thesis	iv
Biographical Data	v
Acknowledgment	vii
Table of Contents	x
List of Tables	xiii
List of Figures	xiv
List of Appendices	xv
Abstract	xvi
INTRODUCTION	1
REVIEW OF RELATED LITERATURE	3
Poultry	3
Free-range Chickens	4
Gastrointestinal Nematodes (GIN) in Chickens	5
Morphology	6
Life Cycle	8
Epidemiology	10
Prevalence of GIN According to Age	11
Prevalence of GIN According to Sex	12

Prevalence of GIN According to Season	13
Clinical Signs	15
Diagnosis	17
Treatment, Prevention, and Control	19
Treatment	19
Prevention and Control	21
METHODOLOGY	21
Materials	21
Methods	21
Informed Consent	21
Research Design	22
Respondent	22
Sampling Procedure	23
Sample Size Calculation	24
Research Instrument	24
Fecal Sample Collection	24
Modified McMaster Technique	25
Identification of Nematodes	25
Computation of Egg per Gram	26
Data Gathered	26
Statistical Analysis	26
RESULTS AND DISCUSSION	28
Prevalence of GIN in Chickens According to Sex	28
Common Gastrointestinal Nematodes (GIN) in Free-Range Chickens	31

Egg Per Gram Counts of GIN in Chickens	35
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	37
LITERATURE CITED	40
APPENDICES	50
Curriculum Vitae	61

LIST OF TABLES

Table	Title	Page
1	Scale for level of infection and corresponding egg per gram (EPG) in chicken feces (Silva et al., 2020)	26
2	Prevalence rates of gastrointestinal nematodes infection in free-range chickens at Braveheart Farms and Nursery Barangay Paco, Kidapawan City, according to sex, February-March 2025	29
3	Common genera of gastrointestinal nematodes in free-range chickens in Braveheart Farms and Nursery at Barangay Paco, Kidapawan City	31
4	Mean EPG counts of GIN in free-range chickens in Braveheart Farms and Nursery at Barangay Paco, Kidapawan City, in relation to sex, February-March 2025	35

LIST OF FIGURES

Figure	Title	Page
1	Size and side-wall comparison of <i>A. galli</i> egg, <i>H. gallinarum</i> egg and <i>Capillaria</i> spp. (Taylor et al., 2016)	8
2	(A) <i>Ascaridia galli</i> , (B) <i>Heterakis gallinarum</i> , and (C) <i>Capillaria</i> spp. detected in free-range chickens at 400x magnification	32

LIST OF APPENDICES

Appendix Forms	Title	Page
A	Actual Budget of the Research	51
B	Application for Manuscript Defense	52
C	Informed Consent	53
D	Documentation	57

Appendix Table	Title	Page
1	Raw data of the prevalence of gastrointestinal nematodes in free-range chickens at Braveheart Farms and Nursery, February-March 2025	58

ABSTRACT

BALCITA, ANGELO JULES N. 2025. Prevalence of Gastrointestinal Nematodes in 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

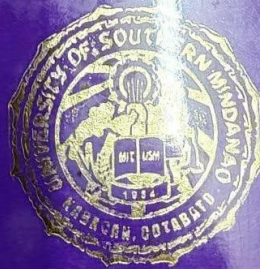
CYRUS MARK L. MAGBANUA

UNIVERSITY OF SOUTHERN MINDANAO
COLLEGE OF VETERINARY MEDICINE



CVML0000032589

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY



JUNE 2025

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

USM-CVM LIBRARY

CYRUS MARK L. MAGBANUA

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

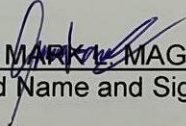
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY



JUNE 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.


CYRUS MARK MAGBANUA
Printed Name and Signature

June 5, 2025
Date



UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines



Management System
ISO 9001:2015
www.tuv.com
ID: 9108634167

APPROVAL OF THESIS MANUSCRIPT

Name	CYRUS MARK L. MAGBANUA
Major	
Degree Sought	BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
Specialization	
Thesis Title	COMMON GASTRO-INTESTINAL HELMINTHS OF DOGS IN BARANGAY KILADA, MATALAM COTABATO

APPROVED BY THE GUIDANCE COMMITTEE

fr
ELIZABETH C. MOLINA, DVM, PhD
Adviser
2025.06.04
Date

fr
PRECIOUS AMOR B. FERRER, MSAS
Co-Adviser
2025.06.04
Date

Statistician

Date

fr
ROLAND Y. FAJARDO, DVM, MSc
Department Research Coordinator
2025.06.04
Date

fr
PRECIOUS AMOR B. FERRER, MSAS
Department Chairperson
2025.06.04
Date

fr
JOSEPHINE R. FLORES, DVM, MVS
College Research Coordinator
2025.06.04
Date

fr
ROLANDO J. GARDUQUE, DVM, MPS
OIC CVM Dean
2025.06.04
Date

Study No: 2024-2025 BSVT-008
Index No: MC-CVM-012858
Recorded by: *fr*

RECORDED: RESEARCH & DEVELOPMENT OFFICE
LYDIA C. PASCUAL, PhD
Director for Research and Development
2025.06.06
Date

Recorded by: *fr*

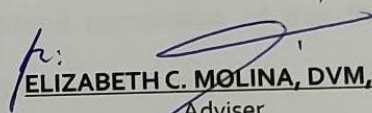


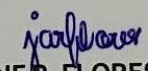
UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines



ACCEPTANCE OF THESIS

The thesis attached hereto, entitled "**COMMON GASTRO-INTESTINAL HELMINTHS OF DOGS IN BARANGAY KILADA, MATALAM COTABATO**" prepared and submitted by **CYRUS MARK L. MAGBANUA** in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY** is hereby accepted.


ELIZABETH C. MOLINA, DVM, PhD
Adviser
2025.06.09
Date


JOSEPHINE R. FLORES, DVM, MVS
College Research Coordinator
2025.06.06
Date

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.

