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USING NON-IODIZED SALT FOR A CULTURING ANTISEPTIC
BY

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As many of you know, salt is a fantastic natural antiseptic. It's been used for centuries for the cleaning of wounds from bacterium, soar throats, gum diseases, fungal infections on your feet and even skin acne. It also has in the home uses for mold and mildew cleansing. And prevention as well. So why not put it to use in mushroom cultivation? For aiding in bacterial and mold inhibition? Let's do it.

I'm not saying that this technique is going to prevent any of the contaminates we cultivators have to deal with on a consistent basis, but i'll certainly tell you that the salt works wonders in giving us the upper hand for a much more simple end result. No doubt about that in my mind. And you'll see for yourself soon enough.

So you'll be using a 1/4 tablespoon (1.25mills) of NON IODIZED table salt, for every 150mills of water to be used for your particular project. In these projects you'll see here, i'll be using it in an agar medium and for a cleansing agent for spores and mushroom tissue.

Here's the Malt Extract agar preperation.

MATERIALS

dry malt extract (purchased at Home Brewing supply stores)
agar powder (purchased at Health Food stores) used to gelatin foods
a measuring spoon that's 1/4Tspn (1.25mills)
a tablespoon

300mills of hot tap water
NON IODIZED table salt (purchased at any grocery store)
1- 26oz. pasta sauce jar
a filtered lid on the sauce jar (preferably a small polyfil plug)
a microwave (as i'll be using here) or a pressure cooker

Now add 1 lightly heaped tablespoon of the dry malt extract to the jar. Of course you can do this in a quart sized jar as well if you plan to pressure cook the medium.

Now add 1 nearly level tablespoon of the agar powder to the jar.

Now add 2 near level (1/4Tspn or 1.25mills) spoon fulls from the measuring spoon of the NON IODIZED table salt to the jar.

Now simply add 300mills of hot tap water to the jar and stir it well with the tablespoon until the contents mix up as well as possible. Don't worry with getting all of the contents mixed up well, as i'll show you later on how to get the contents perfectly dissolved.

Now microwave the jar on high for a minute or 2. Just to the point the contents start to simmer and then stop the microwave. It's hard to see in the picture, but you can see a light simmer on top of the medium. Stop the microwave then and take out the jar so you can give the contents a good stirring.

If you look in the picture, you can see a lot of the contents sitting in the bottom of the jar. This quick heat up is to only get the medium hot enough so those contents sitting in the bottom of the jar can be mixed in easier because of the near boiling water.

I don't even remove the cap to stir. I set the jar on the counter top and gently slide it in a circular motion flat on the counter top so the contents swirl perfectly like a tornado. The stuff that was sitting on the bottom nearly disappears in a few seconds after doing this. Just try not to get the filter wet with the medium when swirling. If you're having a hard time getting what i'm talking about with the counter top swirling, simply take off the lid and use a spoon to mix it up well. If you get the filter soaked with the medium, simply rinse it off well under a sinks tap. Put it back on after you've mixed the medium well.

Here's the medium perfectly mixed and ready for the final 3-4 minutes of microwaving.

Now finish microwaving the jar for 3-4 minutes on high after you've mixed the medium well. Let the medium boil for at least 3 minutes.

Now you're probably wondering why I just didn't let the boiling medium mix up the ingredients for me. Reason is, the ingredients on the bottom that aren't mixed in well with the water will foam up in the jar and can potentially make a mess comming through the poly-fil filter. After the medium's mixed perfectly, the 3-4 minute boil is nice and smooth. No foaming action and works perfectly. This whole process takes around 6-8 minutes and is much easier and quicker than breaking out the Pressure Cooker . If you want to pressure cook the medium, simply do it for 15 minutes @ 15psi. But I do advise in the microwave step for heating and mixing the ingredients up well prior to pc'ing. I don't recommend a pc though. This is too easy! You'll see.

Let the jar sit in the microwave with the door open for about 15 minutes to cool down some. Then after the 15 minutes is up, lightly touch the jar to see how hot it is. By then, you should be able to take it out with a clean towel or pot holder with BOTH hands. Let it

cool down enough on the counter top so you can handle the jar with a gloved hand to pour your dishes with. Simple as that.

