

Recipe – 1: LAB Serum (also known Lacto)

From [Gerry Gillespie of ROTS](#) (Return Organics to Soil)

This is a base inoculant that is based mainly on a well-known group of fermenting bacteria called Lactobacillus. It can be used directly on soils and plants or further fermented with other ingredients to make a wide range of products including the Static Pile Inoculated Compost Extension (SPICE) compost inoculant. It makes a product which is similar in some ways to Effective Micro-organisms (EM).

Ingredients & Equipment

Clean water non-chlorinated
Milk/Milk Powder – must have lactose
Rice – any type
Containers - clean
Molasses – organic, blackstrap
3 Gal Bucket / 50 Gal Barrel / 260 Gal IBC with lid

Process

Step 1: Capture inoculant by putting rice into a large open-mouthed container with clean water. Leave for 3-5 days in dark place with a loose-fitting lid. The liquid should change and after this time it should smell slightly sour and may have a slightly milky color in it. Decant the water off and keep it. Throw away the rice. This liquid is a Lacto Culture mainly of Lactobacillus species.

Step 2: Feed inoculant by adding the liquid Lacto culture to the milk in a large container with a wide mouth. Cover with loose fitting lid and store for a few days until it curdles, and milk solids separate. Remove the solids. Keep the creamy- yellow whey. This is also known as the Base Serum.

Step 3: Stabilize the product by adding equal parts water to this liquid. Add about 1/4 quart (1 cup) of molasses for every quart of water you add. This is your stable LAB Serum product.

Step 4: Store the product in a cool place with the lid tightly on. It should remain stable for a number of years. It should be light to mid brown color with a slightly sweet-sour smell. Some light brown yeasts may colonize the surface. This is OK. The pH should be around 4.

Batch Recipes

	2 Gal	20 Gals	250 Gal
Step			
1	Rice 8 ozs Water 1 Quart	Rice 5 lbs Water 2.5 Gal	Rice 62.5 lbs Water 31.25 Gal
2	Milk 2 Quarts Lacto Culture 1 Quart	Milk 5 Gal Lacto Culture 2.5 Gal	Milk 62.5 Gal Lacto Culture 31.25 Gal
3	Whey Approx. 3 Quarts Water Approx. 3 Quarts Molasses 3 cups	Whey Approx. 7.5 Gal Water Approx. 7.5 Gal Molasses 1.25 Gal	Whey Approx. 93.5 Gal Water Approx. 93.5 Gal Molasses 15 Gal

Store in a sealed container, in the shade if possible. It should last at least 2 years.