

## Making Lactic Acid Bacteria Serum (LABs)

Also currently posted on the PlowShare's website: [plowshareoc.org](http://plowshareoc.org)

### Materials needed:

1. Container larger than 1 US gallon (at least 5 quarts)
2. Two 1 quart canning jars
3. Non-metallic strainer
4. 1 cup of rice (any kind)
5. Two cups of water (without chlorine or any other anti-bacterial additives)
6. 1 gallon of any kind of milk (organic if possible)
7. 1 or 2 cup measuring cup

### Stage 1:

1. Put one cup of rice in a quart jar.
2. Pour one cup water into the jar with the rice.
3. Shake for several minutes.
4. Pour the rice wash water into the empty quart jar.
5. Put the other cup of water into the jar with the rice.
6. Shake again for several minutes.
7. Pour off the rice wash water into the jar with the first wash water.
8. Place a coffee filter or napkin on jar and secure with a rubber band.
9. Place in a warm dark place and do not disturb for at least 3 days.
10. Check periodically after that.

The rice wash water will be ready when there are three distinct layers. The top will have a white scum, the bottom will have a white sediment and the middle will be relatively clear. The middle layer is what you will use to inoculate the milk in the next stage.

### Stage 2:

Strain the fermented rice wash water into a clean quart jar. Measure out 12 to 13 ounces of the wash water and place into the larger container (1 gallon plus). Add one gallon of milk to the container. Be sure there is enough head space to allow for expansion. Cover with a coffee filter or paper towel and secure with a rubber band. Check after about 2 to 3 days. The fermentation is complete when there are two distinct layers visible. The curds (cheese) will be on top and the yellowish liquid (the whey or the lactic acid bacteria serum) will be on the bottom. There may be some milk solids stuck to the sides and bottom. This is normal. At this point you may remove the milk solids and strain the LABs into a container for storage in your refrigerator. If you do not wish to keep your serum in the fridge, either add molasses or brown sugar at a ratio of 1:1. LABs stabilized with either will last unrefrigerated for a period of at least 2 years. It is best, however, to keep it out of sunlight.

### How to use LABs:

For most applications the recommended dilution rate is 1:1000. This equates to about 3/4 tsp of serum to one gallon of water (un-treated). For example: for a 2 gallon garden sprayer, mix 1 1/2 tsp of LAB serum with 2 gallons of water. The following are suggestions of some things you may wish to treat with the solution:

1. Bedding in chicken coops or animal stalls and in pigsties.
2. Spray on layers of a compost pile under construction.
3. Add to livestock feed and water (3/4 tsp undiluted/gal) as a probiotic.
4. Apply to anything that has gone anaerobic.
5. Spray on garden crops and as a soil drench for general plant health.
6. Presoak laundry for anything with a foul odor.
7. Spray on anything that stinks of a biological origin.

LABs can be used undiluted to treat septic systems. Pour 1 to 2 cups of serum down any drain connected to the septic tank as a preventative or to attempt to correct a sewage problem.