ANTHELMINTIC EFFECT AND PHYTOCHEMICAL ASSAY OF SELECTED GRASSES AGAINST *Fasciola* spp. IN WATER BUFFALO (*Bubalus bubalis*)

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DOCTOR OF VETERINARY SCIENCE AND MEDICINE

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ACCEPTANCE SHEET

This undergraduate thesis entitled **"ANTHELMINTIC EFFECT AND PHYTOCHEMICAL ASSAY OF SELECTED GRASSES AGAINST *Fasciola* spp. IN WATER BUFFALO (*Bubalus bubalis*)"** prepared and submitted by **ARJAY B. REYES**, in partial fulfillment of the requirements for the degree of **DOCTOC OF VETERINARY SCIENCE AND MEDICINE**, is hereby accepted:

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BIOGRAPHICAL SKETCH

The author, Arjay Bernardo Reyes, was born on April 08, 1995 in San Antonio, Nueva Ecija. At present, he lives in San Jose City, Nueva Ecija. He was the youngest of Alberto Bernabe Reyes and Gloria Bernardo Reyes.

He took his primary education at Buliran Elementary School (A. Y. 2001 – 2016) where he was a constant honor student and graduated as the Class Salutatorian; secondary education at Cabiao National High School (A. Y. 2006 – 2010), where he was also a consistent honor student and active in leadership training and conferences and tertiary education at Central Luzon State University (A. Y. 2011 – 2017) for the degree of Bachelor of Science in Animal Husbandry. During his stint as a college student, aside from his involvement to co-curricular activities, he was also involved in extra-curricular activities.

He is elected as Treasurer of Veterinary Student Government (VSG) the highest governing student body at College of Veterinary Science and Medicine (A. Y. 2015 – 2016). On following year, he is elected as Vice-Governor of VSG (A. Y. 2016 – 2017). On the same year he also appointed as the first president of International Veterinary Students' Association, (IVSA), Central Luzon State University Chapter.; His passion in leadership and service continue as he elected as Grand SAVER of The Society for the Advancement of Veterinary Education and Research, (SAVER-CLSU Chapter (A. Y. 2017 – 2018). furthermore, he also elected become Secretary General of International Veterinary Students' Association, (IVSA)- Philippines, (A. Y. 2017 – 2018).

In 2019 after 2nd IVSA Philippine conference the author is elected as National President of International Veterinary Students' Association, (IVSA)- Philippines.

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ABSTRACT

REYES, ARJAY B., College of Veterinary Science and Medicine, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines. **June 2019, ANTHELMINTIC EFFECT AND PHYTOCHEMICAL ASSAY OF SELECTED GRASSES AGAINST *Fasciola* spp. IN WATER BUFFALO (*Bubalus bubalis*)**

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This study aimed to determine the effect of Guinea grass (*Panicum maximum*), Napier grass (*Pennisetum purpureum*) and Para grass (*Brachiaria mutica*) extract against adult liver flukes in buffaloes. Aqueous ethanol extract (10mg/ml) such grasses were prepared for anthelmintic trial against *Fasciola* spp. in buffaloes.

In all the treatments, Guinea grass leaf extract caused a significant mortality against adult liver flukes with percent mortality of 33.33%. Napier grass leaf extracts has a mean mortality of 26.67% has comparable anthelmintic effect with Guinea grass. On the other hand, para grass at 6.67% showed significantly lower fluke mortality than Guinea grass and Napier grass. All the plant treatments are not comparable with the positive control which had a mortality of 100%.

Histopathological changes such as vacuole formation, damage parenchyma and disruption of tegument were seen under microscope. Phytochemical screening of Guinea grass leaf extract showed presence of, saponins, this phytochemical constituent is responsible in the anthelmintic action of the extract. These findings indicate that the *Fasciola* spp. is vulnerable to selected grasses.

Keywords: Anthelmintic effect, *Fasciola* spp., In-vitro, Plant extracts, Saponins

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