



**How Much Silage Is In That Wagon?**

Many times as an Extension Agent I get asked questions about purchasing forages out of the field. One of the most difficult parts of this procedure is determining the amount of dry matter harvested from the field. The most effective way of determining this is to weigh each load, or to obtain an estimate by weighing selected "average" loads. Many times, however, this is not convenient or feasible.

Recently, researchers at the University of Wisconsin Marshfield Agricultural Experiment Station weighed and measured haylage/silage produced on the farm for three years. According to Mike Rankin, University of Wisconsin, average depth of forage was estimated and moisture samples were taken for each load as they passed over the scale.

Table 1 gives the average silage dry matter density (lbs per cubic foot) on the wagons. For the various types of forage, the range is from 4.6 lbs. DM/ft<sup>3</sup> to 5.7 lbs. DM/ft<sup>3</sup> with an average of about 5.0 pounds per cubic foot. According to the data gathered, forage density did not vary greatly with forage type or moisture.

Rankin states, knowing this, it is now possible to estimate the load on a wagon by multiplying volume times density. Let's look at an example. A wagon measuring 16 ft long by 7.25 ft wide and filled to a depth of 6 feet with second cutting alfalfa haylage has a volume of 696 cubic feet (16 x 7.25 x 6). To determine the amount of dry matter on the wagon, multiply the cubic feet times 5 lbs of dry matter per cubic foot (from Table 1). This comes to 3480 lbs of dry matter (696 x 5).

To convert this back to "as fed" weight, divide the dry matter content (as a decimal) into the dry matter lbs. If our second cutting alfalfa haylage is 60% moisture (40% dry matter), we would divide 3480 lbs. by 0.40 to get 8700 lbs. as fed.

**Table 1. Average Silage Dry Matter Density on Wagons Weighed at the University of Wisconsin Marshfield Ag. Research Station**

Forage	Cutting	Avg. Density lbs. DM/ft <sup>3</sup>	Avg. Dry Matter (%)	Sample Size (No. of Loads)
Haylage	First	5.67	45.6	30
Haylage	Second	5.00	47.0	119
Haylage	Third	5.10	51.7	85
Haylage	Fourth	4.95	56.7	11
Corn Silage	Not Applicable	5.05	34.4	151
Grass	All	4.55	43.5	7
Clover	All	5.48	48.3	38
Oatlage	Not Applicable	4.99	36.6	45

Please keep in mind that these are only averages, and that wagons must be filled to an equal depth from end to end. Sometimes, this may require adjusting the paddles on your forage harvester. Weighing the wagons on a scale is still the most accurate option if it is feasible.

Once the dry matter tonnage is determined, the purchaser can then negotiate a price with the seller. Some of the prices I've heard producers use in the southeast region have been between one half of dry hay auction market value to one third of dry hay auction market value, depending on quality, location, etc.

**Gov. Ridge Proclaims June Dairy Month**

**HARRISBURG (Dauphin Co.)** — In conjunction with National Dairy Month, Gov. Tom Ridge has proclaimed June as Dairy Month in Pennsylvania to recognize the many contributions the dairy industry makes to the commonwealth.

"Pennsylvania's dairy production is the leading segment of our agricultural industry," Gov. Ridge said. "Our dairy farmers and their families are to be commended for the strength and vitality they bring to rural communities throughout

the commonwealth. I encourage all Pennsylvanians to enjoy a cold glass of milk."

Milk is nature's most perfect food and Pennsylvania's official beverage. More than 38 percent of agricultural income in Pennsylvania is generated by the dairy industry. Sales from milk alone represents a \$1.67 billion contribution to the state's economy.

Adding to the dollar value of milk itself are the state's processing plants and manufacturers.

"In addition to our 10,500 com-

mercial dairy farmers, thousands of Pennsylvanians are employed in the manufacturing and processing of dairy products," Gov. Ridge said.

Pennsylvania is the fourth-leading milk-producing state in the country. Last year, 644,000 dairy cows produced 10.6 billion pounds of milk.

Pennsylvania also ranks second

in the annual production of ice cream, with 67 million gallons; and sixth in the production of cheese, with 340.6 million pounds.

The dairy industry offers consumers a wealth of great tasting and nutritious foods by continuing to meet the changing demands of consumers.

Dairy products are the most



readily available food source for calcium and provide generous amounts of protein, vitamin D, riboflavin and potassium.

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