TABLE OF CONTENTS

	Page
PRELIMINARIES	
Title Page	i
Academic Integrity Statement	ii
Approval of Thesis Manuscript	iii
Acceptance of Thesis	iv
Biographical Data	v
Acknowledgement	vi
Table of Contents	viii
List of Tables	x
List of Figures	xi
List of Appendices	xii
Abstract	xiii
INTRODUCTION	1
REVIEW OF RELATED LITERATURE	3
Common Helminths of Dogs in Philippines	3
Age-Related Prevalence	5
Sex-Related Prevalence	7
Summary	8
METHODOLOGY	10
Materials	10
Experimental Approach	10
Fecal Simple Collection	11

Flotation Technique	11
Identification	12
Data Gathered	12
Ethical Consideration	12
Statistical Analysis	12
RESULTS AND DISCUSSION	13
Numbers of Dogs Infected with Gastrointestinal Helminths	13
Common Gastrointestinal Helminths and Number Infected dogs	15
Common Gastrointestinal Helminths of Dogs According to age	17
Common Helminths of Dogs According to Sex	19
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	22
LITERATURE CITED	24
APPENDICES	30
Curriculum Vitae	45

LIST OF TABLES

Table	Title	Page
1	Dogs that were positive and negative of helminths in Barangay Kilada, Matalam, Cotabato, based on fecal examination, August to September 2024.	14
2	Common helminths and number of infected dogs in Barangay Kilada, Matalam, Cotabato, based on fecal examination, from August to September 2024.	15
3	Common helminths of dogs identified in, Barangay Kilada, Matalam, Cotabato according to age based on fecal examination, from August to September 2024.	18
4	Common helminths of dogs in Barangay Kilada, Matalam, Cotabato, according to sex based on fecal examination, from August to September 2024.	20

LIST OF FIGURES

Figure	Title	Page
1	Eggs of common helminths of dogs identified: (A) <i>Ancylostoma</i> spp. (blue arrow), (B) <i>Trichuris vulpis</i> (orange arrow), (C) <i>Toxocara canis</i> (yellow arrow), (D) <i>Ancylostoma</i> spp. (black arrow) with <i>Toxocara canis</i> , (green arrow) 100x.	16
2	Images show the process of fecal flotation technique	41
3	Eggs of common helminths of dogs	42

LIST OF APPENDICES

Appendix Forms	Title	Page
A	Actual Budget of the Research	31
B	Application for Manuscript Defense	32
C	Documentation	40
D	Questionnaire	43
E	Manuscript Processing Form	44
F	Curriculum Vitae	45

Appendix Table	Title	Page
1	Raw data of common helminths in dogs based on age and sex.	33

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

UNIVERSITY OF SOUTHERN MINDANAO
COLLEGE OF VETERINARY MEDICINE



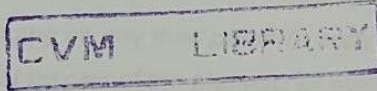
CVML0000002658

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,
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

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.


JESSYL D. MANGGAY

Printed Name and Signature

2025.06.09

Date



UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines




Management System
ISO 9001:2015
www.tuv.com
ID 9108634167

APPROVAL OF THESIS MANUSCRIPT

Name	JESSYL OGDAMINA MANGGAY
Major	
Degree Sought	BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
Specialization	
Thesis Title	COMMON ENDOPARASITES OF FRESHWATER FISH: NILE TILAPIA (<i>Oreochromis niloticus</i>) SOLD IN DIFFERENT MARKETS IN BARANGAYS OF MIDSAYAP, COTABATO

APPROVED BY THE GUIDANCE COMMITTEE


LILIAN A. LUMBAO, DVM, MSAS
Adviser

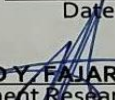
2025-06-09
Date

Co-Adviser

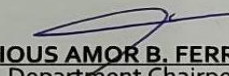
Date

Statistician (Optional)

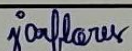
Date


ROLAND Y. FAJARDO, DVM, MSc
Department Research Coordinator


2025-06-09
Date


PRECIOUS AMOR B. FERRER, MSAS
Department Chairperson

2025-06-09
Date


JOSEPHINE R. FLORES, DVM, MVS
College Research Coordinator

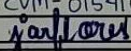
2025-06-09
Date


ROLANDO J. GARDUQUE, DVM, MPS
OIC CVM Dean

2025-06-09
Date

Study No: 2024-2025 BVT-036


Index No: MC-CVM-015410

Recorded by: 

RECORDED: RESEARCH & DEVELOPMENT OFFICE

LYDIA C. PASCUAL, PhD
Director for Research and Development

2025-06-10
Date

Recorded by: 



UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines



ACCEPTANCE OF THESIS

The thesis attached hereto, entitled "**COMMON ENDOPARASITES OF FRESHWATER FISH: NILE TILAPIA (*Oreochromis niloticus*) SOLD IN DIFFERENT MARKETS IN BARANGAYS OF MIDSAYAP, COTABATO**" prepared and submitted by **JESSYL O. MANGGAY** in partial fulfilment of the requirements for the degree of **BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY** is hereby accepted.

LILIAN A. LUMBAO, DVM, MSAS
Adviser

2025.06.09

Date

JOSEPHINER. FLORES, DVM, MVS
College Research Coordinator

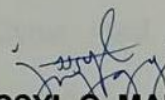
Date

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, Christvella, 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.

ACKNOWLEDGMENTS	1
APPRECIATION OF THESIS ADVISORS	2
APPRECIATION OF TEACHERS	3
APPRECIATION OF FRIENDS	4
APPRECIATION OF FAMILY	5
TABLE OF CONTENTS	6
LIST OF TABLES	7
LIST OF FIGURES	8
LIST OF APPENDICES	9
ABSTRACT	10
INTRODUCTION	11
REVIEW OF RELATED LITERATURE	12
The Types of Research Methods	13
Method Selection of This Thesis	14
Conclusion	15
References	16
Bibliography	17
CONCLUSION	18
REFERENCES	19

TABLE OF CONTENTS

	Page
PRELIMINARIES	
Title Page	i
Academic Integrity Statement	ii
Approval of Thesis Manuscript	iii
Acceptance of Thesis	iv
Biographical Data	v
Acknowledgment	vi
Table of Contents	ix
List of Tables	xii
List of Figures	xiii
List of Appendices	xiv
Abstract	xvi
INTRODUCTION	1
REVIEW OF RELATED LITERATURE	3
Nile Tilapia (<i>Oreochromis niloticus</i>)	3
Internal Parasites of Nile Tilapia	4
Cestodes	4
Nematodes	5
Trematodes	5
Common Internal Parasites of Tilapia	6
<i>Diphyllbothrium</i> spp.	6

