



## UPLAND HOLISTIC DEVELOPMENT PROJECT

### **Gardening Activity: Making and Using Manure Tea**

**Objective:** To gain skill in producing and using manure tea for use in gardens and small farms.

**Time req.:** **20 minutes** to prepare materials for soaking in a barrel of water. **2-3 weeks** to allow the manure to soak in a barrel of water. **30 minutes** to collect, dilute and apply the manure tea solution to garden and nursery plants.

**References:** *Gardening for Nutrition in the Upland Villages of the Golden Triangle, Rodale's Illustrated Encyclopedia of Gardening and Landscape Techniques*

**Materials:** Shovel, bucket, scales, fresh pig manure, sack, twine, large rock or cement block, 200 liter barrel, vegetable oil, 30 – 100 liter container, watering can

**Procedure:** Besides depending on compost to provide plant nutrients for vegetable production, soil fertility can be improved and maintained by the use of manure tea. Manure tea is a solution of water in which livestock manure has been soaked for an appropriate period of time. The solution can be collected, diluted and easily applied around the base of crops with a watering can.

One potential danger concerning manure tea is the potential presence of harmful bacteria, such as *E. coli* in animal wastes. Should infected animal waste products, such as manure tea, contaminate vegetables that are to be eaten raw, there is risk of serious illness. Therefore manure tea is best used for crops that will be adequately cooked prior to consumption, for crops that produce fruits well above the area of application of the fertilizer and non-edible plants, such as nursery seedlings.

Alternatives to nursery tea are green manures and compost tea. However, if used appropriately, manure tea offers an excellent means of providing all essential plant nutrients to gardens.

#### **Step 1 – preparing the manure tea**

- Collect 30 kg (two buckets) of fresh pig manure in a porous bag. Place a large stone in with the manure to weigh the sack down and tie the sack tightly. Place the sack in a 200-liter drum and fill with water. Cover the drum to reduce the threat of mosquitoes, flies and odor as well as to protect the solution from rain. A tablespoon of

vegetable oil will control mosquito larva that breed in the liquid. Should fly larva and other maggots breed in the solution, merely scoop them out to be fed to chickens or fish.

**Step 2 – monitoring the solution**

- The soluble part of the manure with all of the nutrients will dissolve in the water, leaving only the solid part in the sack. After 2 or 3 weeks, most of the nutrients will have dissolved into the water. The sack of manure can then be removed and the manure discarded into the compost pile.

**Step 3 – diluting the solution**

- The leftover liquid is very strong and cannot be applied to plants in its present form without potential injury to the crop. Therefore, dilute the liquid 4:1 (four buckets of water for each bucket of manure solution). In the end, one drum of liquid actually makes 5 drums of manure tea fertilizer (1000 liters).

**Step 4 – applying the manure tea**

- Using a watering can, the diluted manure tea may be poured around plants as a fertilizer. As it is applied directly to the roots of each plant there is very little waste.

It is recommended that the soil be moist prior to applying the manure tea to garden plants. The frequency of fertilizing garden crops with manure tea depends upon the type of plant. Leaf crops (mustard, amaranth) should receive a weekly application. Crops that produce fruits (melons, tomatoes, corn) should be fertilized every other week. However, root crops (taro, carrot) and legumes (winged bean, yardlong bean) need only one application of manure tea during their season of growth.

**Questions** Why would the vegetable oil help control mosquito larva in the manure tea barrel?

What makes undiluted manure tea hazardous to garden plants?

Why would legumes and root crops need only one application of manure tea during a season of growth?