

Table 8. The effect of various oil types on the enzymatic activity of the 5 highest lipase producers of *Aspergillus sp.* Isolates:

Oil type (%)	Lipase activity (U/ml) \pm S.D	dry weight (g/flask) \pm S.D	Diameter (cm) \pm S.D
Olive oil 1.5%			
<i>A. niger</i> MH111398	557.69 \pm 4.07	0.864 \pm 0.136	5.2 \pm 0.436
<i>A. niger</i> MH111400	554.1 \pm 5.12	0.741 \pm 0.033	5.07 \pm 0.322
<i>A. niger</i> MH078565	586.41 \pm 0.44	0.623 \pm 0.030	4.3 \pm 0.458
<i>A. niger</i> MH078571	594.36 \pm 0.89	0.791 \pm 0.041	4.27 \pm 0.252
<i>A. niger</i> MH079049	571.8 \pm 3.47	0.703 \pm 0.072	4.43 \pm 0.116
Olive oil 2%			
<i>A. niger</i> MH111398	664.36 \pm 2.91	0.946 \pm 0.093	5.77 \pm 0.306
<i>A. niger</i> MH111400	670.51 \pm 6.17	1.014 \pm 0.188	4.97 \pm 0.451
<i>A. niger</i> MH078565	697.69 \pm 5.04	0.955 \pm 0.040	4.37 \pm 0.208
<i>A. niger</i> MH078571	735.9 \pm 1.78	1.137 \pm 0.149	3.27 \pm 0.252
<i>A. niger</i> MH079049	728.21 \pm 4.24	1.232 \pm 0.142	4.17 \pm 0.416
Olive oil 2.5%			
<i>A. niger</i> MH111398	664.87 \pm 13.26	1.072 \pm 0.103	2.6 \pm 0.322
<i>A. niger</i> MH111400	598.21 \pm 6.54	1.034 \pm 0.155	2.7 \pm 0.751
<i>A. niger</i> MH078565	672.05 \pm 21.54	1.277 \pm 0.149	4.27 \pm 0.404
<i>A. niger</i> MH078571	674.36 \pm 1.18	1.041 \pm 0.110	2.53 \pm 0.058
<i>A. niger</i> MH079049	688.21 \pm 0.44	1.039 \pm 0.093	3.9 \pm 0.529
Corn oil 1.5%			
<i>A. niger</i> MH111398	507.95 \pm 65.54	0.617 \pm 0.059	4.23 \pm 0.208
<i>A. niger</i> MH111400	477.95 \pm 17.45	0.52 \pm 0.086	6.63 \pm 0.322
<i>A. niger</i> MH078565	484.1 \pm 15.04	0.717 \pm 0.029	6.17 \pm 0.208
<i>A. niger</i> MH078571	450.77 \pm 29.80	0.836 \pm 0.050	4.17 \pm 0.153
<i>A. niger</i> MH079049	481.54 \pm 24.24	0.848 \pm 0.126	4.9 \pm 0.265
Corn oil 2%			
<i>A. niger</i> MH111398	520.26 \pm 2.47	0.613 \pm 0.031	3.77 \pm 0.252
<i>A. niger</i> MH111400	537.44 \pm 6.72	0.663 \pm 0.085	4.73 \pm 0.252
<i>A. niger</i> MH078565	525.13 \pm 21.88	0.719 \pm 0.091	3.57 \pm 0.208
<i>A. niger</i> MH078571	543.08 \pm 40.09	0.863 \pm 0.112	4.7 \pm 0.361
<i>A. niger</i> MH079049	566.67 \pm 94.95	0.834 \pm 0.100	4.77 \pm 0.306
Corn oil 2.5%			
<i>A. niger</i> MH111398	651.03 \pm 8.23	0.662 \pm 0.054	4.5 \pm 0.2
<i>A. niger</i> MH111400	645.64 \pm 5.67	0.614 \pm 0.102	3.87 \pm 0.306
<i>A. niger</i> MH078565	608.46 \pm 1.54	0.620 \pm 0.079	3.8 \pm 0.300