<i>Proteocephalus</i> spp.	7
<i>Contracaecum</i> spp.	8
<i>Camallanus</i> spp.	8
<i>Clinostomum</i> spp.	9
<i>Diplostomum</i> spp.	10
Presence of Various Endoparasites in Nile Tilapia	11
Factors Affecting Parasite Prevalence	13
Endoparasite Prevention	14
Methods for Chemical Treatment of Fish Disease	15
Internal Treatment	15
Internal Examination of Tilapia for Possible Disease	16
METHODOLOGY	18
Materials	18
Methods	18
Experimental Approach	18
Collection and Transportation of Samples	19
Sample Preparation	19
Internal Examination	19
Microscopic examination	19
Identification of Parasite	20
IACUC Certification	20
Ethical Consideration	21
Data Gathered	21

Statistical Analysis	21
RESULTS AND DISCUSSION	23
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	32
LITERATURE CITED	34
APPENDICES	41
Curriculum Vitae	56

LIST OF TABLES

Table	Title	Page
1	Endoparasites of Nile tilapia (<i>Oreochromis niloticus</i>) sold in different markets in barangays of Midsayap, Cotabato, November 2023 to January 2024	24
2	Endoparasites of Nile tilapia (<i>Oreochromis niloticus</i>) and number of tilapia affected with <i>Contracaecum</i> spp., November 2023 to January 2024	26
3	Location of endoparasites of Nile tilapia (<i>Oreochromis niloticus</i>) in the internal organs, November 2023 to January 2024	28

LIST OF FIGURES

Figure	Title	Page
1	Adult <i>Diphylobothrium</i> spp. (400x magnification) (Edeh & Solomon, 2016)	7
2	A. <i>Proteocephalus</i> spp. (40x magnification) and B. Scolex of adult <i>Proteocephalus</i> spp. (100x magnification) (Amare et al., 2014)	7
3	Adult <i>Contracaecum</i> spp. (100x magnification) (Shaheen et al., 2014)	8
4	Adult <i>Camallanus</i> spp. (40x magnification) (Omeji et al., 2022)	
5	Adult <i>Clinostomum</i> spp. (40x magnification) (Onoja-Abutu, 2021)	10
6	Adult <i>Diplostomum</i> spp. (10x magnification) (Unger & Palm, 2017)	10
7	Microscopic image of a <i>Contracaecum</i> spp. egg observed from the stomach and intestine of Nile tilapia (<i>Oreochromis niloticus</i>) under 100x magnification, 50-77 μ m, appears oval with thick smooth shell, yellowish-brown, and granular internal content	30
8	Microscopic image of a <i>Contracaecum</i> spp. larvae observed from the stomach of Nile tilapia (<i>Oreochromis niloticus</i>) under 100x magnification, 2-10 mm, also common in tilapia, encysted or free in viscera, light yellow-brown, elongated, cylindrical, and gently curved	31

LIST OF APPENDICES

Appendix Forms	Title	Page
A	Actual Budget of the Research	42
B	Application for Manuscript Defense	43
C	IACUC Form	44

Appendix Tables	Title	Page
1	Raw data on common endoparasites of Nile tilapia (<i>Oreochromis niloticus</i>) sold in barangay Sadaan, Midsayap, Cotabato (November 2023)	50
2	Raw data on common endoparasites of Nile tilapia (<i>Oreochromis niloticus</i>) sold in barangay Upper Glad 1, Midsayap, Cotabato (November 2023)	51
3	Raw data on common endoparasites of Nile tilapia (<i>Oreochromis niloticus</i>) sold in barangay Villarica, Midsayap, Cotabato (December 2023)	52
4	Raw data on common endoparasites of Nile tilapia (<i>Oreochromis niloticus</i>) sold in barangay Central Katingawan, Midsayap, Cotabato (December 2023)	53
5	Raw data on common endoparasites of Nile tilapia (<i>Oreochromis niloticus</i>) sold in barangay Bagumba, Midsayap, Cotabato (January 2024)	54

6	Raw data on the common endoparasites of Nile tilapia (<i>Oreochromis niloticus</i>) according to market source	55
7	Raw data on the location of common endoparasites of Nile tilapia (<i>Oreochromis niloticus</i>) in internal organs	55

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**

USM-CVM LIBRARY

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

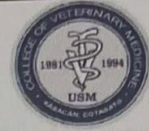
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY



JUNE 2025




UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines



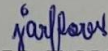
ACCEPTANCE OF THESIS

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.


AP WARREN P. ADAMAT, DVM, MSAS
Adviser

2025.06.05

Date


JOSEPHINE R. FLORES, DVM, MVS
College Research Coordinator


2025.06.09

Date

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.

TABLE OF CONTENTS

	Page
PRELIMINARIES	
Title Page	i
Academic Integrity Statement	ii
Approval of Thesis Manuscript	iii
Acceptance of Thesis	iv
Biographical Data	v
Acknowledgment	vi
Table of Contents	viii
List of Tables	xii
List of Appendices	xiii
Abstract	xv
INTRODUCTION	1
REVIEW OF RELATED LITERATURE	3
Muscovy Duck (<i>Cairina moschata</i>)	3
Description and Origin	3
Production	4
Diet and Nutrition	5
Ginger (<i>Zingiber officinale</i>)	6
Description	6
Origin	7
Uses and Health Benefits of Ginger	8
Chemical Composition of Ginger	9

Phytochemicals	9
Phytonutrients	9
Nutritional Value	10
Properties of Ginger	10
Antioxidant Activity	10
Anti-inflammatory Activity	11
Toxicity	11
Characteristics of Duck Meat (Fresh and Grilled)	12
Color of the Meat	13
Texture and Tenderness of the Meat	13
Odor and Taste of the Meat	14
Factors Affecting Carcass Quality	15
Effects of Ginger Decoction in Carcass Quality	16
Effects of Ginger Decoction in Meat Texture	16
Effects of Ginger Decoction in Meat Color	17
Effects of Ginger Decoction in Meat Odor	18
Effects of Ginger Decoction in Meat Tenderness	19
Excelite C Plus Powder	19
METHODOLOGY	20
Materials	20
Methods	20
Experimental Approach	20
Experimental Animals	21
Preparation of Ginger Decoction	21

