

Dialogue Group Interview Guide

First: Go over informed consent procedure, and demographic info form [include contact info for mailing check], explain about snacks.. feel free to get some.

Introduction: Some researchers, farmers and homeowners are currently diverting human urine from the waste stream and making it available as a fertilizer. Urine diversion refers to separating urine from solid waste at the source, so that the urine can be dealt with as a unique product. This practice has the potential to prevent the nutrients in urine from entering waterways; secure an abundant source of nutrients for agricultural inputs; and conserve water that would otherwise be flushed.

1. There are multiple ways of implementing this process. For instance, at Rich Earth we collect the urine and sanitize it using a pasteurization process. Some people are considering [or currently] using sanitized human urine as a fertilizer. Today our focus is on the idea of using this urine fertilizer on food crops or flowers. I'd like to begin today by asking you to share your initial reaction to these ideas?

- a. [PROBE] explain if needed - sanitized urine [for example, it can be pasteurized at 80 degrees Celsius (176 F) for 1.2 minutes or 70 Celsius (158 F) for 30 minutes OR storage with high ammonia levels for 30 days]

2. In exploring an idea like this, it can be useful to share some background information. Urine contains nitrogen, phosphorus, and potassium and these are the essential nutrients found in commercial fertilizers that stimulate plant growth. We are interested in knowing whether this information is new to you, or if this is something you're already familiar with. How much, if anything, have you heard about this idea before today?

3. Now I'd like to ask you how comfortable you would be with the idea of fertilizing crops with a urine. For example, with:

- a. [PROBE] ...non-edible crops, such as flowers?
- b. [PROBE] ...crops for food that you eat?
- c. [PROBE] ...annual vs. perennial crops (like fruit trees)?
- d. [PROBE] ...thinking more about this, are there some crops that you would be comfortable eating if they were fertilized in this way but others that you would not be? (For example, leafy crops like lettuce vrs crops where you eat the fruit like tomatoes or peppers?)

[PROBE IF NEC.]: Tell me more about the situations in which you are comfortable with the idea of using a sanitized urine or a urine-derived

fertilizer (UDF) and those where the idea is more difficult for you to accept.

4. We are interested in learning more about how people choose the food that they purchase. What are some of your current criteria for choosing food – what do you look at or think about when you are making these choices?

- a. [PROBE] ...nutritional value
- b. [PROBE] ...where products are grown (local or not)?
- c. [PROBE] ...look for organic choices?
- d. [PROBE] ...do you think at all about how crops are fertilized when you make food purchases?
- e. [PROBE]: Are there other factors that influence your choices?

5. Would you buy or consume agricultural products which have been fertilized with urine or a urine-derived product? (Why/Why not?)

- a. [PROBE]: How would you feel about serving your friends and family foods grown with urine or a UDF? [Note, in discussion, tease out whether people feel differently about urine alone or a UDF – i.e. further processing]
- b. [PROBE]: Have you eaten food you have grown and fertilized with your urine? (Tell me more about that...)
- c. [PROBE]: How might you feel about eating food fertilized with other people's urine or a UDF?

6. What are your concerns, if any, about using urine or a UDF to grow edible crops?

7. Given what you know about this so far, do you have any positive feelings about this potential? If so, what are they?

8. Negative feelings? If so, what are they?

9. We have used the terms “sanitized urine” and “urine-derived fertilizer” or “UDF.” This practice is also sometimes referred to as “urine-diversion”, “urine recycling” or “pee-cycling”. In your opinion, what would be the best terminology to use to describe this process to someone for the first time? Why do you say that?

10. In our introduction today, I briefly mentioned that this practice has the potential to prevent pollution, secure an abundant source of nutrients for agricultural inputs, and conserve water. How much does this information affect the way you think about this idea?

- a. [PROBE] ... Are there other potential consequences of the practice that might influence your thinking?

11. If diverting urine for use as fertilizer proved to be cost effective, and save utility costs in water treatment, how would this affect your willingness to accept it as a normal practice?

12. What additional factors would affect your thinking about the use of urine as fertilizer?

13. How do you think the general population in your community, or neighborhood would react to the idea of using urine as fertilizer on food crops?

14. What questions do you have that need to be answered before you would be comfortable with the idea of using urine to fertilize food crops?

15. Now that we've discussed all this, let's take a quiet moment just to reflect on what we've talked about... [pause at least 30 seconds, preferably a minute] Do you have any other questions, concerns, or suggestions about this?