

Effects of feeding napiergrass and corn silage on wastewater treatment of finishing pigs ⁽¹⁾

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Abstract

The objectives of this study were to evaluate the effects of feeding two sources of domestic forage, including napiergrass and corn silage, on wastewater treatment of finishing pigs. Forty LYD finishing pigs (half barrows and half gilts) at averaging 80 kg BW were randomly assigned to individual pens. The pigs were randomly allotted into five treatments with 8 replications. The 5 treatmental groups were as follow : BD (basal diet *ad libitum*) (control group), 2.5 kg BD with napiergrass *ad libitum* (2.5 BDN), 3 kg BD with napiergrass *ad libitum* (3.0 BDN), 2.5 kg BD with corn silage *ad libitum* (2.5 BDC) and 3 kg BD with corn silage *ad libitum* (3.0 BDC). All the forages and water allowed to access *ad libitum*. The slurry samples of each treatment were collected and conducted to the simulating wastewater treatment facilities. The results showed that the COD, BOD and SS of influent were not significantly different among five groups. In anaerobic treatment stage, the COD, BOD and SS of effluent were 492-636, 113-178 and 114-158 mg/L and the removal rate of COD, BOD and SS were above 87%, 88% and 95%, respectively. In aerobic treatment stage, the removal rate of COD and BOD were above 51%. The biogas yield of BD, 2.5 BDN, 3.0 BDN, 2.5 BDC and 3.0 BDC were 140, 139, 136, 154 and 146 L/kg COD/d, respectively.

Key words: Corn Silage, Napiergrass, Wastewater, Pig.

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