Decoction of Ginger	22
Preparation of Ducks for Slaughtering	22
Organoleptic and Sensory Analysis	23
Panel for Sensory Evaluation	23
Measurement of the Texture	24
Measurement of the Color	25
Measurement of the Odor	25
Measurement of the Tenderness	26
Measurement of the Taste	27
Ethical Considerations	28
Data Gathered	29
Statistical Analysis	29
RESULTS AND DISCUSSION	30
Texture Quality of Fresh Carcass of the Muscovy Duck	30
Texture Quality of Grilled Carcass of the Muscovy Duck	32
Color Quality of Fresh Carcass of the Muscovy Duck	34
Odor Quality of Fresh Carcass of the Muscovy Duck	37
Odor Quality of Grilled Carcass of the Muscovy Duck	39
Tenderness Quality of Fresh Carcass of the Muscovy Duck	41
Tenderness Quality of Grilled Carcass of the Muscovy Duck	43
Taste Quality of Grilled Carcass of the Muscovy Duck	45
Carcass Quality of Muscovy Duck Supplemented with Different Levels of Ginger Decoction	48
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	51

LITERATURE CITED	54
APPENDICES	60
Curriculum Vitae	88

LIST OF TABLES

Table	Title	Page
1	Organoleptic and sensory evaluation for the texture quality of fresh carcass of Muscovy duck supplemented with ginger decoction from January to February 2025	31
2	Organoleptic and sensory evaluation for the texture quality of grilled carcass of Muscovy duck supplemented with ginger decoction from January to February 2025	34
3	Organoleptic and sensory evaluation for the color quality of fresh carcass of Muscovy duck supplemented with ginger decoction from January to February 2025	36
4	Organoleptic and sensory evaluation for the odor quality of fresh carcass of Muscovy duck supplemented with ginger decoction from January to February 2025	37
5	Organoleptic and sensory evaluation for the odor quality of grilled carcass of Muscovy duck supplemented with ginger decoction from January to February 2025	39
6	Organoleptic and sensory evaluation for the tenderness quality of fresh carcass of Muscovy duck supplemented with ginger decoction from January to February 2025	43
7	Organoleptic and sensory evaluation for the tenderness quality of grilled carcass of Muscovy duck supplemented with ginger decoction from January to February 2025	45
8	Organoleptic and sensory evaluation for the taste quality of grilled carcass of Muscovy duck supplemented with ginger decoction from January to February 2025	47
9	Carcass quality of Muscovy duck supplemented with different levels of ginger decoction in per liter of water	50

LIST OF APPENDICES

Appendix Forms	Title	Page
A	Actual Budget of the Research	61
B	Application for Manuscript Defense	62
C	Informed Consent Form (ICF)	63
D	Institutional Animal Care and Use Committee (IACUC) Form	66
Appendix Tables	Title	Page
1	Raw data for the poor quality, fair quality, and good quality of fresh duck breast meat in texture	74
2	Raw data for the poor quality, fair quality, and good quality of grilled duck breast meat in texture	74
3	Raw data for the poor quality, fair quality, and good quality of fresh duck breast meat in color	75
4	Raw data for the poor quality, fair quality, and good quality of fresh duck breast meat in odor	75
5	Raw data for the poor quality, fair quality, and good quality of grilled duck breast meat in odor	76
6	Raw data for the poor quality, fair quality, and good quality of fresh duck breast meat in tenderness	76
7	Raw data for the poor quality, fair quality, and good quality of grilled duck breast meat in tenderness	77
8	Raw data for the poor quality, fair quality, and good quality of grilled duck breast meat in taste	77

9	Raw data for the texture, color, odor, and tenderness of the fresh meat of Muscovy duck breast in treatment 1 (300ml GD / 1L of water)	78
10	Raw data for the texture, odor, tenderness, and taste of the grilled meat of Muscovy duck breast in treatment 1 (300ml GD / 1L of water)	79
11	Raw data for the texture, color, odor, and tenderness of the fresh meat of Muscovy duck breast in treatment 2 (350ml GD / 1L of water)	80
12	Raw data for the texture, odor, tenderness, and taste of the grilled meat of Muscovy duck breast in treatment 2 (350ml GD / 1L of water)	81
13	Raw data for the texture, color, odor, and tenderness of the fresh meat of Muscovy duck breast in treatment 3 (400ml GD / 1L of water)	82
14	Raw data for the texture, odor, tenderness, and taste of the grilled meat of Muscovy duck breast in treatment 3 (400ml GD / 1L of water)	83
15	Raw data for the texture, color, odor, and tenderness of the fresh meat of Muscovy duck breast in treatment 4 (positive control)	84
16	Raw data for the texture, odor, tenderness, and taste of the grilled meat of Muscovy duck breast in treatment 4 (positive control)	85
17	Raw data for the texture, color, odor, and tenderness of the fresh meat of Muscovy duck breast in treatment 5 (negative control)	86
18	Raw data for the texture, odor, tenderness, and taste of the grilled meat of Muscovy duck breast in treatment 5 (negative control)	87

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

UNIVERSITY OF SOUTHERN MINDANAO
COLLEGE OF VETERINARY MEDICINE



CVML0000002530

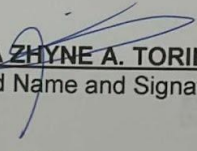
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY



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.