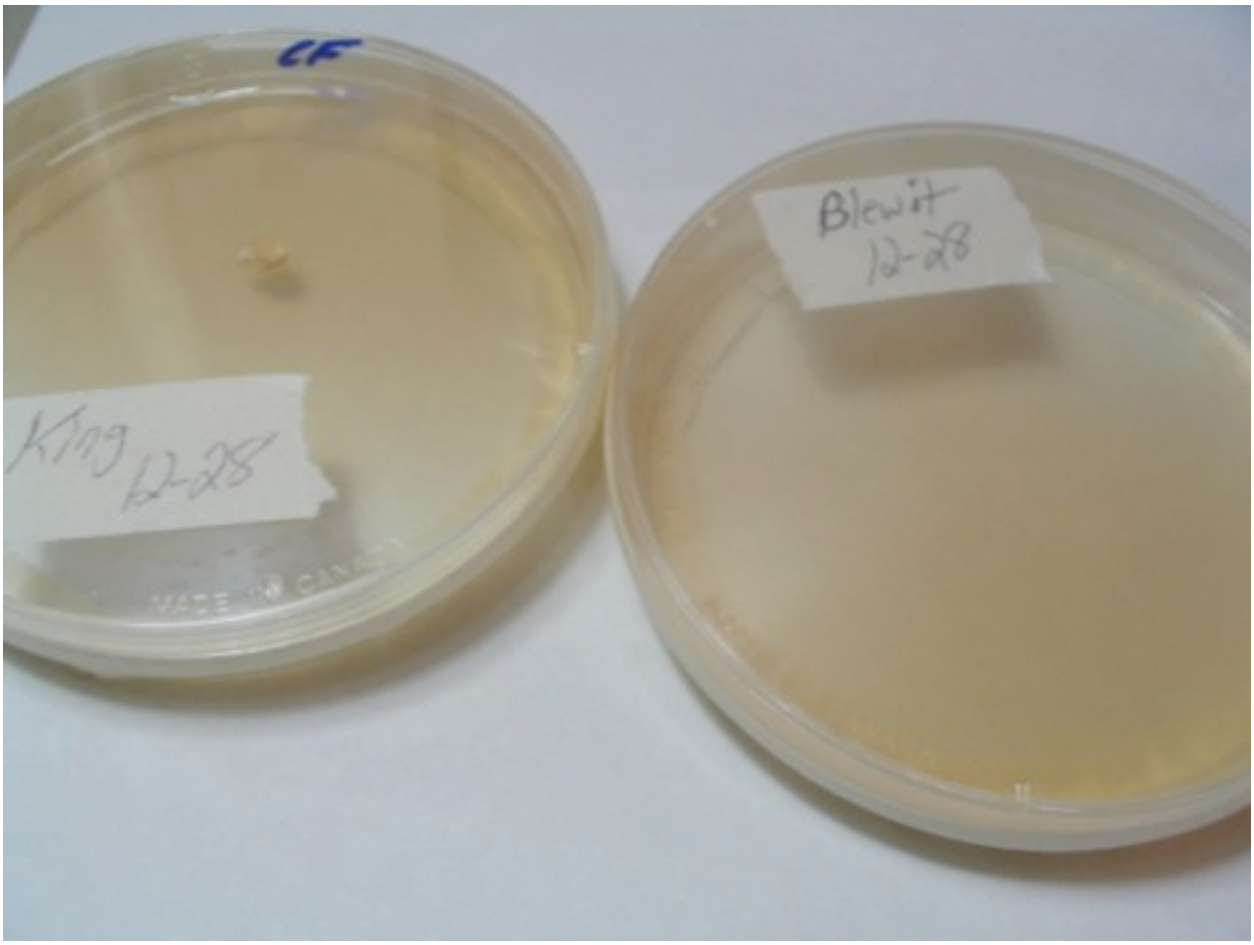
How to make the saline solution for cleansing of spores and mushroom tissue. There's no need in a pictorial for this one.

All you do is use the exact same jar and salt/water mixture as showed above. Filtered lid and all.

Same mixture for the water and salt. 1/4Tbspn (1.25mills) NON IODIZED salt, per 150mills of hot water. Mixed well and then microwaved. There's no need in stopping and mixing with this one, as the salt dissolves well in the water during it's boil. After the water starts to boil in the jar, let it boil for 3 minutes and then stop the microwave. Allow the jar to cool for a while and then remove it. Allow the

saline water to cool completely to room temperature before scrapping in spores or putting in a chunk of mushroom tissue. Here's how the saline solution looks. You can see it in the 2 jars in the pic. One jar contains Blewitt spores and the other jar has dried King eryngii mushroom tissue.

