

Fig. S1. The yield measurement at each site and depth in the 2018 experiment. Station 1 (St1) is closer to the mouth of the bay, and the larger the number, the closer to the back of the bay. Data were not available for the shallow sites of St1 and St4 due to the loss of the racks in the typhoon; for the deep site of St4, coral spats were counted but none were found

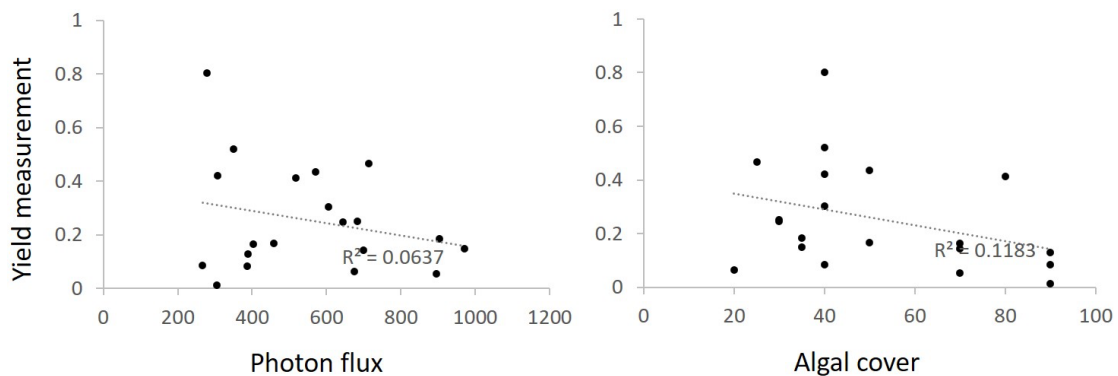


Fig. S2. Scatter plots between the yield measurement at 15 mo after settlement. (left panel) % coverage of total macroalgae; (right panel) short term light quantum density ( $\mu\text{mol m}^{-2} \text{s}^{-1}$ ) in daytime (a single clear day)

