

OD660 vs Number of Cells

The chart below came to me from UC Boulder, and shows the number of yeast cells for various OD660 readings.

<u>OD660</u>	<u>Cells</u> <u>x10⁷</u>						
0.000	0.000	0.510	0.717	1.010	1.890	1.510	4.550
0.010	0.015	0.520	0.733	1.020	1.926	1.520	4.625
0.020	0.025	0.530	0.750	1.030	1.963	1.530	4.700
0.030	0.040	0.540	0.766	1.040	2.000	1.540	4.775
0.040	0.053	0.550	0.783	1.050	2.040	1.550	4.850
0.050	0.055	0.560	0.800	1.060	2.080	1.560	4.925
0.060	0.078	0.570	0.817	1.070	2.120	1.570	5.000
0.070	0.090	0.580	0.833	1.080	2.163	1.580	5.075
0.080	0.103	0.590	0.850	1.090	2.206	1.590	5.150
0.090	0.115	<u>0.600</u>	<u>0.866</u>	<u>1.100</u>	<u>2.250</u>	<u>1.600</u>	<u>5.225</u>
<u>0.100</u>	<u>0.128</u>	0.610	0.883	1.110	2.296	1.610	5.300
0.110	0.140	0.620	0.900	1.120	2.343	1.620	5.380
0.120	0.153	0.630	0.917	1.130	2.390	1.630	5.460
0.130	0.165	0.640	0.933	1.140	2.433	1.640	5.540
0.140	0.178	0.650	0.950	1.150	2.476	1.650	5.630
0.150	0.190	0.660	0.966	1.160	2.520	1.660	5.700
0.160	0.204	0.670	0.983	1.170	2.566	1.670	5.800
0.170	0.216	0.680	1.000	1.180	2.613	1.680	5.890
0.180	0.229	0.690	1.023	1.190	2.660	1.690	5.980
0.190	0.241	<u>0.700</u>	<u>1.046</u>	<u>1.200</u>	<u>2.706</u>	1.700	6.070
<u>0.200</u>	<u>0.255</u>	0.710	1.070	1.210	2.753		
0.210	0.268	0.720	1.093	1.220	2.800		
0.220	0.280	0.730	1.116	1.230	2.850		
0.230	0.293	0.740	1.140	1.240	2.900		
0.240	0.306	0.750	1.160	1.250	2.950		
0.250	0.319	0.760	1.180	1.260	3.002		
0.260	0.330	0.770	1.200	1.270	3.055		
0.270	0.342	0.780	1.220	1.280	3.107		
0.280	0.356	0.790	1.240	1.290	3.160		
0.290	0.370	<u>0.800</u>	<u>1.260</u>	<u>1.300</u>	<u>3.220</u>		
<u>0.300</u>	<u>0.385</u>	0.810	1.283	1.310	3.280		
0.310	0.399	0.820	1.306	1.320	3.340		
0.320	0.412	0.830	1.330	1.330	3.400		
0.330	0.426	0.840	1.353	1.340	3.460		
0.340	0.440	0.850	1.376	1.350	3.520		
0.350	0.455	0.860	1.400	1.360	3.580		
0.360	0.470	0.870	1.430	1.370	3.640		
0.370	0.484	0.880	1.460	1.380	3.700		
0.380	0.499	0.890	1.490	1.390	3.760		
0.390	0.514	<u>0.900</u>	<u>1.520</u>	<u>1.400</u>	<u>3.820</u>		
<u>0.400</u>	<u>0.530</u>	0.910	1.550	1.410	3.880		
0.410	0.547	0.920	1.580	1.420	3.940		
0.420	0.564	0.930	1.610	1.430	4.000		
0.430	0.580	0.940	1.640	1.440	4.065		
0.440	0.600	0.950	1.670	1.450	4.130		
0.450	0.617	0.960	1.703	1.460	4.200		

0.460	0.633	0.970	1.736	1.470	4.270
0.470	0.650	0.980	1.770	1.480	4.340
0.480	0.666	0.990	1.810	1.490	4.410
0.490	0.683	<u>1.000</u>	<u>1.850</u>	<u>1.500</u>	<u>4.480</u>
<u>0.500</u>	<u>0.700</u>				

Several measurements of *Saccharomyces cerevisiae* strain **YPH499** gave an Cell/OD600 relationship of $4-9 \times 10^7$ cells/ml per OD600.

According to Current Protocols: OD600 of 1.0 is roughly 3×10^7 cells/ml.