



The University of Georgia

College of Veterinary Medicine
Department of Infectious Diseases

DrenchRite® Larval Development Assay: for the laboratory detection of anthelmintic (dewormer) resistance

DESCRIPTION:

The DrenchRite® Larval Development Assay is an *in vitro* test for the detection of resistance to benzimidazole (e.g. Valbazen, Safeguard), levamisole (e.g. Totalon, Levasol, Prohibit), benzimidazole/levamisole combinations, and avermectin/milbemycin (Ivomec, Cydectin) anthelmintics in the major gastrointestinal nematode parasites infecting goats and sheep. Nematode resistance to all drug classes listed above are tested for in each assay from a single pooled fecal sample. In this assay, nematode eggs are isolated from feces and placed into the wells of a microtiter plate containing growth media and anthelmintic. The concentration of anthelmintic required to block development of nematode larvae is related to the effectiveness of the drug in the animal.

This test offers a diagnostic alternative to the laborious task of performing fecal egg count (FEC) reduction tests in order to determine the effectiveness of dewormers. All that is needed to perform the DrenchRite is a pooled fecal sample from 10 or more animals containing adequate numbers of nematode eggs. The mean FEC in the sample should be > 350 eggs per gram (EPG), but samples with mean FEC >500 are preferred. In general, the higher the mean FEC, the better the assay works. This is because when more eggs are present we can do a much cleaner extraction of the eggs from the feces. The test can be done with fewer than 10 animals, but it is recommended to include at least 6. If *Haemonchus contortus* (barber pole worm) is your primary concern (this is the most common), and you are using the FAMACHA® system, only select animals scored as 3, 4, or 5. Animals scored as 1 or 2 usually will have low FEC.

FOR MORE INFORMATION CONTACT:

Ms. Sue Howell (in lab of Ray M. Kaplan, DVM, PhD)

Department of Infectious Diseases

College of Veterinary Medicine

University of Georgia

Athens, GA 30602

voice: (706)-542-0742

fax: (706)-542-0059

email: showell@vet.uga.edu