NISSA ZHYNE A. TORIBIO
Printed Name and Signature

2025-06-05
Date



UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines



APPROVAL OF THESIS MANUSCRIPT

Name	NISSA ZHYNE A. TORIBIO
Major	
Degree Sought	BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
Specialization	
Thesis Title	PREVALENCE OF GOAT COCCIDIOSIS IN BARANGAY DAGUPAN, KABACAN, COTABATO

APPROVED BY THE GUIDANCE COMMITTEE

PRECIOUS AMOR B. FERRER, MSAS
Adviser

2025.06.05
Date

Co-Adviser

Date

ROLAND Y. FAJARDO, DVM, MSc
Department Research Coordinator

2025.06.06
Date

Statistician
(Optional)

Date

PRECIOUS AMOR B. FERRER, MSAS
Department Chairperson
2025.06.05
Date

JOSEPHINE R. FLORES, DVM, MVS
College Research Coordinator

2025.06.06
Date

ROLANDO J. GARDUQUE, DVM, MPS
OIC CVM Dean

2025.06.07
Date

Study No: 2024-2025 BSVT-009
Index No: MC-CVM-012973
Recorded by: J. Flores

RECORDED:

RESEARCH & DEVELOPMENT OFFICE
LYDIA C. PASCUAL, PhD
Director for Research and Development

2025.06.10
Date

Recorded by: [Signature]

USM-EDR-F05-Rev.4.2020.11.16

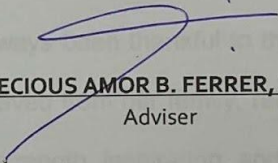


UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines



ACCEPTANCE OF THESIS

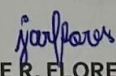
The thesis attached hereto, entitled "**PREVALENCE OF GOAT COCCIDIOSIS IN BARANGAY DAGUPAN, KABACAN, COTABATO**" prepared and submitted by **NISSA ZHYNE A. TORIBIO** in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY** is hereby accepted.


PRECIOUS AMOR B. FERRER, MSAS

Adviser

2025.06.05

Date


JOSEPHINE R. FLORES, DVM, MVS

College Research Coordinator

2025.06.06

Date

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.

INTRODUCTION	1
REVIEW OF RELATED LITERATURE	3
Goats Industry in the Philippines	3
Coccidiosis in Goats	3
Coccidiosis and its Etiology	4
Morphology of <i>Cimeria Spp</i>	5
Prevalence of Coccidiosis in Goats	7
Prevalence of Coccidiosis in Goats According to Age	8
Prevalence of Coccidiosis in Goats According to Sex	11
Prevalence of Coccidiosis in Goats According to Type of Feeding	12
Epidemiology of Coccidiosis	13
Clinical Signs	14
Diagnosis	15
Treatment	15
Prevention and Control	16

TABLE OF CONTENTS

	Page
PRELIMINARIES	
Title Page	i
Academic Integrity Index	ii
Approval of Thesis Manuscript	iii
Acceptance of Thesis	iv
Biographical data	v
Acknowledgment	vi
Table of Contents	viii
List of Tables	x
List of Figures	xi
List of Appendices	xii
Abstract	xiii
INTRODUCTION	1
REVIEW OF RELATED LITERATURE	3
Goats Industry in the Philippines	3
Coccidiosis in Goats	3
Coccidiosis and its Etiology	4
Morphology of Eimeria Species	5
Prevalence of Coccidiosis in Goats	7
Prevalence of Coccidiosis in Goats According to Age	8
Prevalence of Coccidiosis in Goats According to Sex	11
Prevalence of Coccidiosis in Goats According to Type of Rearing	12
Epidemiology of Coccidiosis	13
Clinical Signs	14
Diagnosis	15
Treatment	15
Prevention and Control	16

METHODOLOGY	18
Materials	18
Methods	18
Experimental Approach	18
Collection of Fecal Samples	19
Microscopic Examination of Feces	20
Simple Salt Flotation Technique	20
Identification	20
Data Gathered	22
IACUC Certification	22
Ethical Consideration	22
Composition of Questionnaire	22
Statistical Analysis	23
RESULTS AND DISCUSSION	24
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	29
LITERATURE CITED	31
APPENDICES	37
Curriculum Vitae	54

LIST OF TABLES

Table	Title	Page
1	Prevalence of goat coccidiosis in Dagupan, Kabacan, Cotabato according to age, September to October, 2024.	25
2	Prevalence of goat coccidiosis in Dagupan, Kabacan, Cotabato according to sex, September to October, 2024.	27
3	Prevalence of goat coccidiosis in Dagupan, Kabacan, Cotabato according to type of rearing, September to October, 2024.	28

LIST OF FIGURES

Table	Title	Page
1	Sporulated oocysts of different <i>Eimeria</i> species from goats	7
2	Collection of fecal samples among goats per rectum	19
3	Documentation showing the Simple Salt Flotation Technique	21
4	Actual image of oocysts of <i>Eimeria</i> spp. found in goats using a high magnification lens (40x).	53

LIST OF APPENDICES

Appendix Forms		
	Title	Page
A	Actual Budget of the Research	38
B	Application for Thesis Manuscript Defense	39
C	Animal Care and Use Statement	40
D	Questionnaire	46
E	Appendix Tables	48
F	Documentation	53
G	Curriculum Vitae	54

Appendix Tables		
	Title	Page
1	Raw data on goats age, sex, and type of rearing. September - October, 2024.	49

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 ($\chi^2 = 0.535$; $p = 0.765$). Male goats had a higher infection rate (32%) than females (28%), with a significant relationship observed between sex and infections ($\chi^2 = 4.87$; $p = 0.027$). 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 ($\chi^2 = 12.3$; $p = 0.006$). 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

Goats are an important species of animal that contribute largely to the livelihood of farmers with low and medium incomes. In the Philippines, goat production significantly helps Filipinos earn additional income and improves the quality of their lives since it provides the smallholders with meat, milk, and supplemental income (Rayson, 2004).

Goats are highly susceptible to various parasitic diseases, and coccidiosis is one of the most prevalent affecting them. This disease is caused by a protozoan parasite from the *Eimeria* genus, which infects goats in many regions worldwide. The parasite is relatively small and large numbers and predominantly infects young goats around the weaning stage (Quarles and Peralta, 2012). Lack of proper management and sanitation are common causes of coccidiosis. Disease conditions are poor, poor hygiene and management are also likely to favor the development of the parasite. As a result, goats are highly susceptible to coccidiosis and mortality rates in goats infected by the parasite are high. Therefore, it is important to take steps to control and prevent the disease from spreading (Rayson, 2004).

