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Evaluation of improved forages for improved livestock nutrition and productivity in the northwest highlands of Vietnam

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Abstract

Livestock production is an integral part of farmers' livelihoods in the Northwest Highlands (NWH) of Vietnam. Son La province in NWH has implemented new policies and programmes to support the expansion of livestock, aiming to increase cattle productivity. However, farmers have limited knowledge on suitable forage types, management practices, and utilisation that lead to low productivity. Cattle are fed using native pastures, crop residues, and grazing on communal land and forests. Moreover, this region faces feed-related challenges such as low-quality forages (mainly Napier), feedstuff and winter feed shortage. To address these challenges, development partners in Vietnam, in the frame of the CGIAR initiative on Sustainable Animal Productivity, are piloting a pipeline of innovations including feeds and forages interventions. The objective of this study is to evaluate the potential of improved forages well-suited to the local soil, climate, and farming conditions, in addressing winter feed shortage and ensuring year-round feed availability. Eight improved forage varieties including Mun River Guinea, Mombasa Guinea, Mulato II, Green Elephant grass (GE), Napier grass (VA06), biomass maize (BM), Ubon Stylo and rice bean were evaluated through demo farms and farmer-led trials, and capacity building of farmers and local stakeholders on forage establishment, management, and utilisation. Various plant growth parameters, including biomass yields, were evaluated to assess adaptation during both the wet and dry seasons. Initial results reported that GE, BM, VA06, Mun River Guinea and Mombasa Guinea exhibited robust growth and yield (35 – 48 t ha⁻¹) during the rainy season. In the dry season, GE, Mulato II and Mun River Guinea recorded the highest biomass yield, despite a significant decline in yield as compared to the rainy season. These varieties also received positive feedback from both local partners and farmers. Among legumes, rice bean reported better growth and yield better than Ubon Stylo. However, stylo is a perennial crop which can offer long-term usability despite slower growth. The results show that improved forages are crucial to combat feed shortages and have the potential to enhance livestock productivity and efficiency in NWH, laying a good foundation for scaling to contribute to sustainable livestock development in the region.

Keywords: Dry season, feed, improved forages, livestock productivity