STARTING TO USE URINE AS FERTILIZER

People have used animal and human feces to fertilize crops for centuries because manure contains many vitamins that plants need. What most people don’t know is that the majority of beneficial nutrients leave human and animal bodies through urine rather than through feces, and the majority of urine is pathogen-free. People in the developed and developing world are beginning to use this untapped nutrient potential to fertilize crops with great success. It’s currently being tried all over West Africa. This paper will teach you how to collect urine in modified jug and turn it into fertilizer in a safe and cheap manner.

The Urine Collector

We can’t apply urine directly on plants because it’s too acidic and will burn the roots of our plants. We need to collect the urine and dilute it.

Start by getting a 20 L yellow jug (not green because we need to see the liquid level inside). Cost: 400-750 CFA

Buy a large mouth funnel that can fit tightly into the jug opening. The stainless steel funnels made locally are best. If possible, have the funnel maker add a screen to block debris from falling in.

Cost: 500-1000 CFA

We need to make the jug air-tight. Otherwise it’s going to stink, and that stink will mean a lot of precious nitrogen is leaving as ammonia. First, we tie a piece of rubber cord where the jug and the funnel meet to seal any air gaps.

Cost: 0-100 CFA

Next, we’re going to make a seal for the mouth of the funnel. Put 3 old plastic bags one inside the other and fill the inner most bag part way with water. Push the air out and tie the bags up top so it swims. Now tie it to a string. Cost: 0-50 CFA

NOTE: Women and small children can add urine to the funnel using a cup. Sit a cup or old can in the latrine. People can urinate into the cup and dump it into the collector afterwards.
Collecting and Diluting Urine
We want our fertilizer to be 1 part urine, 3 parts water: That means we need 5 liters of our 20 liter jug to be urine. Here’s what we do:
1. Add ONLY URINE to the 5 liter line. This usually takes 4 or 5 days.
2. STOP adding urine at the 5 liter line. Now 1/4 of the jug is urine.
3. Let the jug sit for 2 days. This will kill any schistosomiasis in the jug.
4. Take the jug to your chosen garden or field.
5. Now top off the jug with water and mix it a little.

Application Rate

Fields: 2 Liters of Mix per 1 Square Meter of Field Crops each Week
Gardens: 4 Liters of Mix per 1 Square Meter of Garden Crops each Week
Trees: 2 Liters of Mix per Tree each Week

NOTE: These are strong doses that will produce a visible increase in most crops. Once people are convinced the urine fertilizer works, we can use more efficient nutrient application rates for specific crops.

Prepare an Application Area
We want to see that there is a difference when urine is used, so it is best to chose an area we can split in two. We put urine fertilizer on one portion and none on the other. We'll be able to see the difference with urine and non-urine crops next to each other. Use sticks to mark off the area where urine will be used.

When to Apply
START APPLYING URINE at the time of planting.
STOP APPLYING URINE one month before harvest. Old plants cannot use extra vitamins efficiently, so the urine is best used elsewhere or saved for later use. This also adds a level of precaution against any microbes that may have been in the urine. The vast majority of microbes in urine die off in one month.

How to Apply Urine
1. Find something to measure out the desired dose.
2. Pour the fertilizer near the ground to prevent urine from getting on the leaves.
3. Wait until the fertilizer seeps into the ground.
4. Now, water the area with pure water. Recall that the nitrogen in urine turns into a gas and escapes (and stinks!). This water pushes the urine into the ground to keep the nitrogen (and smell) there.

What to Fertilize with Urine
BAD FOR: Flooded Rice, because we don’t want that urine sitting in pooled water.
LITTLE EFFECT ON: Legumes, Beans, and Peanuts, because they already fix nitrogen.
BEST ON: Corn, Millet; Sorghum, Salads, Spinach, and other Greens because the nitrogen in urine is especially great for growing bigger leaves and lots of seeds.
BUT GREAT ON: Everything Else (Onions, Tomatoes, Potatoes, Eggplant, Bananas, Peppers, Garlic, Cucumber, Melons, Squash, Okra, Cabbage, Sweet Potatoes, Cassava...)

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