

Making penicillium

Accumulating medications may be simple when it comes to finding aspirin and other non-prescription drugs but prescription drugs will be hard to get for those who can't write their own prescriptions or don't have a relationship with an understanding physician who can. Antibiotics are a case in point.

I consider this a major issue because there will be a much larger incidence of infections when people have to fend for themselves, and injure themselves as a result. Simple cuts and scratches from chopping wood can begin to show infection, in the form of redness, heat and swelling, within a relatively short time. Treatment of infections at an early stage improves the chance that they will heal quickly and completely. However, many preppers, being the rugged type, are most likely to ignore the problem until it get much worse and spreads to their entire body, causing problems that could eventually be fatal. Having antibiotics readily available would allow them to deal with the issue until medical help (if available at all) arrives.

Of course, I've mentioned using aquarium antibiotics as a simple and relatively cheap way to get good quantities of various antibiotics. Since the only ingredient in these medications is the antibiotic itself, it's a perfectly reasonable alternative to begging your physician for a bunch of prescriptions. Once in a while, I get someone who wants to know how to make penicillin (it's just bread mold, ain't it?). It's true that penicillin is a by-product of a fungus known as penicillium and the fungus will indeed grow on bread and fruit. In 1942, A moldy cantaloupe in Peoria, Illinois was found to have a strong version of it. Most of the world's supply of the stuff in the 1940s came from cultures of the fungus on that cantaloupe.

Well, our good friend The Covert Prepper has sent me the secret formula for making penicillin at home. If you haven't listened in on his show on Saturdays, you're missing something, because this guy is an expert on making you invisible as a prepper. This is exactly what you will want to be if a collapse situation occurs. You can tune in to his show every Saturday at 6pm eastern/5pm central or download it at your convenience at prepperpodcast.com.

This article will tell you how you can actually make Penicillin at home. It sure as heck isn't easy, and WE don't even have all the stuff necessary to produce it. But I'm going to tell you the process anyway to illustrate an important point.

Let me say, once again, that this information is only for use in a post-collapse scenario, so don't go and convert that meth lab of yours to an antibiotic factory. The practice of medicine without a license is illegal just about everywhere, and home laboratories are dicey legal subject matter.

Penicillin is a by-product of the Penicillium fungus, but the thing is, it's a by-product of a Penicillium fungus that's under stress! So you have to grow the fungus, and then expose it to stresses that will make it produce Penicillin.

First you need to produce a culture of the penicillium fungus. – A microbiological culture is a method of multiplying microscopic organisms by letting them reproduce in a certain environment under controlled conditions

One of the most important things to know is that it is easy for other critters to contaminate your penicillium culture, so use sterile techniques at all times or you will likely wind up with something entirely different!

Step 1

Expose a slice of bread or citrus peel or a cantaloupe rind to the air at 70 deg. F until a bluish-green mold develops. Takes a few days....

Cut two fresh slices of whole wheat bread into ½ inch cubes and place in a 750ml Erlenmeyer flask (the flask on the right in the above picture) with a non-absorbent plug. One thing you might not know is that a lot of bakeries put a substance called a mold inhibitor on bread. This stuff, which is called mycoban, is going to suppress the fungus, so you should probably use bread that you baked yourself. Sterilize the flask and contents in a pressure cooker for at least 15 minutes at 15 pounds. An alternate method is to place in an oven at 315 deg F for one hour.

In a sterile fashion, transfer the fungus from the bread or fruit peel into the flask containing the bread cubes. Allow the cubes to sit in the dark at 70 deg F for 5 days. This is called incubation. That's the easy part....

Step 2 This is where it gets complicated....

Prepare one liter of the following solution:

Lactose Monohydrate	44.0 gm
Corn Starch	25.0 gm
Sodium Nitrate	3.0 gm
Magnesium Sulfate	0.25 gm
Potassium MonoPhosphate	0.50 gm
Glucose Monohydrate	2.75 gm
Zinc Sulfate	0.044 gm
Manganese Sulfate	0.044 gm

You'll obviously need a scale that measures very small amounts, these are called gram scales and you can find them online. By the way, looking some of these ingredients up, I could find them at chemical supply houses, but they usually sell them in amounts of 500 gm or more.

Anyhow, dissolve in the order I listed them in 500ml of cold tap water and then add more cold water to complete the liter.

Adjust pH to 5.0-5.5 using HCL(hydrochloric acid). You'll need a ph test kit, they sell them at pet shops and garden supply stores. Fill containers with a quantity of this solution. Only use enough so that when the container is placed on its side the liquid will not touch the plug.

Sterilize the containers (use glass) and solution in a pressure cooker or stove just like you did before. When it cools, scrape up about a tablespoon of the fungus from the bread cubes and throw it into the solution.

Allow the containers to incubate on their sides at 70 deg F for 7 days. It's important that they are not moved around. If you did it correctly, you'll have Penicillin in the liquid portion of the media. Filter the mixture through a coffee filter or something similar, plug the bottles and refrigerate immediately.

Step 3

To extract the penicillin from the solution:

Adjust the cold solution to pH 2.2 using (.01 %) HCL. Mix it with cold ethyl acetate in a separatory funnel (that's a funnel with a stopcock; you can find all these items at chemistry glass suppliers) and shake well for 30 seconds or so.