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

USM-CVM LIBRARY

MANNY D. LUMAMBAS

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



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.

MANNY D. LUMAMBAS
Printed Name and Signature

2025.05.14

Date



UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines



Management System
ISO 9001:2015
www.tuv.com
ID 910834167

APPROVAL OF THESIS MANUSCRIPT

Name	MANNY D. LUMAMBAS
Major	N/A
Degree Sought	BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
Specialization	N/A
Thesis Title	CARCASS AND ORGAN CONDEMNATION IN CATTLE AND CARABAOS SLAUGHTERED AT KABACAN ABATTOIR, COTABATO

APPROVED BY THE GUIDANCE COMMITTEE

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

2025. 05. 14
Date

GARRY D. LASAGA, DVM, MSAS
Department Research Coordinator

2025. 05. 14
Date

PRECIOUS AMOR B. FERRER, MSAS
Department Chairperson

2025. 05. 14
Date

JOSEPHINE R. FLORES, DVM, MVS
College Research Coordinator

2025. 05. 16
Date

ROLANDO J. GARDUQUE, DVM, MPS
OIC Dean

2025. 05. 21
Date

Study No: 2024-2025 BSVT-006
Index No: MC-CVM-012031
Recorded by: JRF

RECORDED:

RESEARCH & DEVELOPMENT OFFICE
LYDIA C. PASCUAL, PhD
Director for Research and Development
2025. 05. 22
Date

Recorded by: [Signature]

USM-EDR-F05-Rev.4.2020.11.16




UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines



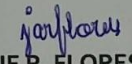
ACCEPTANCE OF THESIS

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.


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

2025.05.14

Date


JOSEPHINE R. FLORES, DVM, MVS
College Research Coordinator

2025.05.16

Date

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

TABLE OF CONTENTS

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.

TABLE OF CONTENTS

PRELIMINARIES	Page
Title Page	i
Academic Integrity Statement	ii
Approval of Thesis Manuscript	iii
Acceptance of Thesis	iv
Biographical Data	v
Acknowledgment	vi
Table of Contents	vii
List of Tables	ix
List of Appendix Tables	x
List of Figures	xi
List of Appendices	xii
Abstract	xiii
INTRODUCTION	1
REVIEW OF RELATED LITERATURE	4
Cattle and Carabaos	4
Meat Inspection	5
Post Mortem Inspection	6
METHODOLOGY	10
Materials	10
Methods	10
Experimental Approach	10

Data Gathered	11
Statistical Analysis	12
RESULTS AND DISCUSSION	13
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	18
LITERATURE CITED	20
APPENDICES	24
Curriculum Vitae	31

LIST OF TABLES

Table	Title	Page
1	Cattle and carabaos slaughtered and inspected at Kabacan Abattoir from January 2020 to December 2023.	14
2	Number of slaughtered and inspected animals according to species, January 2021 to December 2021	26
3	Number of slaughtered and inspected animals according to species, January 2022 to December 2022	27
4	Number of slaughtered and inspected animals according to species, January 2023 to December 2023	28

LIST OF APPENDIX TABLES

Table	Title	Page
1	Number of slaughtered and inspected animals according to species, January 2020 to December 2020	25
2	Number of slaughtered and inspected animals according to species, January 2021 to December 2021	26
3	Number of slaughtered and inspected animals according to species, January 2022 to December 2022	27
4	Number of slaughtered and inspected animals according to species, January 2023 to December 2023	28

LIST OF FIGURES

Figures	Title	Page
1	Heart (A) and kidney (B) of cattle Inspected/ examined on Septemember 2023 with no visible lesions.	16
2	Liver (A) and lungs (B) of cattle Inspected/ examined in September 2023 with no visible lesions.	16

LIST OF APPENDICES

Appendix	Title	Page
A	Actual Budget of the Research	29
B	Application for Manuscript Defense	30

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

UNIVERSITY OF SOUTHERN MINDANAO
COLLEGE OF VETERINARY MEDICINE



CVML00000025

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY



MAY 2025

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

USM-CVM LIBRARY

VALENTIN, III Y. ELUMBARING

VALENTIN, III Y. ELUMBARING
Printed Name and Signature

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

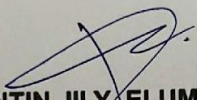
BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY



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.


VALENTIN, III Y. ELUMBARING

Printed Name and Signature

2025-06-07

Date



UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines



Management System
ISO 9001:2015
www.tuv.com
ID 310824187

APPROVAL OF THESIS MANUSCRIPT

Name	VALENTIN, III Y. ELUMBARING
Major	
Degree Sought	BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
Specialization	
Thesis Title	ASSESSING COLIFORM LEVEL OF WATER USED FOR SWINE PRODUCTION AT CARMEN, COTABATO

APPROVED BY THE GUIDANCE COMMITTEE

EMERLIE R. OKIT, DVM, MSc, TVS, PhD

Adviser

2025.06.07

Date

Co- Adviser

Date

ROLAND Y. FERRER, DVM, MSc
Department Research Coordinator

2025.06.07

Date

Statistician

Date

PRECIOUS AMOR B. FERRER, MSAS

Department Chairperson

2025.06.09

Date

JOSEPHINE R. FLORES, DVM, MVS

College Research Coordinator

2025.06.09

Date

ROLANDO J. GARDUQUE, DVM, MPS

OIC CVM Dean

2025.06.09

Date

Study No: 2024-2025 BSVT-037

Index No: MC-CVM-014049

Recorded by: yanflora

RECORDED:

RESEARCH & DEVELOPMENT OFFICE

LYDIA C. PASCUAL, PhD

Director for Research and Development

Date

Recorded by: yanflora

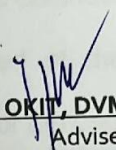
USM-EDR-F05-Rev.4, 2020.11.16



UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines

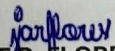
ACCEPTANCE OF THESIS

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.


