

Instructions for GPM by depth/N per hour table

To use these spreadsheets, enter the depth of the pond from full to the bottom in the space provided. Entering the length, width, rise and run is optional. If you do enter these dimensions, the pond surface area for each increment of depth will be automatically calculated. Enter the farm name and lagoon name. If you wish, you may designate the specific pond outlet or degree of valve opening, etc. to which this table pertains.

Nitrogen Applied per Hour by Depth in Pond - GPM

University of California Agriculture and Natural Resources

Farm Name: **My Dairy Farm**
Pond Name: **Main Lagoon**
Outlet:

pond length (ft) rise
pond width (ft) run
run/rise

8 total depth in feet from full to bottom

Pounds of nitrogen applied per hour depending on concentration (mg/L or ppm).
Multiply the pounds per hour by the number of hours at that pond level for lbs N applied.

distance below full	feet	inches	acres	45	57	68	79	91	96	102	108	113	119	125	130	136	142	147	153	159	170	181	193	204	215	215	227
full	0			200	250	300	350	400	425	450	475	500	525	550	575	600	625	650	675	700	750	800	850	900	950	950	1000
1/2	6	in																									
1	12	in																									
1 1/2	18	in																									

Enter the total depth of the pond here

change names

Using a temporary flow meter, measure the flow rate in gpm at each level and record this information in the gpm column. Or, you may calculate the gpm by recording how long it takes for the pond to drop a given increment. Calculate gallons applied by multiplying inches of drop by the pond surface area at the midpoint of the drop to get acre inches applied. $\text{Acre inches} \div \text{minutes} \times 27154.29 = \text{gpm}$.

When the gpm for each increment of depth is entered into the gpm column, the pounds of nitrogen applied per hour table will be generated.

Nitrogen Applied per Hour by Depth in Pond - GPM

University of California Agriculture and Natural Resources

Farm Name: **My Dairy Farm**
Pond Name: **Main Lagoon**
Outlet:

300 pond length (ft) rise
200 pond width (ft) run
run/rise

10 total depth in feet from full to bottom

Pounds of nitrogen applied per hour depending on concentration (mg/L or ppm).
Multiply the pounds per hour by the number of hours at that pond level for lbs N applied.

distance below full	feet	inches	acres	gpm at this depth	lbs/ac-in	45	57	68	79	91	96	102	108	113	119	125	130	136	142	147	153	159	170	181	193	204	215	215	227
full	0			1800	1.7	200	250	300	350	400	425	450	475	500	525	550	575	600	625	650	675	700	750	800	850	900	950	950	1000
1/2	6	in		1750	2.1	180	225	270	315	361	383	406	428	451	473	496	518	541	563	586	608	631	676	721	766	811	856	856	901
1	12	in		1700	2.5	175	219	263	307	350	372	394	416	438	460	482	504	526	548	570	591	613	657	701	745	789	832	832	876
1 1/2	18	in		1650	2.9	170	213	255	298	340	362	383	404	426	447	468	489	511	532	553	575	596	638	681	724	766	809	809	851
2	24	in		1600	3.3	165	207	248	289	330	351	372	392	413	434	454	475	496	516	537	558	578	620	661	702	744	785	785	826
2 1/2	30	in		1550	3.5	160	200	240	280	320	340	361	381	401	421	441	461	481	501	521	541	561	601	641	681	721	761	761	801
3	36	in		1500	3.8	155	194	233	272	310	330	349	369	388	407	427	446	466	485	504	524	543	582	621	660	698	737	737	776
3 1/2	42	in		1450	4.0	150	188	225	263	300	319	338	357	376	394	413	432	451	469	488	507	526	563	601	638	676	713	713	751
4	48	in			4.2	145	182	218	254	290	309	327	345	363	381	399	417	436	454	472	490	508	545	581	617	653	690	690	726

enter gpm here