WATER

DETECTION OF *CRYPTOSPORIDIUM, GIARDIA,* AND *CYCLOSPORA* IN WATERS FROM GEORGIA

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Protozoan parasites have been associated with gastrointestinal infections in animals and humans. In the U.S., food and waterborne infections of cryptosporidiosis, cyclosporiasis and giardiasis have been well recognized. *Cryptosporidium, Giardia* and *Toxoplasma* are zoonotic parasites that infect domestic and farm animals. Surface water may become contaminated via the entry of infectious oocysts by agricultural run-off from adjacent farm animals or by accidental contamination from human sewage. The ubiquitous nature of these parasites, resistance to environmental conditions, small size, and low sedimentation rate make water or moist environments an optimal matrix where the oocysts can remain viable and infectious for long periods of time. These parasites can cause zoonotic infections and have a low infectious dose. They are resistant to sanitizers and disinfectants commonly used in the water and produce. Because of these factors, parasites and water quality are a priority for food production and processing.

The role man and domestic/farm animals may play in contaminating recreational waters (lakes and rivers) and the subsequent contamination of our food supply in Georgia is unknown. In 2007, rivers and lakes of the central regions of Georgia were sampled and examined for the presence of parasites. Of those 18 environmental water samples, 4 had *Cryptosporidium*, 9 *Giardia* and 1 *Eimeria*. The locations with more parasites were the Flint and Appalachian Rivers.

Parasites identified in waters suggest that human and animal waste are present in these rivers and that they may play a role in contaminating animals and crops that use this water for irrigation. More studies are needed to evaluate the impact of these parasites in irrigation waters.