EMERLIE R. OKIP, DVM, MSc, TVS, PhD
Adviser

2025-06-07

Date


JOSEPHINE R. FLORES, DVM, MVS
College Research Coordinator

2025-06-09

Date

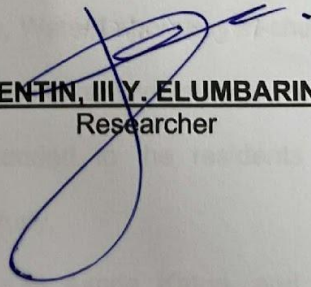
BIOGRAPHICAL DATA

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.

TABLE OF CONTENTS

	Page
PRELIMINARIES	
Title Page	i
Academic Integrity Statement	ii
Approval of Thesis Manuscript	iii
Acceptance of Thesis	iv
Biographical Data	v
Acknowledgement	vi
Table of Contents	viii
List of Tables	x
List of Appendices	xi
List of Appendix Tables	xi
List of Appendix Figures	xii
Abstract	xiv
INTRODUCTION	1
REVIEW OF RELATED LITERTURE	3
Water	3
Water Quality	4
<i>Escherichia coli</i>	6
Morphology and Characteristics	6
Pathogenicity	7
Microbiological Examination	9
<i>E. coli</i> Concentration	9

Most Probable Number	10
Summary	12
METHODOLOGY	13
Materials	13
Methods	13
Experimental Approach	13
Collection of Water Sample	14
Preparations of Materials	14
Examination Procedure	15
Multiple Tube Fermentation Technique	15
Presumptive Test	15
Confirmatory Test	15
Completed Test	16
Data Gathered	17
Statistical Analysis	17
RESULTS AND DISCUSSION	18
Bacteriological Quality of the Water Samples Tested	18
Tap Water Samples	21
Deep Well Water Samples	21
Comparative Analysis	23
SUMMARY, CONCLUSION AND RECOMMENDATIONS	26
LITERATURE CITED	28
APPENDICES	32
Curriculum Vitae	45

LIST OF TABLES

Table	Title	Page
1	Mean Most Probable Number of bacterial contamination in tap water (TW) and deep well water (DWW) samples	19
2	Bacteriological confirmatory and completed test results for tap water (TW) and deep well water (DW) (confirmation of <i>E. coli</i>)	23
3	Number and percentage of samples from water source positive and negative of fecal coliform	24

LIST OF APPENDICES

Appendix Forms	Title	Page
A	Actual Budget of the Research	33
B	Application for Manuscript Defense	34
C	Documentation	35

Appendix Tables	Title	Page
1	Raw data on tap water (TW) and deep well water (DWW) samples collected in Carmen, Cotabato	41
2	Results of Most Probable Number in tap water (TW) and deep well water (DWW) according to water source	43

LIST OF FIGURES

Figure	Title	Page
1	Preparation of all materials (a) Cleaning of glassware and containers (b) Sterilization of materials in a hot air oven at 121°C for 30 minutes. (c) Culture media, including lactose broth placed in the autoclave.(d) Broths autoclaved at 121°C for 30 minutes	35
2	Collection of water samples from tap and deep well water (a) source from tap water tank. (b) Tap water run for two minutes before sampling. (c) Water was also collected from a deep well source. (d) Pumped to flow for two minutes before collection.(e) Aseptic procedures were followed	36
3	Presumptive test result in lactose broth (a) Positive result- presence of gas in the Durham tube. (b) Negative result- absence of gas in the Durham tube	37
4	Confirmatory test result in BGLB broth (a) Positive result- presence of gas in the Durham tube. (b) Negative result- absence of gas in the Durham tube	38
5	Completed test result in <i>E. coli</i> broth (a) Positive result- presence of gas in the Durham tube	39
6	<i>E. coli</i> growth characteristics on Eosin Methylene Blue (EMB) agar (a) Streaking positive test tubes from EC broth onto EMB agar. (b) Positive results- presence of a greenish metallic sheen on the agar surface	40

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

UNIVERSITY OF SOUTHERN MINDANAO
COLLEGE OF VETERINARY MEDICINE



CVML000002579

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY



JUNE 2025

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

USM-CVM LIBRARY

GAYLE D. ESTARDO

GAYLE D. ESTARDO

Date

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

BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY



JUNE 2025

UNIVERSITY OF SOUTHERN MINDANAO

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.


GAYLE D. ESTARDO
Printed Name and Signature

2025. 06.09
Date



UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines



Management System
ISO 9001:2015
www.tuv.com
ID 9108634187

APPROVAL OF THESIS MANUSCRIPT

Name	GAYLE D. ESTARDO
Major	
Degree Sought	BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
Specialization	
Thesis Title	PREVALENCE OF GASTROINTESTINAL NEMATODES OF CATTLE IN BARANGAYS OF TUPI, SOUTH COTABATO

APPROVED BY THE GUIDANCE COMMITTEE

ROLANDO J. GARDUQUE, DVM, MPS

Adviser

2025.06.09
Date

Statistician
(Optional)

Date

Co-Adviser
(Optional)

Date

ROLAND Y. FAJARDO, DVM, MSc
Department Research Coordinator

2025.06.09
Date

PRECIOUS AMOR B. FERRER, MSAS

Department Chairperson

2025.06.09
Date

JOSEPHINE R. FLORES, DVM, MVS

College Research Coordinator

2025.06.09
Date

ROLANDO J. GARDUQUE, DVM, MPS

OIC CVM Dean

2025.06.09
Date

Study No: 2024-2025 B&VT-027

Index No: MC-CVM-015446

Recorded by: J. Flores

RECORDED:

RESEARCH & DEVELOPMENT OFFICE
LYDIA C. PASCUAL, PhD
Director for Research and Development

Date

Recorded by: [Signature]

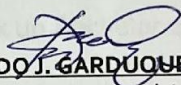


UNIVERSITY OF SOUTHERN MINDANAO
Kabacan, Cotabato
Philippines

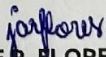


ACCEPTANCE OF THESIS

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.


ROLANDO J. GARDUQUE, DVM, MPS
Adviser

2025.06.09
Date


JOSEPHINE R. FLORES, DVM, MVS
College Research Coordinator

2025.06.09
Date

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.


GAYLE D. ESTARDO
Researcher

ACKNOWLEDGMENT

The researcher would like to express her heartfelt gratitude to the following individuals who in one way or another, had helped her in the completion of this study.

