

This guide is for LABs treatment for microbial pathogens and prevention of such pathogens for use in aquaponic systems. This is useful for treating E.Coli, Salmonella, Pythium, Root Rot, Septoria, Alterinia, and secondary fungal infections in fish and much more. Regular dosing also prevents buildup of fish waste and other detritus that builds up in the system over time.

Curds from the LABs creation can be fed to fish as a great feed supplement. We have also found that regular feeding of LABs to fish also refuses secondary external infections such as fin rot.

This Document was created by Stephen Raisner of Potent Ponics. The method listed below is slightly altered from the traditional KNF preparations and works better than traditional methods in our trials.

Note that the dosing of LABs will slightly lower pH. It is recommended that you add a slight pH up dose after adding LABs to adjust for that or it can be used as a natural pH down if needed.

Equipment:

1. Cheese Cloth
2. 2x Clean bowl or pot
3. Clean & Sterilized Clean Bucket or drum
4. Large Rubber bands or Hemp Twine
5. Pitcher
6. Dechlorinated or Distilled Water
7. Rice
8. Milk
9. Kefir Grains from at least 3 ideally more different sources
10. Large Spoon or other implement to stir with
11. Large Spoon with holes
12. Large Paint Strainers

Target:

1. To create LABs for use in aquaponics.
2. LABs eliminate a wide range of aquatic pathogens.
3. Prevents a wide range of fish and plant pathogens.

Dosing as a Treatment for Active Pathogen Infection

1. The recommended dose is 1:750 or 1 gallon of LABs per 750 gallons of system volume dosed into the sump or MBBR.
2. As an example, Initial dose for 20,000 gallons is 27 gallons per dose.
3. This is continued once a week for 4 weeks as a treatment protocol.

Dosing as a Maintenance / Preventative

1. The recommended dose is 1:1000 or 1 gallon of LABs per 1000 gallons of system volume dosed into the sump or MBBR.
2. As an example, Dose for 20,000 gallons is 20 gallons per dose.
3. This is dosed twice a month or every 14 days.

Instructions:

1. Place your rice into your bowl or pot and rinse it well to collect the rice dust into the water. Submerge the rice fully and stir for 2 to 3 minutes to ensure as much rice dust is suspended in the water as possible.
2. Pour off that rice wash water into a bowl or bucket and place your cheesecloth across the top and secure it with a rubber band or string. Place outside in a well ventilated area but not in direct sunlight.
3. Allow it to colonize with Lactobacillus and yeasts and other microbes for 36 - 48 hours.
4. Once collected remove the cheese cloth and pour your Rice Wash Water into your clean container.
5. Add your Kefir grains the more sources the better for the initial inoculation. Adding additional kefir every 3 - 6 months is also a good idea to maintain colony health. If doing this the second time onward simply take a large scoop of the previous curd and LABs from the previous batch to seed the next one. You can also try other lactobacillus sources as well including probiotics and other food sources just avoid kimchi as it's very high in sodium.
6. Add the Milk at a ratio of 4 parts milk to 1 part rice wash. .
7. Stir Vigorously for at least 2 minutes. (A Paint Mixer and Drill can also be used)
8. Cover your bucket with your cheese cloth and use your large rubber band or twine to secure it.
9. Let Sit for 3 - 4 days depending on your temperature. The warmer the faster it goes. Can be as fast as 2 days with healthy cultures and warm temperatures but usually takes 3 - 4 days for larger batches. Should be kept between 68f - 74f or 20c to 23.4c
10. The curd will separate to the top leaving the LABs(whey) under it as a clearer thinner layer.
11. Once it's ready to be harvested the curd(chucky white material) will separate to the top. This is scooped off with your spoon with holes and can be either turned into cheese (See Chris Trumps Video Guide) or fed directly to your fish to increase growth.
12. Place your paint strainer into your 5 gallon bucket and pour the remaining solution from your container into the bucket using your pitcher and strain through the paint strainer.
13. Once strained fully it is now ready to be used in your aquaponic system. Be sure to leave enough (1 ounce / shot glass or more) to seed your next culture of both the curds and the LABs.
14. Dose at a rate of 1:750 for an active pathogen issue or 1 gallon of LABs for every 750 gallons of system volume once a week for 4 weeks. For preventative maintenance dose at 1:1000 or 1 gallon of LABs for every 1000 gallons of system volume every 14 days.

Stephen Raisner of Potent Ponics

PotentPonics@gmail.com PotentPonics.com

15. Note that dosing with LABs will slightly lower your pH so adjust your pH up regimen accordingly to account for this pH change.
16. This can also be used at a rate of 1:20 for foliar application as a mold treatment or prevention as well.
17. Once you have used the required amount, use the remaining contents to seed your next batch.
18. Repeat the process as needed. If you are not immediately making a new batch after, store your seed culture in the fridge until needed. If storing more than 2 weeks cut with equal parts sugar in the raw to stabilize it until needed.



Potent Ponics

Stephen Raisner of Potent Ponics

PotentPonics@gmail.com PotentPonics.com