

**Table S1:** Egg mass (g) ± SD, clutch size (number of eggs) ± SD, hatching success (%) ± SD and emergence success (%) ± SD for clutches incubated at high-moisture (n=20) and low-moisture (n=20).

Moisture treatment	Egg mass (g)	Clutch size	Hatching success (%)	Emergence success (%)
High-moisture (~8% v/v)	35.88 ± 3.51	98.45 ± 20.77	95.63 ± 6.52	89.87 ± 10.96
Low-moisture (~5% v/v)	36.21 ± 3.42	97.05 ± 18.06	94.37 ± 8.25	85.70 ± 14.50
p-value	F <sub>38,1276</sub> =0.327, p=0.571	F <sub>37,37</sub> =0.106, p=0.746	z=1.210, p=0.226	z=0.984, p=0.325

**Table S2:** Mean ± SD number of failed embryos in each nest at each stage of embryonic development for high- (n=18) and low- (n=20) moisture clutches. See text for stage description.

Moisture treatment	Undeveloped	Stage 1	Stage 2	Stage 3	Unhatched term	Dead pipped
High-moisture (~8% v/v)	3.78 ± 5.90	0.06 ± 0.24	0.17 ± 0.38	0.11 ± 0.47	0.22 ± 0.55	0.61 ± 1.75
Low-moisture (~5% v/v)	3.85 ± 6.07	0.25 ± 0.55	0.35 ± 0.75	0.05 ± 0.22	0.80 ± 1.15	1.25 ± 2.79

**Table S3:** Statistical results from Tukey’s test comparing swimming performance among time periods. Significant differences are marked in bold. We present mean swim thrust (N, MT), mean maximum thrust (N, MMT), number of strokes per powerstroking bout (STR), powerstroke frequency (strokes/min, PSF), duration of powerstroking bouts (s, DPB) and time spent powerstroking (% , TSP).

Measure of swimming performance	Moisture treatment	0 v 12 hours	0 v 24 hours	12 v 24 hours
MT	Low	<0.001	<0.001	<0.001
	High	<0.001	<0.001	<0.001
MMT	Low	<0.001	<0.001	0.920
	High	<0.001	<0.001	<b>0.030</b>
STR	Low	0.400	0.990	0.390
	High	0.320	0.110	0.780
DPB	Low	<0.001	<b>0.049</b>	0.520
	High	0.689	0.796	0.996
PSF	Low	<0.001	<0.001	0.518
	High	<0.001	<0.001	0.200
TSP	Low	<0.001	<0.001	<b>0.001</b>
	High	<0.001	<0.001	<b>0.003</b>

**Table S4:** Statistical results from Tukey’s test comparing swimming performance between moisture treatments at each time period. Significant differences are marked in bold. We present mean swim thrust (N, MT), mean maximum thrust (N, MMT), number of strokes per powerstroking bout (STR), powerstroke frequency (strokes/min, PSF), duration of powerstroking bouts (s, DPB) and time spent powerstroking (% , TSP).

Measure of swimming performance	0 hours	12 hours	24 hours
MT	0.830	<0.001	<0.001
MMT	0.920	<b>0.020</b>	0.410
STR	0.370	<0.001	<b>0.020</b>
DPB	0.586	<b>0.002</b>	0.078
PSF	0.689	0.694	0.281
TSP	0.0779	<0.001	<0.001