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TITLE
DIAGNOSIS OF CYSTOISOSPORA SUIS OOCYSTS IN STEATORRHOEIC PIGLET SAMPLES

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CONTENT
Detection of oocysts is a hallmark of the diagnosis of coccidiosis, including suckling piglet cystoisosporosis. However, in practice rapid and simple detection is often severely hampered by the high fat content of suckling piglet samples. In steatorrhoeic samples the formation of lipid bubbles can lead to misdiagnosis of oocysts (false positive results) and centrifugation leads to formation of fat plugs that can entrap oocysts and completely prevent their recovery from the suspension (false negative results). Several options are available for circumventing these problems. In faecal smears, oocysts can be detected with increased specificity by staining or by autofluorescence. Staining of smears requires additional steps increasing examination time and many stains are toxic and inconvenient to handle. Autofluorescence examination can be conducted without staining or labelling of the sample but requires a suitable fluorescence equipment (light bulb, filters). Equipment for fluorescence microscopy can easily be adapted. In a direct comparison of paired samples, autofluorescence microscopy proved to be more sensitive than carbolfuchsin staining. The calculated sensitivity of autofluorescence for 0.1 g of faeces is 10 oocysts per gram of faeces (OpG). Autofluorescence microscopy of faecal smears permits only semiquantiative evaluation of samples. For determination of oocyst concentrations in a faecal sample a modified McMaster technique can be used which was originally developed by Christensen and Henriksen (1992) and adapted to small amounts of faeces. It requires 0.5 g/sample and has a detection limit of 333.3 OpG when two McMaster chambers (=300 µl) are counted. The use of a combined sugar-salt solution and the removal of debris by inverted punch-sieving greatly reduces the formation of lipid droplets in the McMaster chamber. Both methods can be used on individual as well as litter-collected samples to detect initial infection and to determine treatment efficacy.