I allowed the spores and dry tissue 30 minutes of soaking time in the salt solutions. More time the better though. If using dry mushroom tissue, make sure the tissue's nice and hydrated with the salt solution. It should sink to the bottom of the jar, or swell up some once hydrated properly. In this particular experiment, I applied the spores and dry tissue to un-treated MEA. Both plates showed very healthy growth in a matter of a few days. Which is great considering the Blewitt spore printing was done on a sheet of typing paper, on my kitchen table. And then sat there for a week or so after the printing was done for Lord knows why. The eryngii tissue fired right up nice and healthy as well. Which is odd for reviving dried mushroom tissue.


CF
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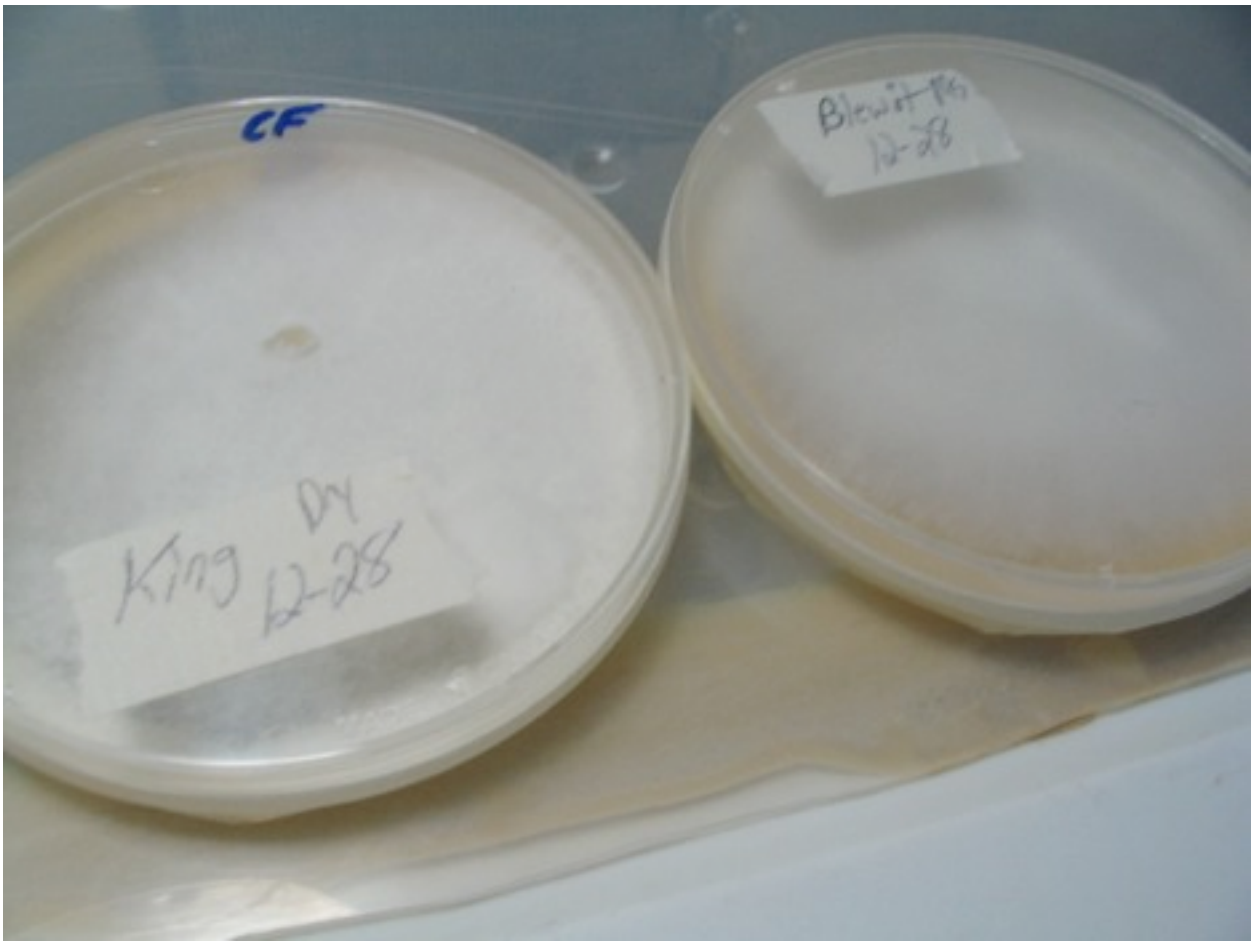
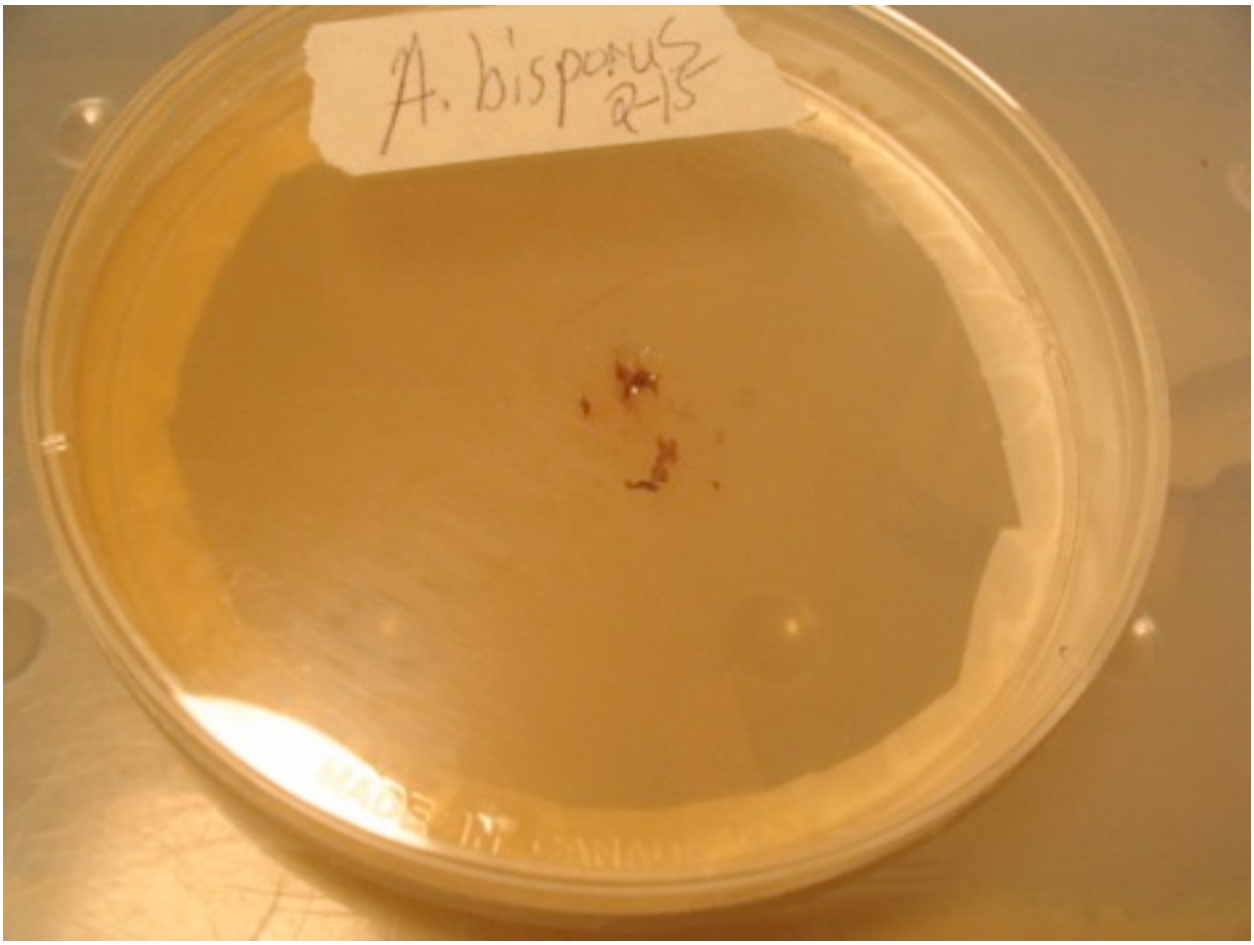
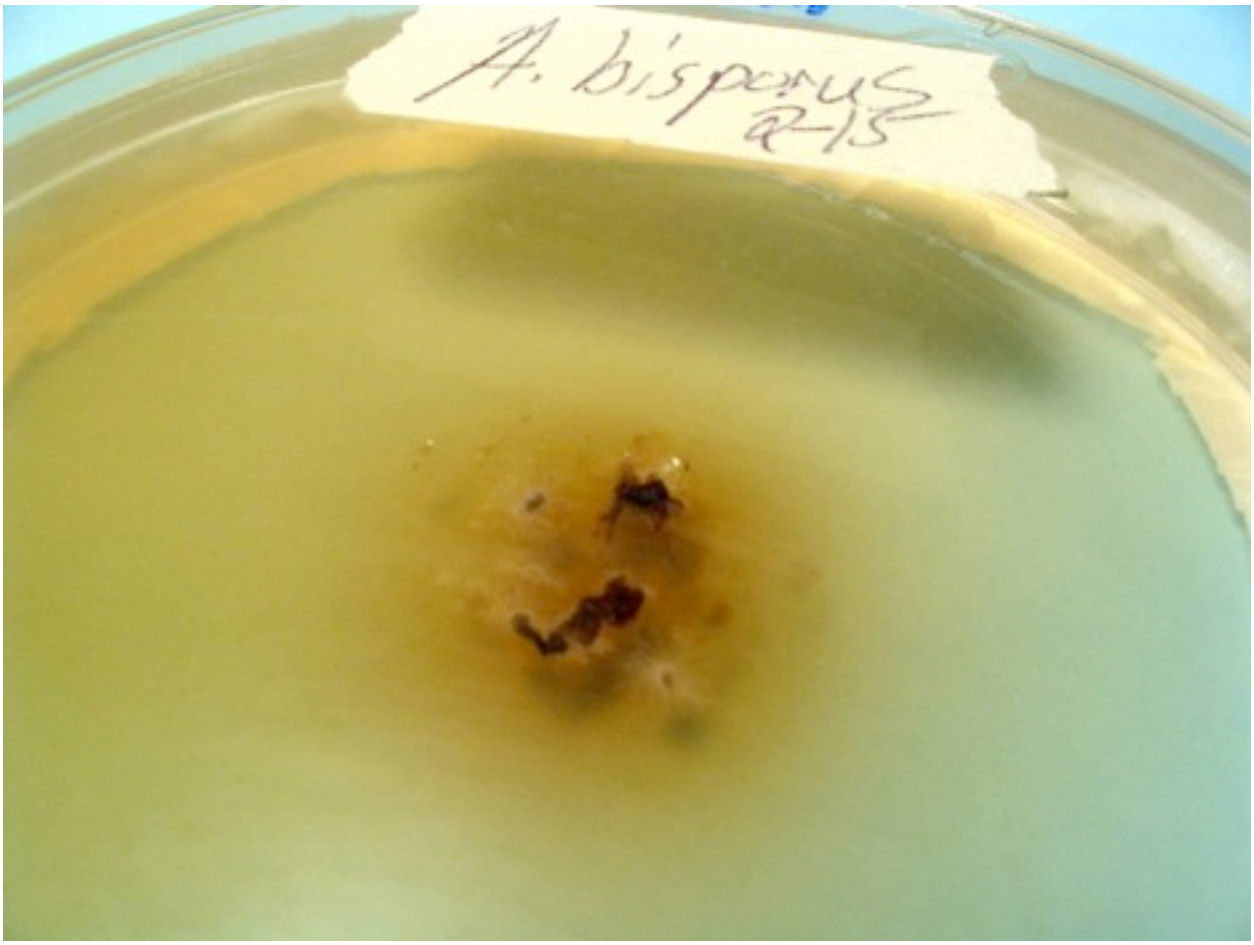
Blewit 12-28



