

GRAIN PRESSURE TESTS NO. 7A.

Wheat.—Square Wooden Bin.—Bottom Pressure Tests.

Smooth Boards.

Size of Bin 12" x 12" x 6' 6" high.

Diaphragm on bottom, size 12" x 12"—144 sq. inches.

Wheat 50 lbs. per cu. ft., equal to 62.2 lbs. per bushel.

Grain weigh'd into bin.	Height of grain column	Equivalent fluid pressure.	Pressure of grain on diaphragm.	Grain carried on bottom.		Grain carried on bin-side.	
				Weight.	% of total weight of grain	Weight.	% of total weight of grain.
lbs.	in.	in. water.	in. water	lbs.		lbs.	
25	6	4.81	3 $\frac{1}{4}$	19.483	77.93	5.517	22.07
50	12	9.62	5 $\frac{1}{2}$	30.524	61.04	19.476	38.96
75	18	14.43	7	36.368	48.49	38.632	51.51
100	24	19.24	7 $\frac{1}{2}$	40.914	40.91	59.086	59.09
125	30	24.05	8 $\frac{1}{4}$	42.863	34.29	82.137	65.81
150	36	28.86	8 $\frac{3}{4}$	44.811	29.87	105.189	71.13
175	42	33.67	8 $\frac{1}{2}$	46.110	26.35	128.890	73.65
200	48	38.48	9	46.759	23.37	153.241	76.63
225	54	43.29	9 $\frac{1}{2}$	49.032	21.79	175.968	78.21
250	60	48.10	9 $\frac{3}{4}$	49.682	19.87	200.318	80.13
275	66	52.81	9 $\frac{1}{2}$	50.656	18.42	224.344	81.58
300	72	57.62	9 $\frac{1}{2}$	50.656	16.88	249.344	83.12
325	78	62.53	9 $\frac{1}{2}$	50.656	15.58	274.344	84.42

Carried on bottom 50.656 on sides 274.344

By sharply tapping sides of bin, grain settled 2 $\frac{1}{2}$ in. from top, and gave maximum gauge reading of 11 $\frac{1}{2}$ in. water=equals total load on bottom of 61.696 lbs., or 20.56% of total grain in bin.