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September 14th, 2017

Updates on fecal parasitological analysis

Dear clients,

The WSVL parasitology unit will update its fecal analysis offers starting October 1st, 2017.

1) Fecal float

The fecal float resulting will be improved. By now, absolute numbers of fecal egg or oocyst counts, respectively, are reported. However, the interpretation and evaluation of these absolute numbers may be challenging because the importance of findings varies with the different detected parasite species. In some parasites, low numbers will be of high relevance while in others, even high numbers will be meaningless.

Thus we will change our resulting system for routine fecal float analysis to a semi-quantitative scoring system. The scores will be adjusted to each respective parasite in order to provide more meaningful results. The scores will be assessed for each parasite according to the widely accepted correlation between oocyst/ egg excretion and clinical importance. The score will range from 0 through +++ with the following degrees: 0, no parasitic stages seen; (+), single stages seen only; +, low excretion level; ++, moderate excretion level, +++ high excretion level. In addition, an interpretation of the presumed relevance will be included in the diagnostic summary. Of course, our clients will still have to match the diagnostic findings with clinical appearance of the sampled animal carefully since the course of parasitic diseases can vary greatly in individual animals even at high excretion levels. Nevertheless, we aim at providing a maximum of information with the new scoring system for fecal floats.

2) Offer of a Fecal Egg Count Reduction Test

We will newly offer a Fecal Egg Count Reduction Test (FECRT). The aim of this test is to determine the efficacy of an applied antiparasitic treatment against intestinal roundworms. This test comprises the analysis of an individual or collective fecal sample taken before

treatment (pre-treatment analysis), the analysis of a fecal sample taken from the same animal (or collective sample from the treated animal group, post-treatment analysis) at 10 to 14 days after treatment, and an evaluation of resulting efficacy of the performed treatment. The method used for the FECRT is a modified McMaster method for quantitative fecal egg counts. The FECRT is recommended mainly for horses and ruminants due to common dewormer resistance issues.

3) Offer of a horse strongyle identification

We will newly offer a coproculture assay for horse strongyle larvae allowing identification of large and small strongyles. This aims at improving the correlation of clinical disease and fecal float findings and allows a better insight into the relevance of strongyle egg findings.

Please note that the fecal egg count reduction test (FECRT) and the strongyle identification will require a higher sample volume than a conventional float (FECRT: approx. 10g minimum sample, strongyle identification: approx. 50g minimum sample).

For any questions, please contact us.

With best regards



Dr. Berit Bangoura, Veterinary Parasitologist, WSVL

Attachment: Semiquantitative scoring system for common parasites

Semiquantitative scoring system of fecal egg/oocyst counts: Data interpretation from fecal float

| host | parasite | mean no. of "eggs/oocysts per field of view 10x objective" related to respective category | | | | relevant no. | |
|-----------|---|---|---|------|-------|--------------|---|
| | | - | (+) | + | ++ | | +++ |
| ruminants | Eimeria spp. per species trichostrongylids | 0 | 1 | 2-5 | 5-10 | >10 | E. bovis, E. zuernii, E. alab.: ++ (herd relevance: >0) |
| | | 0 | 1-2 | 3-10 | 11-15 | >15 | ++ |
| | | 0 | 1-2 | 3-5 | 5-10 | >10 | ++ |
| | | 0 | 1-2 | 3-10 | 11-20 | >20 | ++ |
| | | 0 | 1-2 | 3-5 | 6-10 | >10 | ++ |
| | | 0 | 1-2 | 1-2 | 3-10 | >10 | >0 |
| | | 0 | 1 | 2-5 | 2-5 | >5 | >0 |
| | | 0 | 1 | 2-3 | 2-3 | >3 | >0 |
| | | 0 | 1-2 | 1-2 | 3-10 | >10 | >0 |
| | | 0 | 1-2 | 3-5 | 6-10 | >10 | ++ |
| | | 0 | 1-2 | 3-5 | 6-10 | >10 | ++ |
| | | 0 | 1-2 | 3-5 | 6-15 | >15 | +++ |
| | | 0 | n.a. (often false negative - in proglottids) | | | | >0 |
| | | 0 | n.a. (often false negative - in proglottids) | | | | >0 |
| | | horse | Eimeria leuckarti small strongyles large strongyles* Strongyloides** Parascaris Oxyuris*** Anoplocephala/Par- | 0 | 1-2 | 3-5 | 5-10 |
| 0 | 1-2 | | | 2-5 | 5-15 | >15 | ++ |
| 0 | 1 | | | 2-3 | 4-5 | >5 | >0 |
| 0 | 1 | | | 2-3 | 4-5 | >5 | ++ |
| 0 | 1-3 | | | 4-10 | 11-20 | >20 | ++ (foals: >0) |
| 0 | 1-2 | | | 3-5 | 5-15 | >15 | >0 (Scotch tape test recommended) |
| 0 | n.a. (often false negative - in proglottids) | | | | | | >0 |

mean no. of "eggs/oocysts per field of view 10x objective"

| host | parasite | related to respective category | relevant no. |
|------------|------------------------|--|--------------------------------|
| carnivores | Cystoisospora spp. | - | +++ |
| | Toxoplasma/Neospora | 1 | >10 |
| | hookworms | + | >10 |
| | Trichuris | 1-2 | >10 |
| | Strongyloides** | 1-2 | >10 |
| | Capillarid species | 1-2 | >10 |
| | Toxocara/Toxascaris | 1-2 | >10 |
| | tapeworm | 1-3 | >20 |
| | | n.a. (often false negative - in proglottids) | >0 |
| | | ++ | species dependent >0 to -- |
| | | + | >0 |
| | | ++ | Ancylostoma: >0, Uncinaria: ++ |
| | | + | >0 |
| | ++ | species dependent >0 to -- | |
| | + | ++ (puppies: >0) | |
| | + | >0 | |
| pig | Elmeria spp. total | 1 | >30 |
| | Cystoisospora | 1-2 | >20 |
| | Balantidium | 1-3 | >30 |
| | strongyloids total**** | 1-2 | >15 |
| | Trichuris | 1-2 | >10 |
| | Strongyloides** | 1-2 | >10 |
| | Ascaris | 1-2 | >15 |
| | Metastrongylus | 1-2 | >10 |
| | spirurid eggs | 1-2 | >10 |
| | Macracanthorhynchus | 1-2 | >10 |
| | | + | +++ |
| | | + | neonatal pigs: + |
| | | + | +++ |
| | ++ | ++ (herd health: >0) | |
| | ++ | ++ | |
| | ++ | ++ (herd health: >0) | |
| | ++ | ++ (CAVE: sedimentation preferred) | |
| | + | ++ (CAVE: sedimentation preferred) | |
| | + | + | |

*if differentiation from trichostrongylids/small strongyles possible

**mostly free larvae found - lower sensitivity in float

***incidental finding

****larval culture for differentiation of Hyostrongylus, Oesophagostomum, Globocephalus, Trichostrongylus