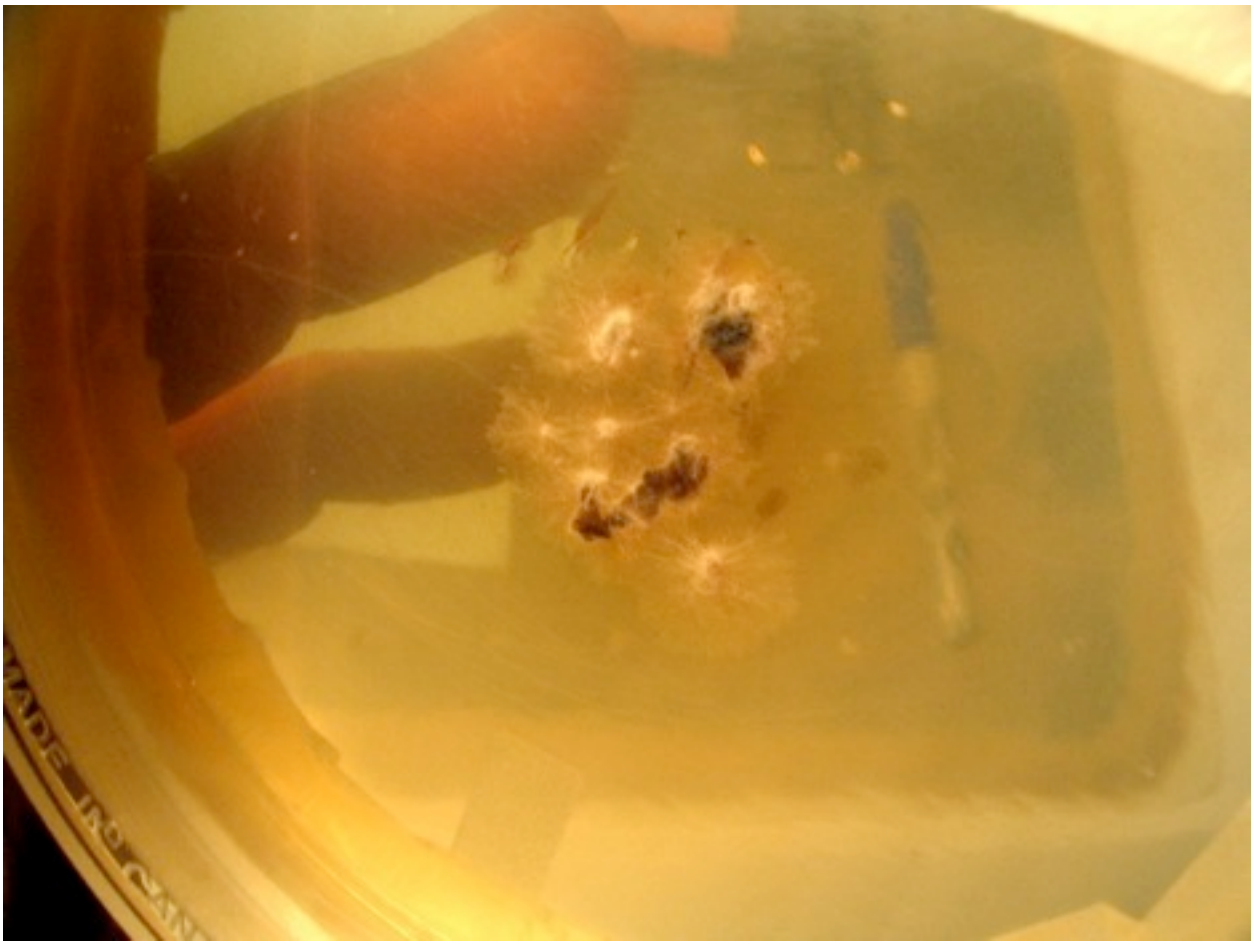
Now for the next trial. I bought a Portabello cap from the grocery store that had been sitting on the shelf in the wide open, right next to the isle for at least 4-5 days. I had been scoping the cap out because it was the nicest looking one. So I bought it and applied gill fragments from it to salt treated MEA. Rubbed the gill fragments around on the treated agar so they were coated with it.



