

Contamination Treatment Chart

Contamination Type	Type	Stage	Severity	Description	Treatment	Maintenance
Diatoms	Any shape	Speed spool	Low	Clusters begin popping up on the sides of tanks or at the ends of spools.	Germanium dioxide (GeO ₂)	Add 1mL/10L of GeO ₂ solution to each tank 1x per day until you don't see additional diatom growth. If possible, avoid using GeO ₂ before day 14.
			Medium	Clusters are large and growing in diameter or begin to pop up on seedstring.	Germanium dioxide (GeO ₂)	Treat as above. Additionally, wipe the clusters away with a clean paper towel or sponge where possible. Avoid dropping diatoms in the tank.
			High	Spools and seedstring are covered in a light brown color.	Germanium dioxide (GeO ₂)	Treat as above. Additionally, rinse seedstring with a low flow of clean water until the diatoms wash away. Avoid splashing rinse water into other tanks.
Cyanobacteria	Attached	Speed spool	Low	Blue or green streaks or clusters are visible on the sides of the tanks or spools.	Manual	Streaks typically appear closest to the light. Wipe clusters away with a clean paper towel or sponge where possible. Avoid dropping contaminants back into the tank.
Ectocarpus	Tufts	Speed spool	Low	Stringy tufts of ectocarpus begin to appear in tanks or on the spools.	Manual	If there are only a few tufts, leave them be. If many new tufts begin to develop on spools, use a pair of tweezers to gently pull the tufts off. Avoid fragmenting the tufts.
			Medium	Stringy tufts of ectocarpus develop all over tanks or on the spools.	Manual	Closely monitoring your spools will prevent you from getting to this point. The above treatment is the only treatment. If you allow ectocarpus to take over, you risk your spools being smothered.

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Bacteria	Attached	Speed spool	Low	Small amounts of bacteria are seen on the spool surface and appear stringy or as a color cluster.	None	Small amounts of bacteria are normal in your tank system and do not require treatment. If a bacteria problem worsens, it may begin to smother your spools and should be considered "high severity".
			High	Slimy film that coats seed appears on the surface of spools.	Manual	Manually remove the film as best you can. Avoid disturbing the seed as much as possible.
	Free-floating	Speed spool	Low	Free floating mats appear on the surface of water in tanks.	Manual	Use a clean object to push the bacteria toward the drain.
	Foggy	Speed spool	Low	Water appears slightly cloudy.	Manual	Perform an extra water change. If the problem persists for multiple water changes, consider severity high.
			High	Water appears cloudy for multiple days, even after water changes.	Kanamycin	Add 5mL of kanamycin solution per 10L of seawater to each tank 1x per day until you don't see cloudiness. If possible, avoid using kanamycin before day 14.
Protozoa	Free swimming	Speed spool	Low	Water appears silky or foggy and protozoa are visible under microscope during water check.	Manual	The daily water change of 100% should prevent this issue. However, if the water appears very foggy, do an extra complete water change.
Fungi	Any type	Speed spool	Low	Clusters begin to appear on surfaces in tanks or on the surface of the water.	Manual	Use a clean object to push the clumps on the surface toward the drain or use a clean paper towel to gently wipe the spot away.

