

Marine Aquarium Lights

Just the aquarium light questions - how many, what kinds, how long they're on and what are the effects?

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Q. I'm new to the hobby of marine fishkeeping and this magazine appears to be the encyclopedia that I will keep for years as reference. It is very welcome at my residence. Your team provides very good information for people like me. Keep up the good work.

I recently built a 108-gallon reef aquarium (60 x 24 x 18 inches). I used six fluorescent lights (48 inches, 40 watts). Two of them are Aquatic tubes that provide a white light, two are Power-Glo tubes and two are Marine-Glo tubes. The lights are located about a foot from the surface of the water. Both Aquatic tubes come on together for 12 hours. One Power-Glo and one Marine-Glo are on for seven hours, and the other two for four hours. Is this a good setup or should the last light be on longer? Are the combinations okay?

Right now, there is brown algae growing on top of the crushed coral sand that's starting to turn green. At the pet shop, I was told that there would be a cycle of brown and then red algae, and finally green algae. After the cycle is complete, will the sand return to being white? Also, what are the gas bubbles produced by the algae?

A. It is perfectly normal for an aquarium to go through an algal cycle when first set up. In fact, these cycles can take several months, even up to a year. Live sand systems often go through longer cycles — usually a brown or red cyanobacterial film will persist in some areas or cover large expanses of the sand. These growths will eventually disappear, and once they begin to recede they tend to do so rapidly.

There are a couple of possibilities to explain this. In some cases the composition of the substrate may be such that it is high in silicate or contains a lot of chemically bound phosphate. When these nutrient sinks are exhausted by overlying algal growths, the algae become nutrient limited and begin to recede. Another possibility is the live sand bed does not yet contain microorganisms in appropriate amounts that feed on these algae. Once their numbers build up enough, the algae is quickly consumed. That is why some aquarists have suggested adding a small amount of live sand from an established system to one with algal growths on the substrate (J. Sprung, personal communication). This often results in a gradual decrease in undesirable algae growing on the sand as, presumably, the microorganisms on the introduced sand grains spread throughout the sand and consume the algae. These are only theories, and the exact cause remains to be determined. The gas bubbles you are seeing are most likely the result of photosynthesis, and are probably oxygen.

Although the lighting is adequate for many of the lower light corals, I would recommend that you cut down on the amount of red or pinkish tint. It's okay to have one reddish light, but the others should be lamps that give a greater white and blue mix. I would recommend having all six lamps on for more than four hours — six or eight would be better. I would also place the lamps closer to the surface if possible (say six inches).