Then the fragments too started to grow out nicely.



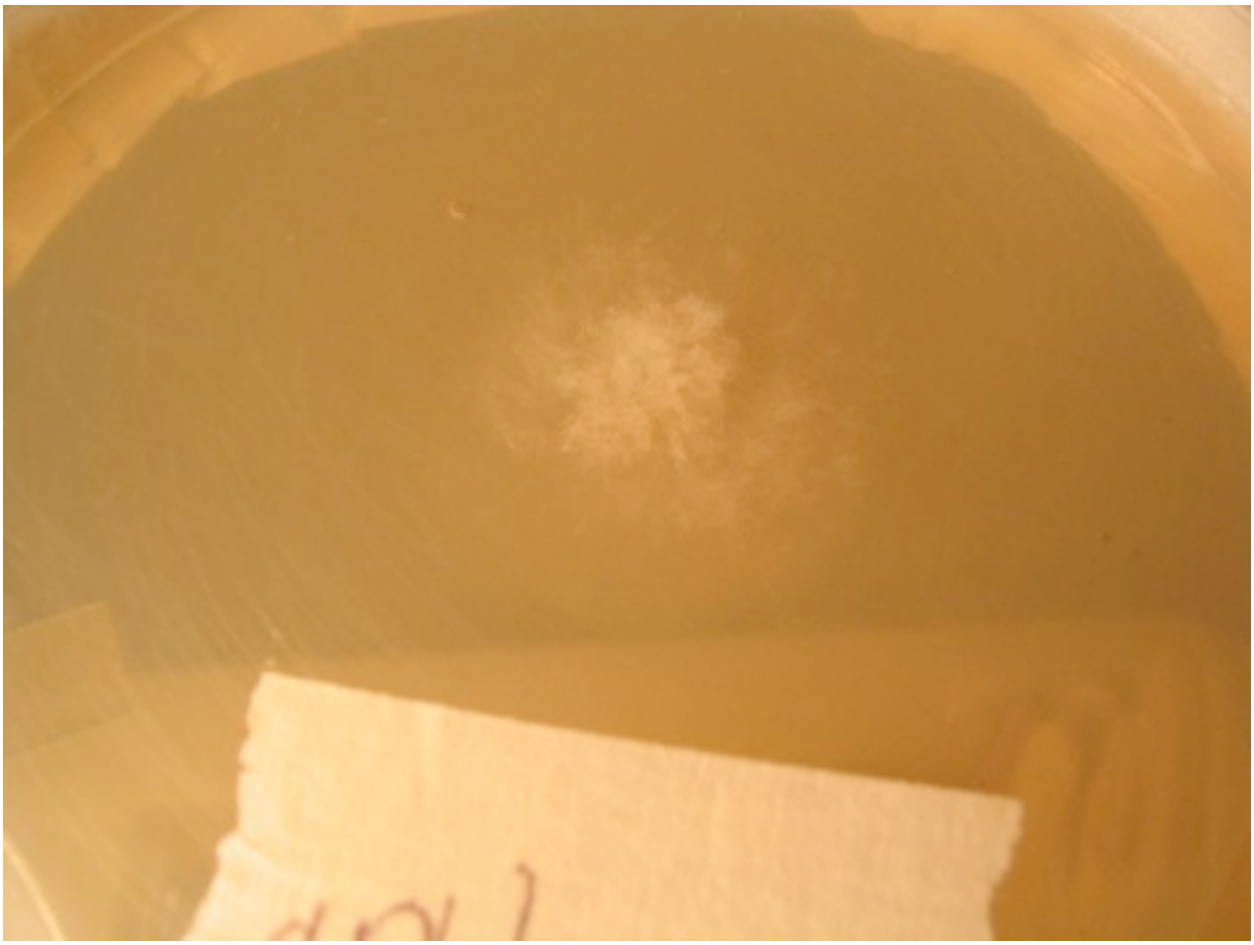
And here's that project as of today.



I figured for sure there would've been some contaminate problems, but nodda! Looks nice aye?

So my next project was to use salt treated agar for a Sparassis *herbstii* culture that I had. It's been a menace to get cleaned up. So after numerous transfers, I gave up. You can still see the mold growing on the mushroom mycelium.

So I transfered the cleanest spot in the plate to a new plate with treated agar .



Then another transfer to a new plate. This is it as of today. I'll update the progress soon. I'll transfer this one again tonight to a new plate. Note that this culture has been a PITA to cleaned up. When I finally gave up on it, I had already transfered it to a new MEA plate well over a dozen times and still came up empty. This one has been far harder to get clean than the Lion's Mane was. And that one was a MAJOR PITA.

Another reason behind using the sauce jar and a microwave is; if you're a guy or gal that only needs to pour a plate or 2 every now and then, you can re-liquify the jar of agar in the microwave whenever you need it. I pour my plates piping hot and then simply put the lid back on and then I store the jar in a cabinet to be used for another day. This makes it simple for me. Especially when I only pour a plate or 2 everday for transfering purposes and I don't feel like pouring the whole jar for 20-30 plates.

Like I mentioned in the other thread, the salt seems to have a strange effect on the agar's ability to re-liquify after it's cooled the first time. So if you want to either cut down on the amount to make, or simply pour all of it at once for numerous dishes, there's nothing wrong with that.

The salt treated agar DOES re-liquify, but it takes a few more minutes of time in the microwave to totally liquify it all, versus a non-treated agar. A non-treated agar liquifies easily. Several times.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