

Delaware State University Small Ruminant Program:

Research Update



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Research at DSU

- Isolate and test active ingredients of natural dewormers and their effect on adult and third stage parasite larvae *in vitro*
- Identification of chemical compounds with *in vitro* deworming effects on *Haemonchus contortus*
- Gastrointestinal nematode deworming resistance on small ruminant farms in Delaware
- Use of BioWorma to control parasite and reverse resistance
- Presence of *Toxoplasma gondii* in Delaware



Northeast Sustainable Agriculture, Research and Education Grant Programs

Partnership Grant Program

- Prevalence of *Toxoplasma gondii* on Small Ruminant Farms in Delaware (on going)

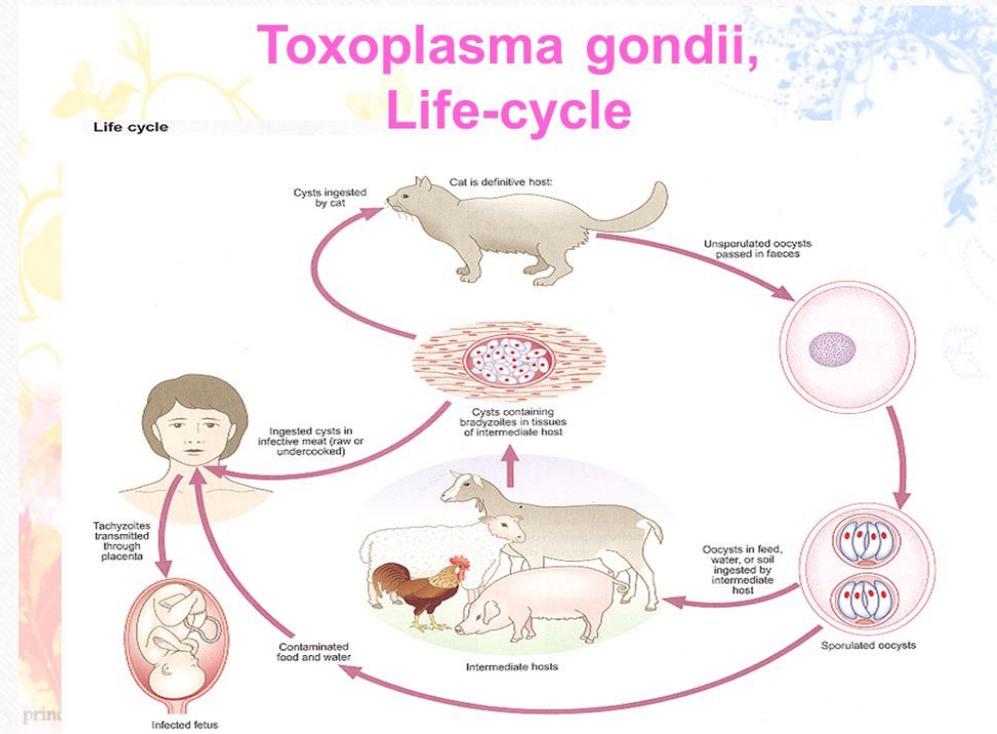
Research and Education Grant Program

- Increasing the Use of a Natural Fungus (*Duddingtonia flagrans*) To Control Internal Parasites in Small Ruminants (on going)



Objective

- Characterize the level and understand the impact of *T. gondii* infection on small ruminant farms in Delaware.

