Determination of drinking water and wastewater quality in cattle farms

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Abstract

Water plays an important role in any livestock production system as it as an essential medium for animal metabolism as well as an important cleaning medium. It is important that the quality of the drinking water is maintained at a certain level so as to lessen the possible adverse effects on the animals. According to the National Water Quality Standards, any water source with a classification of Class III and less is deemed suitable for animal consumption. At the same time, most cattle farms in Malaysia do not do proper treatment of their wastewater before releasing them into water bodies such as drains, rivers and lakes. In this study 7 cattle farms were selected and both drinking water and wastewater samples were collected for analysis. The water samples were analysed in-situ and at the lab for the following 15 parameters; dissolved oxygen, pH, salinity, electrical conductivity, turbidity, biological oxygen demand, chemical oxygen demand, total suspended solid, total dissolved solid, ammoniacal nitrogen, nitrate, phosphates, total coliform, iron and magnesium content. The results were then compared with the National Water Quality Standards and the overall classification for each water sample was decided. The results for drinking water were as follows; 1 (14.29%) Class II, 2 (28.57%) Class III, 2 (28.57%) Class IV and 2 (28.57%) Class V. Meanwhile, all the wastewater samples were categorized as Class V.

Keywords: Drinking water, wastewater, National Water Quality Standards.

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