

Study of Anthelmintic Resistance of Strongyle Nematodes of Ruminants in Thailand

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INTRODUCTION

Gastrointestinal nematodes (GINs) are widespread parasites of ruminants such as cattle and goats. Common genera include *Strongyloides*, *Haemonchus*, and *Trichostrongylus*. Infection can reduce productivity and cause clinical signs. Anthelmintic drugs, including albendazole, ivermectin (IVM), and levamisole, are widely used to control these parasites. IVM resistance has been reported in several countries, including Australia, Europe, and Bangladesh. In Thailand, IVM is commonly used for gastrointestinal parasite (GIP) control in cattle. However, evidence of IVM resistance in cattle in Thailand remains limited.



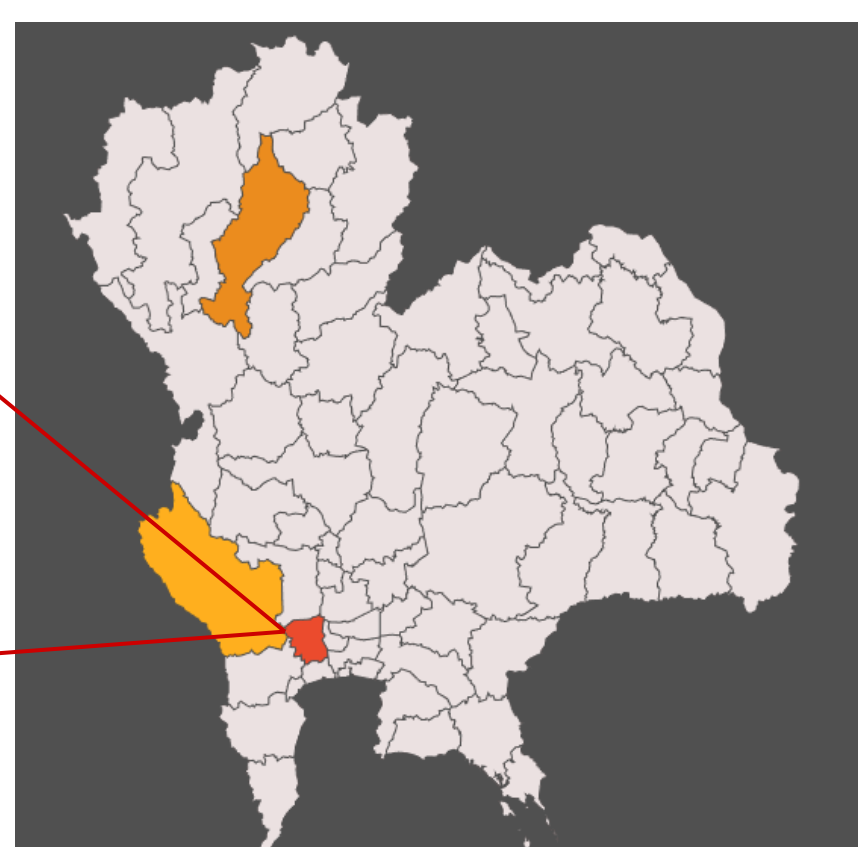
OBJECTIVE

To evaluate IVM resistance in cattle infected with strongyle nematodes in Thailand.

