



1. Tables 1 & 2 provide recommended densities and a summary of core samples collected from 168 bunker silos by Holmes and Muck.
2. Take a core sample with the Master Forage Probe. Record the fresh weight in grams and the hole depth in inches.
3. Refer to Table 3 to determine the "As Fed Density" in pounds per cubic foot.
4. Multiply "As Fed Density" by estimated or actual dry matter and divide by 100 to obtain the estimated or actual dry matter density of the sample.

Example: You have a corn silage bunk silo core sample with a fresh weight of 200 grams, a hole depth of 6 inches and an estimated D.M. of 31%. From Table 3, the "as fed" density is 46.2 pounds per cubic foot which is equivalent to a dry matter density of 14.2 pounds per cubic foot at 31% DM. ($46.2 \times 0.31 = 14.2$). This value falls within the recommended range for corn silage shown in Table 1.

Bunk Silo	Density- lbs/ft ³	
	As fed	DM
Hay Crop Silage	35 - 43	14 - 15
Corn Silage	40 - 50	14 - 15

	Hay Crop Silage (n=87)			Corn Silage (n=81)		
	Average	Range	Std. Dev.	Average	Range	Std. Dev.
% DM	42.0	24-67	9.5	34.0	25-46	4.8
Wet Density (lb/ft ³)	37.0	13-61	10.9	43.0	23-60	8.3
DM Density (lb/ft ³)	14.8	6.6-27.1	3.8	14.5	7.8-23.6	2.9

Fresh weight (grams)	100	125	150	175	200	225	250	275	300	325	350	375	400
Hole depth (inches)	As fed density (lbs per cubic sq ft) - highlighted boxes indicate values fall within the desired range												
4.0	34.7	43.3	52.0	60.7	69.4	78.0	86.7	95.4	104.0	112.7	121.4	130.0	138.0
4.5	30.8	38.5	46.2	53.9	61.6	69.4	77.1	84.8	92.5	100.2	107.9	115.6	123.3
5.0	27.7	34.7	41.6	48.5	55.5	62.4	69.4	76.3	83.2	90.2	97.1	104.0	111.0
5.5	25.2	31.5	37.8	44.1	50.4	56.7	63.0	69.4	75.7	82.0	88.3	94.6	100.9
6.0	23.1	28.9	34.7	40.5	46.2	52.0	57.8	63.6	69.4	75.1	80.9	86.7	92.5
6.5	21.3	26.7	32.0	37.3	42.7	48.0	53.3	58.7	64.0	69.4	74.7	80.0	85.4
7.0	19.8	24.8	29.7	34.7	39.6	44.6	49.5	54.5	59.4	64.4	69.4	74.3	79.3
7.5	18.5	23.1	27.7	32.4	37.0	41.6	46.2	50.9	55.5	60.1	64.7	69.4	74.0
8.0	17.3	21.7	26.0	30.3	34.7	39.0	43.3	47.7	52.0	56.4	60.7	65.0	69.4
8.5	16.3	20.1	24.5	28.6	32.6	36.7	40.8	44.9	49.0	53.0	57.1	61.2	65.3
9.0	15.4	19.3	23.1	27.0	30.8	34.7	38.5	42.4	46.2	50.1	53.9	57.8	61.6
9.5	14.6	18.3	21.9	25.6	29.2	32.9	36.5	40.2	43.8	47.5	51.1	54.8	58.4
10.0	13.9	17.3	20.8	24.3	27.7	31.2	34.7	38.1	41.6	45.1	48.5	52.0	55.5
10.5	13.2	16.5	19.8	23.1	26.4	29.6	33.0	36.3	39.6	42.9	46.2	49.5	52.8
11.0	12.6	15.8	18.9	22.1	25.2	28.4	31.5	34.7	37.8	41.0	44.1	47.3	50.4
11.5	12.1	15.1	18.1	21.1	24.1	27.1	30.2	33.2	36.2	39.2	42.2	45.2	48.3
12.0	11.6	14.5	17.3	20.2	23.1	26.0	28.9	31.8	34.7	37.6	40.5	43.4	46.2



Name/Company: _____ Phone: _____

Email: _____ Forage: _____

Follow up needed: _____

Core #	Location & Comments	Fresh Wt (grams)	Core Depth (inches)	As Fed Density lbs/ft ³ (from table 3)	%DM (estimated or actual)	DM Density lbs/ft ³
1						
2						
3						
4						
5						
6						
7						
8						
9						
				Average:		
				Goal:		

DM Density Calculation

- DM density = As Fed Density x (DM/100)
- For example; As Fed Density = 44 lbs per cubic foot with a dry matter of 31%
- DM Density = 44 x (31/100) or 44 x .31 = 13.64 lbs per cubic foot
- 13.64 is just below the optimum DM density for corn silage or hay crop silage.