Evaluation of the Growth and Yield of maize (Zea mays), Mung Bean (Vigna radiata), and Paddy (Oryza sativa) in a Hydroponic Fodder System

Supervised by Adib Norma Respati, S.Pt., M.Sc.

Wahyu Firmansyah

Study Program of Animal Feed Technology
Departement of Animal Science

ABSTRACT

The availability of green fodder is a key concern for meeting ruminant feed needs. Hydroponic fodder offers a solution by providing quick forage production that is independent of the seasons.. This study aimed to evaluate the growth and production of maize (Zea mays), mung bean (Vigna radiata), and paddy (Oryza sativa) using a hydroponic fodder system. The research stages included rack construction, seed preparation, soaking, sowing, plant maintenance, harvesting, and data collection. Data were analyzed using a Completely Randomized Design (CRD) followed by Duncan's Multiple Range Test (DMRT). The observed parameters included plant height, leaf number, leaf width (diameter), leaf length, and fresh matter yield. The results indicated significant differences ($P < 0.05$) in plant height, leaf length, leaf width, and fresh yield, while the number of leaves showed no significant difference. In conclusion, maize demonstrated the superior growth performance in terms of leaf dimensions. However, mung bean achieved the highest fresh production compared to maize and paddy.

Keywords: *hydroponic fodder, maize, mung bean, paddy, growth production.*