

Crop Storage Institute

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FACT SHEET UW SILAGE BAG STUDY FACTS

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--25 bags at three different sites were included in this study for which all data except dry matter loss has been measured

-13 of them have been emptied and dry matter losses have been calculated for these 13 bags

--3 different models of bagging machines were used

-Ag Bag G600 (8-ft diameter, 100 and 200-ft bags)-Ag Bag 6009 (9-ft diameter)

-Kelly Ryan DLX (9-ft diameter)

--Average moisture content of haylage varied from 51.1% to 55.3%

--Average moisture content of corn silage varied from 60.5% to 63.9%

--Dry matter densities of haylage varied from 10.9 lbs/cu ft to 15.9 lbs/cu ft

-Average dry matter densities for hay on each research station and bag machine ranged from 13.1 to 14.6 lbs of dry matter/cu ft

--Dry matter density of corn silage ranged from 10.3 lbs/cu ft to 17.7 lbs/cu ft

-Average dry matter densities of corn for each research station and bag machine ranged from 11.0 to 14.5 lbs of dry matter/cu ft

--Little to no correlation shown between dry matter density and filling rate, moisture percentage, or load weight

-Correlation with particle size to be determined at completion of study

Average Filling Rates

--62% moisture corn silage: 84.2 tons/hour

--55.3% moisture haylage: 42 tons/hour

-corn silage: 32.0 tons of dry matter/hour

-haylage: 19.9 tons of dry matter/hour

Maximum Filling Rates

--62% moisture corn silage: 167 tons/hour

--55.3% moisture haylage: 132 tons/hour

-corn silage: 63.8 tons of dry matter/hour

-haylage: 62.8 tons of dry matter/hour

Total Dry Matter Losses

-Losses ranged from numbers typical of sales literature (4.2%) to extreme losses (38.2%)

- Largest losses associated with problems; holes in bag, seepage, etc.
- Not including the two bags with the highest losses, dry matter loss averaged 8.5%
- Including the two bags with the highest losses, average dry matter loss was 12.8%
- Density and feed out rate have not significantly correlated to levels of dry matter loss
- Feed out rates range from less than 1 foot to unloading the bag in 2 or 3 periods to
Move into a tower silo