IDENTIFICATION OF MOST SUITABLE SILO FOR LIVESTOCK FARM IN EASTERN UNIVERSITY, SRI LANKA

BY

A.G.D. THILINA MADUSHANKA WIJERATHNA

FACULTY OF AGRICULTURE
EASTERN UNIVERSITY, SRI LANKA

2018

ABSTRACT

Limitation of feeds in dry season is the main barrier of small scale and medium scale dairy farmers in eastern region in Sri Lanka. And also it causes to low production in dry season. Forage conservation in the form of silage is an option to increase dry season feed availability.

Therefore, this study was carried out in the Livestock Farm, Faculty of Agriculture, Eastern University, Sri Lanka to identify the most suitable silo among plastic barrel silo, polybag silo, stack silo and trench silo.

The four silos mentioned above were used as treatments with four replications. The experiment was conducted as Complete Randomized Design because of all silos that used for the experiment were in same environmental condition.

Chopped CO3 grasses were used as silage material and silos were filled and sealed properly. Sugar was added by mixing with silage material as a silage additive.

After 21 days silos were opened and samples were taken for analyzing silage characteristics. Physical properties such as colour, odour and texture of silage from four different silos were measured by eye appraisal and sensory evaluation.

Wastage and pH were measured using pH meter and balance and proximate composition of silage was measured and analyzed.

Among the barrel silo, polybag silo, stack silo and trench silo, the barrel silo has low pH value and low wastage. In barrel silo proximate composition of silage also in agreement with the standard range of proximate components. There are high pH value and high wastage of silage from polybag silo than plastic barrel silo, stack silo and trench silo.

Proximate composition of silage from plastic barrel silo has significantly higher difference than polybag silo. Based on the results it was concluded that plastic barrel is the most suitable silo for the Livestock Farm in Eastern university, Sri Lanka.

TABLE OF CONTENTS