



EFFECT OF BIOLOGICAL TREATMENTS TO IMPROVEMENT ON IN VITRO DIGESTIBILITY FOR RICE STRAW

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Keywords: Biological treatments, In vitro digestibility, Rice straw

ABSTRACT

This study was conducted to investigate the effect of biological treatments to improvement on the in vitro digestibility disappearance for rice straw. The parameter used in this study includes; gas production, IVDMD, IVMOD and pH value. The experiment was divided into seven treatments:

- 1st treatment: considered as control group was used 3g from straw only.
- 2nd treatment: Fibrolytic enzymes group 0.3g with 3g from straw.
- 3rd treatment: Fibrolytic enzymes group 0.4g with 3g from straw.
- 4th treatment: Saccharomyces cerevisie group 0.3g with 3g from straw.
- 5th treatment: Saccharomyces cerevisie group 0.4g with 3g from straw.
- 6th treatment: The mix group between fibrolytic enzymes group 0.3g and Saccharomyces cerevisie group 0.3g with 3g from straw.
- 7th treatment: The mix group between fibrolytic enzymes group 0.4g and Saccharomyces cerevisie group 0.4g with 3g from straw.

The results showed a significant increase ($P < 0.05$) of 6th group in gas production as compared with 3rd group at the beginning of the experiment. Also the 3rd group showed a significant increase ($P < 0.05$) in gas production as compared

with 5th group after 10 hrs. from the period of incubation. It has been observed that there was a significant increase ($P < 0.05$) in the 3rd group in gas produced as compared with 4th and 5th group after 12 hrs from the period of incubation. The result also showed a significant effect ($P < 0.05$) in the 2nd and 6th groups in the gas production as compared with 5th group after 24 hrs the period of incubation. It has been observed after 48 hrs the period of incubation, there was a significant effect ($P < 0.05$) in gas produced in all treated groups as compared with 5th group. It has been noticed from the experiment that there was result a significant increase ($P < 0.05$) in 5th, 6th groups of pH value as compared with 2nd and 4th groups. The results showed a significant effect ($P < 0.05$) in the 3rd group in IVDMD as compared with 6th group, Similarly, there showed a significant effect ($P < 0.05$) in the 1st, 3rd, 5th, 6th, 7th groups in the IVDMD as compared with 4th group. There was also a significant effect ($P < 0.05$) in the 3rd in IVMOD value than that with 6th group. It has been shown that there was a significant effect ($P < 0.05$) in the 6th group of IVMOD value as compared with 2nd, 4th and 7th groups. Finally it has observed that there was a significant effect ($P < 0.05$) in the control group (1st), 5th and 7th groups in IVMOD value as compared with 4th group.

It was concluded from this study that addition of fibrolytic enzymes and a combination of fibrolytic enzymes and saccharomyces cerevisie could improve digestibility of rice straw in vitro.

(Received 3 May, 2016)
(Revised 16 May, 2016)
(Accepted 29 May, 2016)

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