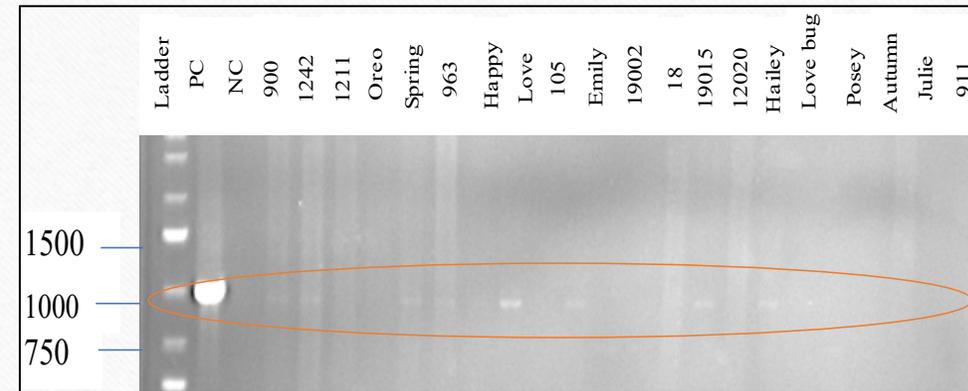


Molecular detection of *Toxoplasma gondii* using Polymerase Chain Reaction

SAG-1 DNA amplified in their white blood cell extraction



Molecular confirmation of *T. gondii* SAG-1 gene in fifteen goats White Blood Cell using PCR technique

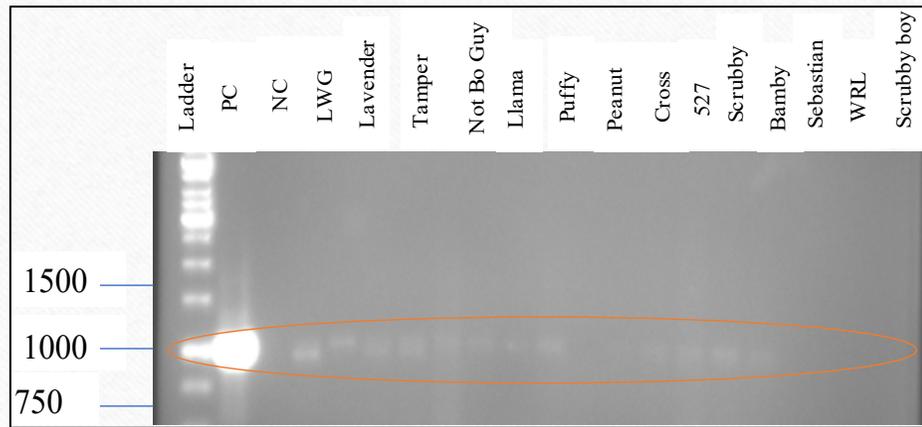


Gel image of *T. gondii* PCR amplicons in nineteen goats for farm number 3 in Delaware

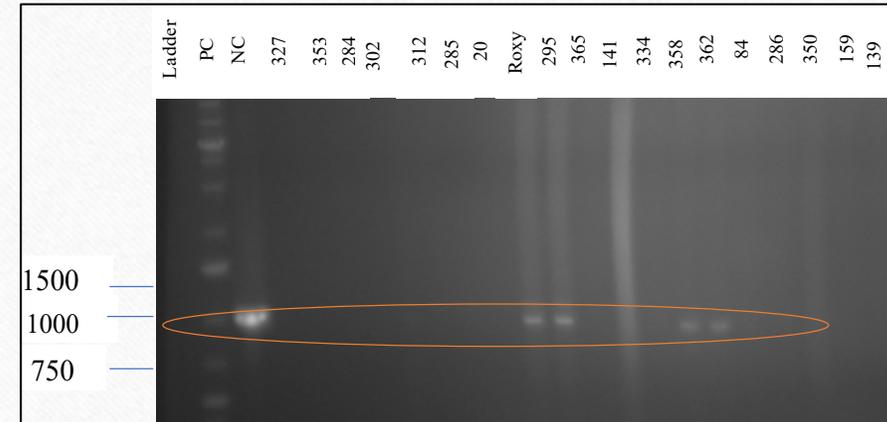


Molecular detection of *Toxoplasma gondii* using Polymerase Chain Reaction

SAG-1 DNA amplified in their white blood cell extraction



Molecular confirmation of *T. gondii* SAG-1 gene in fourteen sheep White Blood Cell using PCR technique

