



Social Policy Ecology Research Institute
Farmer Field School



Making Natural Soap

Shower soap and clothes / dish washing liquid:
HEPA Workshop

9/10/2013

Introduction: Soap can contain chemicals that may be harmful for humans or the environment. In order to protect our environment and our health we should try and minimize our use of these chemicals. HEPA has beautiful and clean surroundings; we need to make sure we are not causing any harm while also demonstrating appropriate technological solutions for human hygiene and health. Another consideration in HEPA is that our natural water purification systems; banana circles and reed bed contain beneficial microorganisms that help in cleaning water; some chemicals in soaps particularly those in clothes washing powder may harm these microorganisms and build up chemicals in these systems. In this workshop we learn how to make shower soap and dish / clothes washing liquid that are safe to use in HEPA and cheap to make.

PRODUCTION OF SHOWER SOAP

Materials and Ingredients:

1. Caustic Soda (NaOH, be careful; do not allow contact with water until you are ready to mix): 90 g
2. Lemon Grass water (prepare by boiling about 20 diced stems in water for 30 minutes, this helps to extract the oils out of the lemon grass, strain off and collect the water): 250 g
3. Melted Fat (Pig Lard can be used, melt the fat on the fire using one of the cooking pots, pick out the crackling): 500 g
4. Water: 250 ml
5. Bamboo (split the bamboo to make containers in which to cure the soap)
6. Tools: Knife, Chopping board, Fireplace, Chopsticks, two cooking pots (the pot that is used for mixing the caustic soda cannot be used for food in the future, this pot also needs to be able to withstand the high temperatures that is caused when mixing water and caustic soda).



Method:

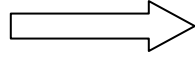
Step 1: Pour 250ml of water into the cooking pot



Step 2: While stirring very slowly add 90g of Caustic Soda into the pot; mix well with the water until it dissolves (Warning – Do not add water to the caustic soda, add the caustic soda slowly into the water to minimize the risk of explosion, the pot will get hot and release harsh vapours)



Step 3: After the caustic soda and water have settled down add 500g of melted fat into the pot and mix well



Preparation of the pig fat; melting in a frying pan.



Step 4: Add 250ml of Lemongrass water into the pot and mix well with the other ingredients



Preparation of the lemon grass water



Step 5: After all the ingredients are mixed thoroughly together, pour into the bamboo container for curing



Step 6: Keep in a dry place with ventilation for 6 weeks, make sure animals and insects do not have access

Step 7: After six weeks, take the soap out of the bamboo and cut it into smaller soap sized pieces, keep these in a dry place for another 4 weeks

Step 8: After these 4 weeks the soap is ready to use

PRODUCTION OF CLOTHES / DISH WASHING LIQUID

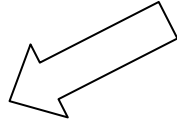
Materials and Ingredients:-

1. Hot Water ($50^{\circ}\text{C} - 60^{\circ}\text{C}$): 10L
2. Grated bath soap: 400g (1 cup)
3. Sodium Carbonate (Na_2CO_3): 200g (Half cup)
4. Borax ($\text{Na}_3\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$): 200g (Half cup)
5. Tools: Measuring Cup, 10L Container, Big Mixing bowl



Method:-

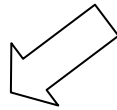
Step 1: Grate or grind up 400 grams of the cured shower soap as made using the above method and put into a big bowl



Step 2: Pour 300 ml of water to the bowl and mix well



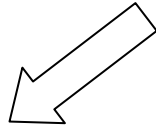
Step 3: Add 200g of borax($\text{Na}_3\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$) and 200g of Sodium carbonate (Na_2CO_3) to a separate bowl and mix together



Step 4: Add the borax and Sodium carbonate mixture to the bowl of soap water and mix thoroughly.



Step 5: Add a little less than 10L of hot ($50^{\circ}\text{C} - 60^{\circ}\text{C}$) water to the mixture and mix vigorously.



Step 6: Put the solution into a 10L storage container, it is now ready to use for washing clothes and cleaning dishes