

Weights & Measures

Long Measure

16.5 ft = 1 rod
 320 rods = 1 mile
 (a 40-acre tract is 80 rods x 80 rods)
 5280 ft = 1 mile
 43,560 sq feet = 1 acre

Liquid Measure

2 cups = 1 pint
 1 pint = 16 fl oz
 2 pints = 1 quart
 4 quarts = 1 gallon
 1 gallon = 128 fl oz
 231 cub inches = 1 gallon

Bushel Volumes

2,150.4 cub inches = 1 bushel
 1.25 cub feet = 1 bushel
 1 cub foot = 0.80 bushel

Grain Storage Formulas

Round Bin: Bushels = 0.6283 x diam x diam x avg depth (all in feet) x (Moisture Factor) x (Test Weight Pack Factor)

Coned Grain: Bushels = 0.20944 x diam of base x diam of base x height (all in feet) x (Actual Test Weight/Std Test Weight)

Moisture Shrink Factors

Corn	
Moisture %	Shrink Factor
15.0	1.000
16.0	0.988
17.0	0.976
18.0	0.964
19.0	0.952
20.0	0.940
21.0	0.928
22.0	0.916
23.0	0.904
24.0	0.892
25.0	0.880
26.0	0.868
27.0	0.856
28.0	0.844
29.0	0.832
30.0	0.820

56 lb/bu dry

Soybeans	
Moisture %	Shrink Factor
13.0	1.000
13.5	0.994
14.0	0.988
14.5	0.982
15.0	0.976
15.5	0.970
16.0	0.964
16.5	0.958
17.0	0.952
17.5	0.946
18.0	0.940
18.5	0.934
19.0	0.928
19.5	0.922
20.0	0.916
20.5	0.910

60 lb/bu dry

Wheat	
Moisture %	Shrink Factor
13.5	1.000
14.0	0.994
14.5	0.988
15.0	0.982
15.5	0.976
16.0	0.970
16.5	0.964
17.0	0.958
17.5	0.952
18.0	0.946
18.5	0.940
19.0	0.934
19.5	0.928
20.0	0.922
20.5	0.916
21.0	0.910

60 lb/bu dry

(These may vary from elevator shrink factors.)

Corn - Combined Test Weight and Pack Factors

Test Wt	Bin Diameter					
	0 -18'	19' - 24'	25' - 30'	31' - 41'	42'-53'	54' +
53.0	0.972	0.983	1.000	1.019	1.032	1.051
54.0	0.987	0.999	1.016	1.036	1.049	1.069
55.0	1.003	1.015	1.032	1.052	1.065	1.085
56.0	1.018	1.030	1.048	1.068	1.081	1.102
57.0	1.033	1.045	1.064	1.084	1.097	1.118
58.0	1.048	1.061	1.079	1.100	1.113	1.134
59.0	1.063	1.076	1.095	1.116	1.130	1.151
60.0	1.078	1.091	1.110	1.131	1.146	1.168
61.0	1.093	1.106	1.125	1.147	1.161	1.183
62.0	1.107	1.120	1.140	1.163	1.177	1.199
63.0	1.121	1.134	1.154	1.179	1.193	1.215

Soybeans - Combined Test Weight and Pack Factors

Test Wt	Bin Diameter					
	0 -18'	19' - 24'	25' - 30'	31' - 41'	42'-53'	54' +
54.0	0.932	0.943	0.959	0.966	0.978	0.997
55.0	0.947	0.958	0.974	0.982	0.994	1.013
56.0	0.961	0.973	0.989	0.997	1.010	1.029
57.0	0.976	0.987	1.004	1.012	1.025	1.044
58.0	0.990	1.001	1.019	1.027	1.040	1.060
59.0	1.004	1.016	1.033	1.041	1.040	1.074
60.0	1.018	1.030	1.048	1.056	1.069	1.090
61.0	1.032	1.044	1.062	1.071	1.084	1.105
62.0	1.046	1.058	1.077	1.085	1.098	1.119
63.0	1.059	1.072	1.091	1.099	1.112	1.133
64.0	1.080	1.093	1.112	1.120	1.133	1.154