<i>A. niger</i> MH078571	618.97±14.72	0.838±0.078	4.17±0.252
<i>A. niger</i> MH079049	590.51±31.76	0.888±0.112	4.3±0.2
Sun flower 1.5%			
<i>A. niger</i> MH111398	534.87±47.78	0.849±0.056	4.07±0.306
<i>A. niger</i> MH111400	517.69±1.18	0.822±0.038	6.6±0.361
<i>A. niger</i> MH078565	484.36±0.44	0.692±0.064	6.23±0.208
<i>A. niger</i> MH078571	532.31±18.46	0.703±0.056	5.03±0.351
<i>A. niger</i> MH079049	540.51±25.38	0.777±0.023	5.9±0.173
Sun flower 2%			
<i>A. niger</i> MH111398	540.77±2.77	0.908±0.160	6.87±0.153
<i>A. niger</i> MH111400	540±51.61	0.844±0.058	6.5±0.500
<i>A. niger</i> MH078565	536.41±2.35	0.739±0.067	4.57±0.058
<i>A. niger</i> MH078571	537.95±5.88	0.88±0.048	4.77±0.208
<i>A. niger</i> MH079049	546.16±1.54	0.88±0.016	5.6±0.100
Sun flower 2.5 %			
<i>A. niger</i> MH111398	538.97±2.35	0.775±0.061	4.17±1.012
<i>A. niger</i> MH111400	517.69±15.13	0.745±0.037	4.7±0.300
<i>A. niger</i> MH078565	498.72±40.77	0.836±0.120	5.27±0.252
<i>A. niger</i> MH078571	532.31±6.92	0.681±0.061	4.87±0.153
<i>A. niger</i> MH079049	540.53±54.23	0.692±0.079	4.6±0.100
Castor oil 1.5%			
<i>A. niger</i> MH111398	473.08±9.36	0.685±0.045	4.5±0.173
<i>A. niger</i> MH111400	488.46±4.68	0.924±0.238	3.87±0.231
<i>A. niger</i> MH078565	507.44±15.10	0.845±0.085	3.23±0.252
<i>A. niger</i> MH078571	497.69±8.74	0.807±0.014	4.37±0.252
<i>A. niger</i> MH079049	502.31±3.53	0.81±0.047	5.17±0.153
Castor oil 2%			
<i>A. niger</i> MH111398	505.13±5.97	0.766±0.046	3.43±0.208
<i>A. niger</i> MH111400	577.18±7.47	0.795±0.062	3.2±0.2
<i>A. niger</i> MH078565	628.46±18.95	0.764±0.161	2.97±0.058
<i>A. niger</i> MH078571	694.36±25.19	0.779±0.074	4.17±0.153
<i>A. niger</i> MH079049	698.72±7.34	0.934±0.036	5.43±0.116
Castor oil 2.5%			
<i>A. niger</i> MH111398	491.54±7.34	0.875±0.019	2.1±0.1
<i>A. niger</i> MH111400	572.05±13.20	0.847±0.173	1.97±0.153
<i>A. niger</i> MH078565	565.39±2.77	1.04±0.296	3.07±0.493
<i>A. niger</i> MH078571	565.9±5.12	0.926±0.102	3.23±0.252

<i>A. niger</i> MH079049	588.46±2.04	0.929±0.160	5.3±0.3
Palm oil 15%			
<i>A. niger</i> MH111398	662.82±5.24	0.657±0.053	3.17±0.153
<i>A. niger</i> MH111400	667.69±14.68	0.605±0.034	3.03±0.058
<i>A. niger</i> MH078565	710.51±5.77	0.676±0.086	2.47±0.058
<i>A. niger</i> MH078571	735.64±1.60	0.743±0.136	3.73±0.252
<i>A. niger</i> MH079049	731.8±0.44	0.582±0.057	5.03±0.252
Palm oil 2%			
<i>A. niger</i> MH111398	692.56±3.11	0.677±0.059	3.07±0.153
<i>A. niger</i> MH111400	710.26±11.26	0.645±0.125	4.1±0.1
<i>A. niger</i> MH078565	726.41±3.64	0.645±0.054	3.53±0.058
<i>A. niger</i> MH078571	772.05±0.44	0.656±0.031	4.97±0.208
<i>A. niger</i> MH079049	758.46±18.80	0.641±0.067	5.07±0.306
Palm oil 2.5%			
<i>A. niger</i> MH111398	663.85±2.04	0.639±0.001	2.93±0.116
<i>A. niger</i> MH111400	667.44±8.23	0.638±0.048	3.97±0.153
<i>A. niger</i> MH078565	635.39±9.61	0.625±0.094	5.37±0.379
<i>A. niger</i> MH078571	740.77±2.04	0.642±0.070	4.07±0.116
<i>A. niger</i> MH079049	723.078±8.14	0.666±0.042	4.9±0.1
Soy bean 1.5%			
<i>A. niger</i> MH111398	535.13±7.74	0.631±0.103	3.8±0.200
<i>A. niger</i> MH111400	540.52±2.35	0.597±0.076	5.63±0.153
<i>A. niger</i> MH078565	508.72±14.29	0.669±0.005	3.8±0.200
<i>A. niger</i> MH078571	530.52±30.19	0.661±0.053	4.7±0.200
<i>A. niger</i> MH079049	538.47±4.28	0.69±0.023	4.67±0.116
Soy bean 2%			
<i>A. niger</i> MH111398	550.26±2.91	0.603±0.025	4.17±0.153
<i>A. niger</i> MH111400	557.69±10.91	0.721±0.044	4.5±0.100
<i>A. niger</i> MH078565	547.95±2.47	0.715±0.033	4.07±0.208
<i>A. niger</i> MH078571	535.9±4.44	0.675±0.048	5.37±0.252
<i>A. niger</i> MH079049	558.72±3.64	0.620±0.074	5.73±0.252
Soy bean 2.5%			
<i>A. niger</i> MH111398	537.7±7.05	0.712±0.011	4.13±0.153
<i>A. niger</i> MH111400	524.11±2.70	0.698±0.030	6.03±0.252
<i>A. niger</i> MH078565	519.75±8.47	0.686±0.066	4.27±0.153
<i>A. niger</i> MH078571	522.57±5.12	0.643±0.011	5.43±0.379
<i>A. niger</i> MH079049	525.39±4.07	0.705±0.067	5.3±0.173

* Results are averages of three replicates