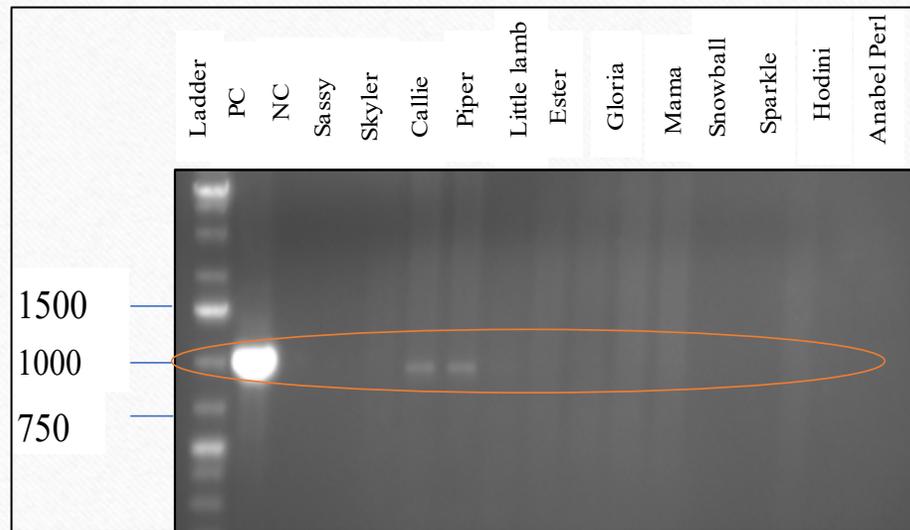


Molecular detection of *T. gondii* SAG-1 gene in nineteen goats using PCR technique

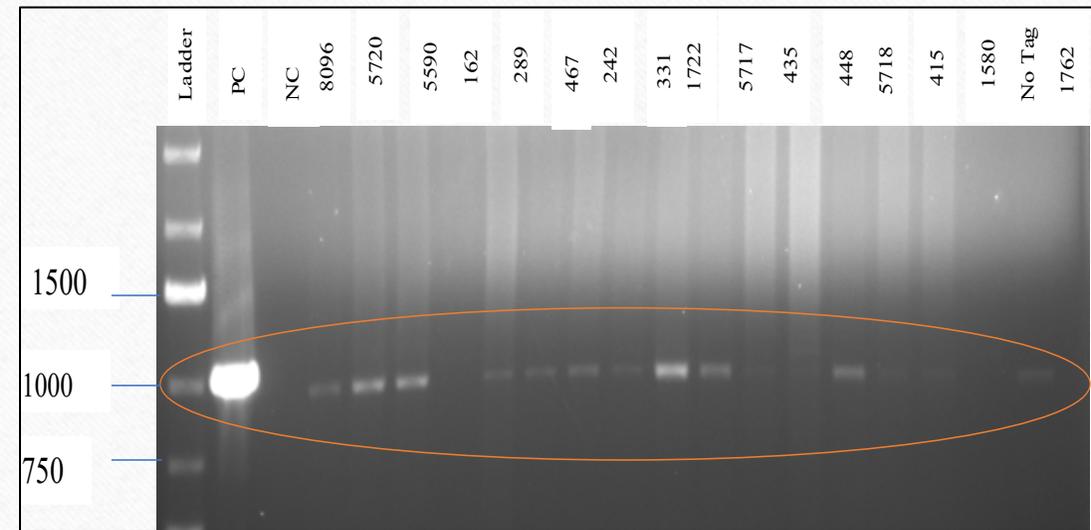


Molecular detection of *Toxoplasma gondii* using Polymerase Chain Reaction

SAG-1 DNA amplified in their white blood cell extraction



Gel image of *T. gondii* PCR amplicons in twelve goats for farm number 14 in Delaware



Molecular confirmation of *T. gondii* SAG-1 gene in seventeen sheep White Blood Cell using PCR technique



Survey results of farmers

- Survey indicated out of 14 producers, eleven (78.6%) had cats on their farms while three (21.4%) producer farms did not have cats.
- The survey indicated 72.7% of the cats were spayed/neutered and 91% of the farms allowed their cats to have access to feed and feed rooms (including hay and open grain).
- The data indicated that four (28.5%) out of 14 producers had abortions on their farms while ten (71.4%) producer farms did not have abortions.

Questions?????