STUDY AREA

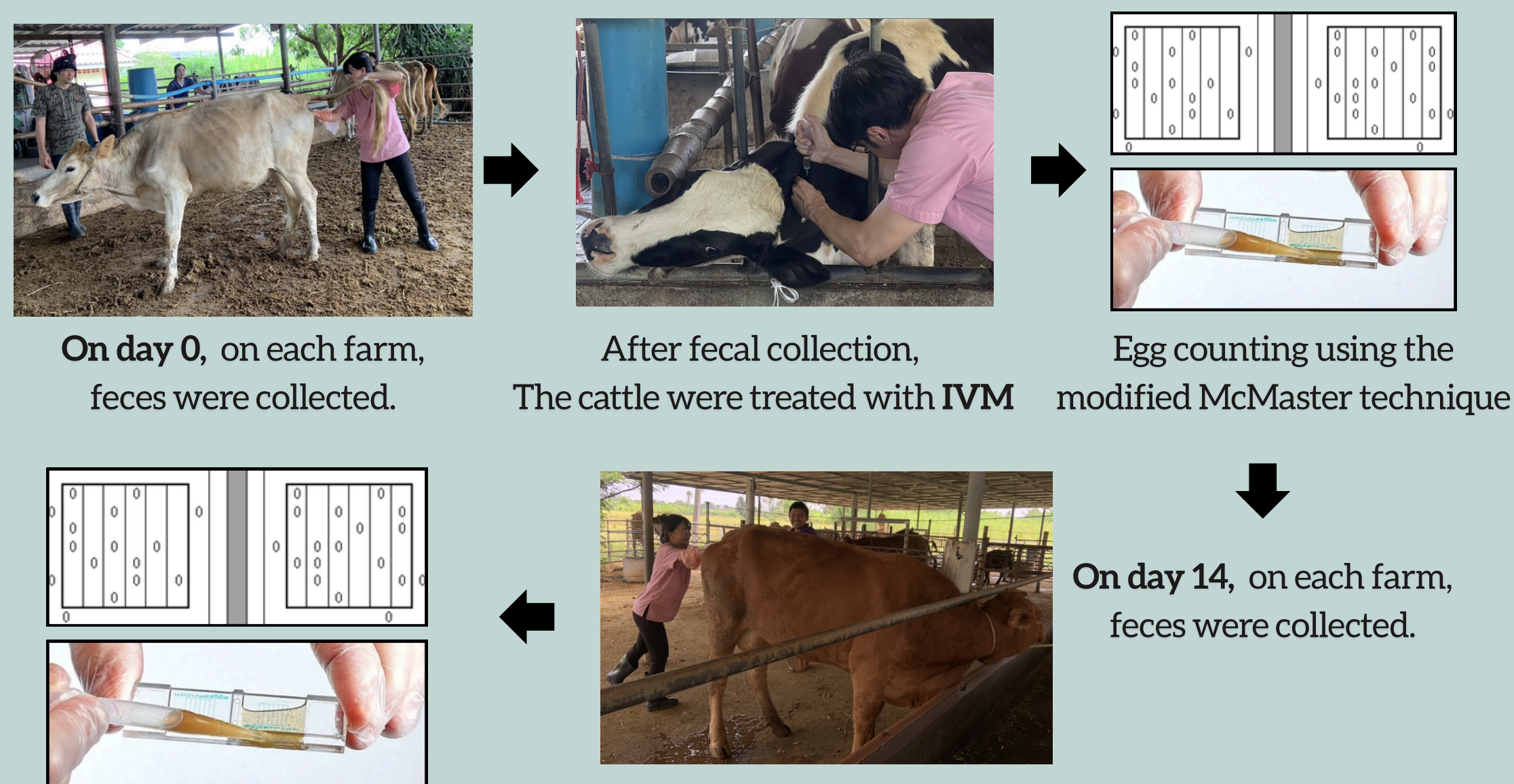
Kanchanaburi (n=12)

Nakhon Pathom (n=12)



METHODOLOGY ;

Fecal egg count reduction test (FECRT)



RESULT

Table 1 Detection of GIPs in cattle farms in this study

Province	Total farms	Strongylid eggs	<i>Moniezia benedeni</i>	Rumen fluke	Liver fluke	<i>Trichuris</i> spp.	<i>Strongyloides</i> spp.	<i>Capillaria</i> spp.	Protozoan oocysts
Nakhon Pathom	12	10	2	0	1	0	0	0	10
Kanchanaburi	12	11	2	1	1	3	2	3	9
Total	24	21	4	1	2	3	2	3	19

Table 2 Percentage FECRT, efficacy, and anthelmintic resistance status in farms with pre-treatment fecal egg counts ≥ 100 EPG in Nakhon Pathom and Kanchanaburi

Farm ID	FECRT (%)	95% CL (Lower - Upper)	Status
NP01	99.58	97.86 - 100.00	Susceptible
NP03	99.24	96.85 - 100.00	Susceptible
NP04	99.96	99.89 - 100.00	Susceptible
NP06	69.34	38.42 - 100.00	Resistant
NP09	93.06	67.63 - 100.00	Resistant
NP12	75.4	42.63 - 94.13	Resistant
KB06	82.04	48.35 - 100.00	Resistant
KB09	74.39	39.21 - 100.00	Resistant
KB10	99.55	97.64 - 100.00	Susceptible
KB12	58.66	18.94 - 88.29	Resistant

CONCLUSION

In this study, GINs were detected in 50.78% (65/128) of individual cattle and 87.50% (21/24) of farms. Strongylid eggs represented the most frequently identified parasite group, followed by protozoan oocysts, *Moniezia benedeni*, *Trichuris* spp., *Capillaria* spp., *Strongyloides* spp., liver flukes, and rumen flukes. IVM efficacy was evaluated using FECRT. IVM resistance was identified in 3 farms in Nakhon Pathom and 3 farms in Kanchanaburi, indicating variable parasite responses to treatment. These findings provide evidence of anthelmintic resistance in cattle in Thailand and highlight the need for routine efficacy monitoring to support parasite control strategies.

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