EARLY DETECTION OF AN ARTIFICIAL HAEMONCHUS CONTORTUS INFECTION IN SHEEP USING THREE DIFFERENT FAECAL OCCULT BLOOD TESTS

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Haemonchus contortus is one of the main constraints to sheep production systems in Uruguay because of its pathogenic power and ability to develop resistance to all anthelmintics. This blood-feeding parasite of sheep's abomasum has shown to start feeding of the host´s blood 11 days post infection, which causes blood presence in the host's stool. In H. contortus infections there is a strong correlation between blood loss and the number and parasites biomass and egg production. For this reason, methods that determine hemoglobin or other blood products in the stool could be used to determine levels of infection. The objective was to show that using three different faecal occult blood test (FOB) available at market in Uruguay is possible to detect early infection (day + 11) and ahead of the parasite egg production that begins after day 18. Corriedale male-lambs (n=29), 6 months-old of age. Lambs were previously dosed with Monepantel and were subsequently checked and confirmed as free of gastrointestinal nematodes. The animals were kept under loose housing system, not having access to pastures to avoid the interference of other parasitic genera by artificial infection. The feed was serving (70% sorghum and 30% sunflower), bales of alfalfa and water *ad libitum*. The lambs were challenged with 8000 larvae 3 *per os* of *Haemonchus contortus* pure cultures, in two doses separated by 48 hours. On 5, 11 and 18 days after receiving the infective dose stool samples were taken to faecal worm egg count (FEC) and 3 FOB Test were used:

1) Hexagon OBScreen ®,

2) HEMATEST ® and

3) Multistix ®.

At day + 5 all the animals were negative to FOB Tests and FEC. The three tests used were able to detect the presence of occult blood in the stool at 11 days post infection in 21 animals (72%), while the FEC of all animals were cero at the same time using a sensitivity of 100. At day +18 all the animals tested were positive for occult blood in faeces and FEC was positive in 100% of the cases (mean 417 FEC). We conclude that FOB Tests available in Uruguay can be used for early detection of pure infections of *Haemonchus contortus*. Anyway, more research is needed to determine if FOB Tests are useful to detect natural mixed infections and to determine levels of infection. Also, it will be necessary to explore de ability of this kind of tests to determine anthelmintic efficacy with early detections of blood presence after a treatment.