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Faecal egg count reduction percentage calculations to detect anthelmintic resistance in *Oesophagostomum* spp. in pigs.

[Dangolla A](#), [Bjørn H](#), [Willeberg P](#), [Barnes EH](#).

Source

Department of Animal Science and Animal Health, Royal Veterinary & Agricultural University, Frederiksberg C, Denmark.

Abstract

The results of four alternative methods of mean faecal egg count reduction percentage (FECR%) calculations were evaluated and compared using data obtained for *Oesophagostomum* spp. from ten sow herds. The estimates of FECR% and 95% confidence limits obtained using the four methods were different. However, there were few discrepancies in the final decision as to whether a given herd carried drug resistant isolates or not. The methods that used geometric means were more appropriate than those that used the arithmetic mean as the measure of central tendency for eggs per gram of faeces (EPG) values. The use of geometric mean EPG values in calculations has been criticized from several viewpoints, one of which is that its use reduces the comparability of reports between laboratories. If the geometric mean is to be used as we suggest in FECR% calculations, the appropriate references, number of animals in each group, minimum and maximum EPG values and the factor added to zero EPG counts should be reported in order to improve the comparability. The difficulty in obtaining groups with similar pre-treatment EPG values in field situations suggested the inclusion of pre-treatment EPG values in the calculations as an adjustment procedure. The importance of including a non-treated control group in calculations was demonstrated during this study. Therefore, we suggest the use of geometric mean EPG values, to include pre-treatment EPG values and to include the egg counts from the control group in FECR% calculations. The interpretation of the resulting FECR estimate may be different according to the purpose for which the testing procedure is carried out, e.g. survey in detecting anthelmintic resistance, control field tests, etc.