SARE 22 Novel Coding Document [Note- These codes were uploaded to Dedoose, with some modifications to work with the software]

Key: U - urine; B- biochar; BB biosolids biochar (put in memo if response is for one or the other)

1. Basic Characteristics of operation
    a. Scale of operation (use when the interviewee is describing size/scale)
        i. Acres
        ii. Staffing
        iii. Year round or seasonal
        iv. Size of business, number of customers, visitors, etc.
    b. History of management
        i. Soil types, condition
        ii. Label: i.e. Organic, conventional, etc.
        iii. Length of time in operation
    c. Current management
        i. Current nutrient management practices
            1. Benefits of these methods
            2. Challenges of these methods
        ii. Soil testing
        iii. Other management discussion
    d. Structure
        i. Family farm/couple
        ii. Collective Farm
        iii. Type of business (subsistence, wholesale, farmstand, etc.)
        iv. Individual proprietor
        v. other - eg. coordinator of pollinator project
    e. Main crops grown
    f. Characteristics of region

2. Identity
    a. Main role in their work: e.g. farmer, landscaper, gardener
        i. How long they have been in this role (i.e. how long farming, level of experience)
    b. Farming/garden method: e.g.. Certified organic, organic - not certified, ecological, conventional, or other label

3. Philosophy/Values
    a. Relationship to nature: e.g. "reciprocity," desire to improve ecosystems over time
    b. Ideological label - i.e "environmentalist"
    c. Values related to money/economics/finances
    d. Closing loops (or similar, expressed specifically)

4. Level of transition towards more ecological orientation

    a. -1 Low: increase use efficiency; reduce use of costly, scarce, environmentally damaging inputs
    b. 1 Medium: substitution of conventional inputs with alternatives
    c. +1 High: Redesign agroecosystems so they function on the basis of a new set of ecological processes

5. Soil Health Indicators
    a. Nutrients/Fertility as measured on soil tests
    b. Plant observations
    c. Yield
    d. Organic matter
    e. Compaction
    f. Water-holding capacity
    g. Drainage
    h. Erosion
    i. Microbiome
    j. Other

6. Relationships/Level of Engagement
    a. with regulators
    b. with federal/state/local government
    c. with surrounding community/ies
    d. with other businesses
        i. Competitors
        ii. Suppliers
    e. with researchers/universities/extension
    f. with other farmers
    g. with customers
    h. other

7. Barriers to adoption (*tangible* thing that might make adoption difficult, pragmatic or practical barrier)
    a. Labor requirements
    b. Transportation requirements
    c. Financial costs
    d. Energy costs
    e. Access to appropriate tools
    f. Type of crop grown
    g. Odor
    h. Lack of awareness
    i. Availability (could be volume, timing, etc.)
    j. Lack of consistency of product
    k. Other (e.g. needing to deal with regulations)

8. Familiarity
    a. **U**rine
        i. Yes
        ii. No
    b. **B**iochar (from a source other than biosolids)
        i. Yes
        ii. No
    c. **BB**iochar (from biosolids)
        i. Yes
        ii. No

9U. Comfort Level Urine - Self/Others
    a. Self
        I. +1 Hi openness across the board/enthusiastic
        2. 1 Medium/Neutral - more open in some cases than others, use on some crops, but not others
        3.-1 Low - pretty uncomfortable
    b. Others
        1. -1 High - openness across the board/enthusiastic
        2. 1 Medium - neutral, more open in some cases than other, use on some crops but not others
        3. +1 Low - pretty uncomfortable

9BB. Comfort Level Self/Others
    a. Self
        1. +1 Hi openness across the board/enthusiastic
        2. 1 Medium/Neutral - more open in some cases than others, use on some crops, but not others
        3. -1 Low - pretty uncomfortable
b. Others
    1. +1 High - openness across the board/enthusiastic
    2. 1 Medium - neutral, more open in some cases than other, use on some crops but not others
    3. -1 Low - pretty uncomfortable

10. Motivations for potential adoption (of urine or biosolids biochar)
    a. Ease of use/convenience
    b. Local source (or potential to be local)
    c. Reputation of source
    d. Awareness of biochar benefits
        i. Microbial colonization
        ii. Nutrient retention
        iii. Contaminant reduction (from pyrolysis process)
    e. Closing loops

f. Benefit to environment/ecosystem
g. Crop type (good for a specific crop)
h. Other

11U. Willingness to pay
a. Would buy if cheaper
b. Would buy if equivalent
c. Would buy if more expensive, if… (eg. if yield is higher)

11BB
a. Would buy if cheaper
b. Would buy if equivalent
c. Would buy if more expensive, if… (eg. if yield is higher)

12. Concerns (abstract, hypothetical, more emotional than 7, solution may be complex)
a. Contaminants
i. Risk to human health
ii. Risk to wider environment
iii. Unforeseen variables
b. Rigor/level of testing
c. Effectiveness of amendments
d. Odor
e. Other concern

13. Recommendations for regulation
a. *Who* should regulate
b. *How* it should be regulated

14. Education (education they would recommend for others, or that they use themselves)
a. Type of education method they recommend
i. For different audiences
b. Content of education they feel should be provided to others
c. Source of education/information they value personally
d. General comment about education

15. Info/support/research needs (urine, biosolids biochar) (info they need/want for themselves - *inward* facing)
a. Testing/presence of contaminants
b. Nutrient composition
c. Guidelines for application
d. Experimental trials (i.e. application results with different crops, etc.)
e. Appropriate tools/equipment
f. Transportation/application service provider
g. Cost information
h. Labor

    i. Other

16. Interesting story - not easily coded elsewhere
17. Great quote - for potential use in reports/papers
18. Demographic info: e.g. level of education, age, gender identification, race/ethnicity