



## Bale Weight Estimation Table

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When buying or selling bales of hay or baleage, one should always know the tonnage or weight of the lot being purchased. Buying by the bale (i.e., \$ per bale) can lead to paying an amount that is too high or too low for the value of the hay.

In addition, one should never take the seller's word about the weight of the bales as true, unless provided with a scale receipt or other verification of the weight. Often, producers think they know how much the bales weigh, but it is very rare that anyone will know the actual weight of their bales. In fact, it is often the case that a producer will take what the baler's manual says about the bales their baler produces as a true representation of the weight only to find out later that they were either using a different setting or the manual was wrong.

Consequently, the only way to truly know the weight of a bale or lot of hay is to actually weigh it. Of course, it is rare that the seller will have a scale of sufficient size to weigh the bales and it is even less common for a seller to allow the buyer to weigh the bales prior to the purchase.

As a result, the only choice is for those involved in the transaction to use an estimate of the bales' weight. Table 1 lists common bale sizes (width and height) and a calculated estimate of the lbs of dry matter (DM) in bales of that size at different bale densities (i.e., lbs of DM per ft<sup>3</sup>). Of course, bale density is very difficult to estimate. Most modern round balers will make a bale that is between 9 and 12 lbs of DM per ft<sup>3</sup>. If the bales are very loose and spongy when pressed, it is likely that those bales have a bale density of 9 lbs DM per ft<sup>3</sup> or less. If the bale deforms only slightly when pressed or spiked, it is likely to be approximately 10 lbs DM per ft<sup>3</sup>. If the bale is rigid but deforms when pressed hard or spiked, it is likely to be approximately 11 lbs DM per ft<sup>3</sup>. If the bale is very rigid and only deforms under the tractor's weight, it is likely to be approximately 12 lbs DM per ft<sup>3</sup>.

Please note that the values listed in Table 1 are merely estimates of bale weight. Individual results may vary, as some balers may provide bale densities greater than those listed here. Also note that these values are provided on a DM basis. To calculate the actual "as-fed" or wet weight, divide the weight listed in the table by 1 minus the % moisture in the bale. For example, if the hay is at a stable 15% moisture and the table estimate is 1080 lbs of DM, then the actual "as-fed" or wet weight is 1270 lbs (i.e., 1080 lbs wet weight = 1080 lbs DM/(1-0.15)).

**Table 1.** Estimated dry weight or dry matter (DM) of bales of the most common bale dimensions at different bale densities.

Bale Size		Bale Weight			
		---- Density, (lbs per ft <sup>3</sup> ) ----			
Width	Height	9	10	11	12
(ft)		(lbs of DM/bale)			
4.0	4.0	450	500	550	600
4.0	4.5	570	640	700	760
4.0	5.0	710	790	860	940
5.0	4.0	570	630	690	750
5.0	4.5	720	800	870	950
5.0	5.0	880	980	1080	1180
5.0	5.5	1070	1190	1310	1430
5.0	6.0	1270	1410	1560	1700

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