Table S1. All results of environmental factors

	S1S	S1D	S2S	S2D	S3S	S3D	S4S	S4D	S5S	S5D	S6S	S6D	S7S	S7D	S8S	S8D	S9S	S9D	S10S	S10D
Light_S	571.2	350.7	699.3	307.7	683.5	278.7	674.2	458.3	971.7	516.9	894.5	305.3	643.5	266.5	714.6	389.5	903.4	387.7	604.9	403.6
Light_L	417.0	267.2	544.8	258.3	532.9	170.9	448.6	286.2	726.1	319.9	660.7	185.1	483.4	213.8	552.2	246.7	668.7	247.5	446.9	179.9
Depth	6.0	10.2	4.1	11.3	4.1	12.6	3.2	8.0	2.4	8.7	1.6	9.8	3.6	7.1	2.9	5.7	1.8	6.5	3.2	5.7
T_Sep	28.91	28.85	29.00	28.95	29.02	28.88	28.97	28.93	29.03	28.90	29.19	29.01	29.01	29.02	29.04	29.01	29.10	28.97	29.13	29.04
T_Feb	24.07	24.01	23.88	23.58	23.81	23.46	23.94	23.91	23.77	23.67	23.79	23.55	23.66	23.62	23.62	23.58	23.56	23.49	23.48	23.29
Current_day	8.15	3.50	9.51	2.46	6.15	1.28	6.10	3.16	7.61	2.49	9.98	3.25	4.19	2.36	3.83	0.71	5.61	1.67	2.25	2.12
Current_S_all	3.44	3.89	2.42	1.15	1.13	1.28	2.05	2.41	2.13	1.77	3.35	1.84	2.14	1.58	1.94	1.86	1.75	1.36	1.24	1.65
Current_S_part	1.49	1.68	1.62	0.84	0.78	1.10	1.15	1.56	1.63	1.07	2.60	1.36	1.22	0.86	1.16	1.06	1.02	0.88	0.85	1.14
Current_Max_all	77.90	73.29	21.00	13.00	19.40	10.40	25.10	49.20	27.90	30.00	28.94	14.14	31.20	27.80	38.50	32.90	21.80	31.10	16.10	17.80
Current_Max_part	7.10	6.68	10.10	5.50	5.10	6.60	6.40	8.30	7.90	9.40	13.00	6.91	4.80	5.50	9.10	5.50	6.70	3.50	4.80	5.50
Algae_Total	50	40	70	40	30	40	20	50	35	80	70	90	30	90	25	90	35	40	40	70
Algae_brown	1	5	10	1	1	1	1	1	1	65	10	70	1	30	1	85	1	1	1	65
Algae_cyano	30	10	30	1	1	5	1	15	1	15	20	10	5	30	1	5	1	5	1	5
Algal_turf	10	20	5	5	10	10	15	30	25	35	30	5	20	20	15	20	30	35	30	5
Sediment	5.28	8.84	2.05	2.93	3.04	2.75	12.75	9.36	5.41	3.79	4.34	3.55	14.23	12.18	17.09	17.57	9.28	9.52	12.11	19.89
NO3_WC	2.46	1.46	3.54	2.69	0.78	3.65	1.49	2.64	4.64	4.10	4.27	3.88	3.51	2.70	1.15	2.70	3.42	3.39	2.54	2.38
NO2_WC	0.11	0.08	0.12	0.08	0.09	0.12	0.06	0.08	0.12	0.11	0.11	0.09	0.08	0.08	0.06	0.06	0.13	0.09	0.05	0.05
SLWC	2.00	1.81	1.61	1.63	4.38	1.64	1.53	1.63	1.58	1.65	1.74	1.66	1.59	1.72	1.42	1.45	1.62	1.67	1.89	2.37
PO4_WC	0.13	0.10	0.03	0.01	0.20	0.04	0.08	0.07	0.07	0.04	0.03	0.02	0.05	0.05	0.04	0.02	0.04	0.03	0.03	0.03
NH4_WC	3.11	2.27	4.45	3.89	4.24	4.32	3.23	3.44	6.14	5.57	4.97	5.00	4.00	4.74	3.70	4.99	5.98	4.99	3.76	4.03
NO3_Sed	2.22	0.27	2.60	1.15	1.15	1.14	-0.18	-0.08	0.97	0.67	1.33	1.60	0.31	0.82	0.37	1.01	0.64	1.18	1.28	1.04
NO2_Sed	0.12	0.10	0.09	0.10	0.10	0.08	0.08	0.08	0.10	0.09	0.09	0.08	0.08	0.08	0.06	0.08	0.08	0.07	0.07	0.07
Sl_Sed	4.20	2.94	1.66	3.42	1.79	2.69	4.24	7.94	9.06	3.81	2.59	24.69	13.96	12.52	10.45	8.70	6.45	13.57	14.69	19.03
PO4_Sed	0.37	0.30	0.06	0.18	0.13	0.39	0.50	0.52	0.62	0.43	0.16	0.78	0.65	0.69	0.68	0.78	0.63	0.77	0.67	1.08
NH4_Sed	3.02	2.14	3.77	3.74	3.53	4.22	3.46	11.83	18.69	6.06	4.27	16.83	8.14	8.44	8.50	6.77	3.95	8.43	7.38	14.05

Table S2. Stepwise multiple linear regression analysis for the number of surviving spats at 15 mo after settlement. Explanatory variables: Light\_S: daytime light intensity on a sunny day, Current\_S\_all: average scalar flow velocity during one month, Current\_Max\_part: maximum flow velocity during one month except during typhoons Algal\_Total: coverage of total algae, Algae\_cyano: coverage of cyanobacteria, Algal\_turf: coverage of turf algae, Sediment: amount of sediment

	Estimate	Std.Error	t	Pr(> t )
(Intercept)	0.745	0.227	3.285	0.007
Light_S	-6.99 x 10 <sup>-4</sup>	2.81 x 10 <sup>-4</sup>	-2.488	0.029
Current_S_all	-0.013	0.074	-0.173	0.865
Current_Max_part	0.044	0.031	1.426	0.179
Algae_Total	-0.007	0.003	-2.5	0.028
Algae_cyano	5.38 x 10 <sup>-4</sup>	0.006	0.09	0.93
Algal_turf	-6.33 x 10 <sup>-4</sup>	0.004	-0.149	0.884
Sediment	-0.004	0.009	-0.404	0.694