Drain the ethyl acetate (which should be on the bottom) into a beaker which has been placed in an ice bath and repeat the process. Add 1% potassium acetate and mix. Now you want the ethyl acetate to evaporate off. This can be induced by a constant flow of air over the top of the beaker, say from a fan. When it dries, the remaining crystals are a mixture of potassium penicillin and potassium acetate.

There you have it, you have put together a laboratory and made Penicillin! You are now officially a mad scientist! Seriously, After looking at all this a few times, I'm guessing that making Penicillin at home isn't that workable, after all. However, it does make a point. If there's a collapse, you know there is no way that anyone will be able to reliably produce antibiotics.

So you can try to do all of the stuff I mentioned, or....you can google search "aquarium antibiotics" and buy fish-Pen (250mg) or Fish-Pen Forte (500mg) online. 100 tablets go for about 39.99 at the lower dose and 49.99 for the higher dose. Buy as much as you can afford, there is no prescription necessary. \$400 will buy you 1000 tablets to save or to use for barter. It seems like a lot of money, but those antibiotics will be like gold in a collapse situation.

It's clear to me that every prepper should have a stockpile of antibiotics (several varieties) in their storage, and should learn what each one is used for. If you don't want to buy fish medicine, at least grow plants that have some antibacterial action. Garlic has scientifically proven antibacterial properties. Other plants that are thought to be helpful would be calendula (a special type of marigold), goldenseal, cayenne pepper, eucalyptus and thyme.

For more info, download Dr Bones and Nurse Amy Show #7 or look up my article on survivalblog.com from 7/28/10. (A doctor's thoughts on antibiotics, expiration dates and TEOTWAWKI).

Here's the article link:

http://www.survivalblog.com/2010/07/a_doctors_thoughts_on_antibiot.html

Dr. Bones

Though it is strongly recommended not to do this at home, I would say it is an important piece of info to put out there, should something happen and you cannot acquire it at the drug store or your very own supply runs out. (I mean, hell, if you're going to die from some disease and this is the only possible chance you have left. It's more than worth a try. I know people (older) who say their parents use to make this and they are still around so something must have been done right.) I was thinking about it the other day start looking around the net for some info on how to make it and this is what I found. Seems pretty basic but yeah, be very careful when mixing it and follow the instructions to the letter.

Though I cannot personally guarantee that this will work. This is the site where it came from: <http://www.howtodothings.com/>

Did you know that penicillin can be grown outside of a lab? This mold-based antibiotic can be grown as a science project using a slice of bread. Please note that these instructions should be used for experimentation only; when there is a medical need for penicillin, it should be obtained through a doctor. Making penicillin does require some scientific equipment, and it is very important to keep the area sterile while you are growing penicillin. Here's how to make penicillin:

Supplies:

Slice of bread or citrus peel
750ml Erlenmeyer flask
Media (see Step 4)
1000ml (1 L) graduated cylinder
Several clean milk bottles

1. Prepare a penicillium culture. Expose a slice of bread or a citrus peel to a 70 degree Fahrenheit environment. A blue-green mold should develop.
2. Sterilize the equipment. Place the flask in the oven at 315 degrees Fahrenheit for one hour, or sterilize in a pressure cooker for at least 15 minutes. Wash the milk bottles.
3. Fill the Erlenmeyer flask. Cut the bread or citrus peel into small pieces and fill the flask. Allow to incubate in the dark at 70 degrees Fahrenheit for 5 days. After this incubation period, the flask can be stored in the refrigerator for no more than 10-14 days.
4. Prepare the media. Dissolve the following ingredients, in the order listed, into 500ml of cold tap water: 44.0 grams Lactose Monohydrate, 25.0 grams cornstarch, 3.0 grams sodium nitrate, 0.25 grams magnesium sulfate, 0.50 grams potassium phosphate mono, 2.75 grams glucose monohydrate, 0.044 grams zinc sulfate, 0.044 grams manganese sulfate. Then add enough cold tap water to make one liter. Use hydrochloric acid to adjust the pH to between 5.0 and 5.5.
5. Fill the bottles with media. Fill the milk bottles with this media. Use only enough so that when the bottle is placed in its side, the media does not reach the plug.
6. Add the penicillin spores. First sterilize the bottles of media in a pressure cooker or in the stove, as you did the Erlenmeyer flask. When they have cooled, add approximately one tablespoon of the spores from the bread or citrus peel.
7. Incubate the bottles. Allow the bottles to rest undisturbed on their sides at 70 degrees

Fahrenheit for 7 days. If the culture has worked to produce penicillin, it will be in the liquid portion of the media following this incubation period. Finally, filter the media and refrigerate immediately. If you must use it, although this should be avoided, use as soon as possible.

The penicillin made from this experiment should not be used unless it is a survival situation. It is possible for other, toxic molds to grow along with the penicillin, even if you know what you are doing. It is also possible for mold inhibitors to grow, stopping the growth of the penicillin spores.

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<http://www.howtodothings.com/health-fitness/how-to-make-penicillin>