

**EFFECT OF HARVESTING TIME ON YIELD AND  
COMPOSITION OF SIX FODDER SORGHUM  
CULTIVARS**

A dissertation submitted to the  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University  
in partial fulfillment of the requirement of  
the degree of  
Bachelor of Animal Science

By

**DOLAMULLA KANKANAMGE THUSHAN NIPUNA**

Department of Animal Science  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University

**2016**

## ABSTRACT

In this study, six forage sorghum cultivars were compared to determine the effect of delayed harvesting time on the changes in yield and forage quality. Field experiments were conducted during the August to November 2016 at CIC Muththuwella farm Pollonnaruwa. Six forage sorghum cultivars (Dairy Green, Milkon, Poshan, ICSV 112, DFSH 38 star, 5X-17) were harvested at two different growing sages (Harvest at 60<sup>th</sup> days, Harvest at 75<sup>th</sup> day). Each treatment replicated three times and data were analyzed using two-way ANOVA and Tukey's mean separation. Plant height, leaf/ stem ratio, plant weight, leaf area, length of leaf was measured at two different growth stages to determine the forage yield. Nutritional composition (dry matter-DM, crude protein-CP, crude fiber-CF and Ether Extract-EE) were analyzed at two different growth stages to determine the forage quality. The results revealed that, leaf area, plant height, plant weight, crude fiber and dry matter contents tended to increase ( $P < 0.05$ ) with advanced planting maturity, while leaf/stem ratio and crude protein contents tended to decrease with advanced planting maturity. Dry matter content of all sorghum cultivars harvested during soft dough stage were higher than 34%. These findings have shown that suitable harvesting time of forage sorghum is soft dough stage for high yield and forage quality. None of these sorghum cultivars should not be harvest before bloom stage due to low dry matter content.

Key words: Forage sorghum, Forage yield, Forage quality, Growth stage, Harvesting time,