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;

Her beloved mother, Mrs. Rosile B. Diaz, for her love and financial support, her father Mr. Franklin M. Estardo Sr., who is in heaven now, for giving her motivation to face the future and inspiration to move forward. They inspired the researcher to become strong and better person, her siblings for their support and invaluable prayers.

Dr. Rolando J. Garduque, her adviser, who never gave up on her, for his patience in instructing and teaching her on how to do or conduct the study, his inspirational words, supervision, advice, and great ideas had contribute a lot for the betterment of this paper.

The members of the examining committee: Prof. Precious Amor Beso-Ferrer and Dr. Lilian A. Lumbao, for taking their time in reading her study, and for sharing knowledge, assistance and valuable suggestions.

To her friends, Adelle, Albert, Alli, Bea, Brexter, Evelyn, Jessel, Kaye, Kian, Licel, Mc Bern, and Xyra; for their constant support, valuable insights, and encouragement throughout her study. Their help made her journey much easier and more enjoyable.

Finally, the researcher extends her gratitude to everyone who contributed to this research, whether through their time, knowledge, and assistance. Their kindness and support have been instrumental in making this thesis possible. Thank you all from the bottom of my heart.

Acknowledgment	v
Table of Contents	vii
List of Tables	x
List of Appendices	xv
Abstract	xvii
INTRODUCTION	1
REVIEW OF RELATED LITERATURE	4
Common GIWs in Cattle	4
Epidemiology	6
Prevalence of GIWs in Relation to Species	6
Prevalence of GIWs in Relation to Age	7
Prevalence of GIWs in Relation to Sex	11
Prevalence of GIWs in Relation to Management	12
Diagnosis	18
Prevention and Control	24

TABLE OF CONTENTS

	Page
PRELIMINARIES	
Title Page	i
Academic Integrity Statement	ii
Approval of Thesis Manuscript	iii
Acceptance of Thesis	iv
Biographical Data	v
Acknowledgment	vi
Table of Contents	viii
List of Tables	x
List of Appendices	xi
Abstract	xiii
INTRODUCTION	1
REVIEW OF RELATED LITERATURE	4
Common GINs in Cattle	4
Epidemiology	6
Prevalence of GINs in Relation to Season	8
Prevalence of GINs in Relation to Age	9
Prevalence of GINs in Relation to Sex	11
Prevalence of GINs in Relation to Management	12
Diagnosis	13
Prevention and Control	14

Summary	15
METHODOLOGY	16
Materials	16
Methods	16
Research Design	16
Collection of Fecal Samples	17
Preparation of Salt Solution	17
Fecal Flotation Technique	18
IACUC Certification	18
Ethical Considerations	19
Data Gathered	19
Statistical Analysis	20
RESULTS AND DISCUSSION	21
Prevalence of GINs in Relation to Age	21
Prevalence of GINs in Relation to Sex	24
Prevalence of GINs in Relation to Place of Origin	25
Prevalence of Common GIN's in Relation to Other Management Risk Factors	28
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	32
LITERATURE CITED	35
APPENDICES	42
Curriculum Vitae	75

LIST OF TABLES

Table	Title	Page
A	Actual Budget of the Research	43
1	Prevalence of common gastrointestinal nematodes infection in cattle in Tupi, South Cotabato in relation to age, January-February 2025	22
B		24
C	Informed Consent Form (ICF)	45
2	Prevalence of common gastrointestinal nematodes among cattle in Tupi, South Cotabato in relation of sex, January-February 2025	24
D		46
3	Prevalence of common gastrointestinal nematodes among cattle in Tupi, South Cotabato in relation to place of origin, January-February 2025	26
Appendix Tables		Page
1	Raw data for the detection of gastrointestinal nematodes in cattle raised in Tupi, South Cotabato, January-February 2025	65
2	Summary of the factors influencing the prevalence of gastrointestinal nematodes of cattle in selected barangays of Tupi, South Cotabato, January-February 2025	66
3	Summary of the factors influencing the prevalence of gastrointestinal nematodes of cattle in Buno, Tupi, South Cotabato, January-February 2025	67
4	Summary of the factors influencing the prevalence of gastrointestinal nematodes of cattle in Cabungo, Tupi, South Cotabato, January-February 2025	67
5	Summary of the factors influencing the prevalence of gastrointestinal nematodes of cattle in Linao, Tupi, South Cotabato, January-February 2025	69

LIST OF APPENDICES

Appendix Forms	Title	Page
A	Actual Budget of the Research	43
B	Application for Manuscript Defense	44
C	Informed Consent Form (ICF)	45
D	Institutional Animal Care and Use Committee Form	48

Appendix Tables	Title	Page
1	Raw data for the detection of gastrointestinal nematodes in cattle raised in Tupi, South Cotabato, January-February 2025	56
2	Summary of the factors influencing the prevalence of gastrointestinal nematodes of cattle in selected barangays of Tupi, South Cotabato, January-February 2025	63
3	Summary of the factors influencing the prevalence of gastrointestinal nematodes of cattle in Bunao, Tupi, South Cotabato, January-February 2025	65
4	Summary of the factors influencing the prevalence of gastrointestinal nematodes of cattle in Cebuano, Tupi, South Cotabato, January-February 2025	67
5	Summary of the factors influencing the prevalence of gastrointestinal nematodes of cattle in Linan, Tupi, South Cotabato, January-February 2025	69

6	Summary of the factors influencing the prevalence of gastrointestinal nematodes of cattle in Palian, Tupi, South Cotabato, January-February 2025	71
7	Summary of the factors influencing the prevalence of gastrointestinal nematodes of cattle in Poblacion, Tupi, South Cotabato, January-February 2025	73

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 Bunsod, Cebuano, Liran, Palian, and Poblacion Tupi in South Cotabato, from January to February 2025 and at the College of Veterinary Medicine, USM, Kataragan, Cotabato. A total of 100 fecal samples from cattle were collected and examined using the salt flotation technique. Out of 100 animals examined, 45% of cattle were positive for GINs. However, statistical analysis revealed that the prevalence was not dependent on the age of the cattle ($p = 0.47$). Cattle aged more than 12 months old showed the highest infection rate at 54% (compared to those aged 0 to 3

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