Appendix B: Methodology, Data Analysis Procedures, and Codebooks

Methodology

Pre- and Post-Interview Surveys

To complement the in-depth interviews, participants were invited to complete pre-interview and post-interview surveys designed to collect background information and contextualize farmers' practices, demographics, and experiences. The surveys served both as contextual scaffolds for interpreting interview narratives and as tools to situate participants within broader social, material, and relational fields.

The pre-interview survey, administered before the interview, focused on establishing a baseline understanding of participants' farming contexts. It included questions on:

- Informed consent and research participation agreements
- Years of experience as the primary farm decision-maker
- Farm size (owned and managed acreage)
- Community context descriptions
- Family farming background (e.g., whether participants' parents were farmers)
- Crop and livestock production practices over the past three years

The post-interview survey, completed after the interview, collected additional background and reflective information, including:

- Current plant crop and animal management practices
- Recent experiences with grant funding
- Demographic information (age, gender identity, sexual orientation, racial and ethnic identity, educational background, political views, political affiliation)
- Household and personal income, and the proportion derived from farming
- Interest in participating in on-site farm visits for further research engagement

Both surveys were voluntary and administered digitally to reduce participant burden and ensure flexibility. Participants could skip any question they did not wish to answer. Survey responses were used primarily to:

- Contextualize participants' material and demographic backgrounds
- Inform follow-up engagement opportunities (e.g., invitations for on-site farm visits)
- Enrich interpretive analysis by situating interviews within broader social, economic, and ecological positionalities

Surveys were not subjected to formal thematic analysis but were treated as complementary contextual data enhancing the depth, situatedness, and relational understanding of farmers' experiences.

Interview Design

All in-depth interviews were initially conducted via Zoom, offering a consistent and flexible format for engaging farmers across New England. For approximately half of the participants, these interviews were subsequently complemented by on-site farm visits, during which additional walking interviews and observational fieldwork were conducted. These follow-up visits enriched the study by providing a more embodied, place-based understanding of farmers' sociomaterial practices and farm environments.

This study employed semi-structured, in-depth interviews to explore the lived experiences, material engagements, and relational infrastructures that underpin regenerative farming practices. In-depth interviewing was selected because it allows participants to articulate meanings, emotions, competencies, and everyday practices in their own words, generating rich and situated knowledge (Brinkmann 2020; Kvale and Brinkmann 2014; Alshenqeeti 2014).

The interview schedule was organized around open-ended prompts rather than fixed questions, following best practices for qualitative interviewing (Jiménez and Orozco 2021; Billups 2021). Interviews were conceptualized not as mechanical question-and-answer exchanges but as relational, co-produced conversations where knowledge emerges through interaction (Brinkmann 2020). The goal was to foster space for participants to narrate their own trajectories, prioritize topics they found meaningful, and surface the complexities of their farming practices.

The interview prompts were adapted from the typology developed by Jiménez and Orozco (2021), who propose structuring qualitative interview protocols around four core types of prompts: guided "grand-tour" prompts (to surface salient events, experiences, and attributes), comparison prompts (to illuminate perceptions of normalcy and change), counterfactual

prompts (to explore cause and effect through hypothetical scenarios), and no-limits prompts (to facilitate open discussion of sensitive topics without imposing normative expectations).

Following a semi-structured design, not all prompts were posed to every farmer. While the interview guide provided a broad architecture of possible directions, interviews were conducted responsively: participants were encouraged to guide the conversation toward the topics they found most significant. This flexible approach prioritized participant agency and respected the multiplicity of farmers' experiences rather than enforcing uniform coverage of a pre-determined checklist (Jiménez and Orozco 2021; Hsiung 2008).

For similar reasons, climate change was not directly prompted in the interviews. Rather than imposing externally defined problem frames, the interviews allowed farmers to narrate their own relationships with ecological change, environmental stewardship, and uncertainty if and when these emerged organically. This decision reflects a commitment to relational, reflexive interviewing practices that center participants' ways of knowing and interpreting their realities (Lokot 2021; Thorpe et al. 2024). Although the sequence of prompts provided a structured guide to key thematic areas, interview conversations were fluid, iterative, and participant-led whenever possible.

Semi-Structured Interview Guide

Opening introduction to interview: *Thank you again for agreeing to meet with me today! I have scheduled until 1 PM at the latest. This interview will be guided by open-ended prompts about your experiences. Please feel free to take your time and speak openly and honestly, even if what you say doesn't directly "answer" the question. Your insights are extremely valuable.*

1. To start, could you go back to the beginning and take me on the journey of how you became involved with agriculture and became a farmer? Take me through the whole story from the beginning through today at your current farm.

2. How would you compare your approach to farming from when you first started farming through today?

3. Reflecting on your journey in regenerative farming, how would you compare your approach today to when you first started? compare your initial expectations with your current experiences, what insights have you gained?

4. Imagine a world in which you never became a farmer, what do you think your life would be like today?

5. How would you compare your approach to farming with those of other farmers in your area?
6. How would you describe your relationship with agriculture organizations/associations, etc.?
7. How would you describe your experiences with grant funding?
8. Imagine you had endless resources to apply to your farm, what would be the first few things you would do?
9. I know there are a range of opinions on if local farms in New England can really support the New England population/feed New England/feed ourselves. What is your opinion on this and what do you think would need to happen for this to happen?
10. I know there are a range of opinions on if organically approved chemicals should be used in a regenerative system, what are your opinions on this?
11. I know there are some people who argue that a regenerative system needs to be 'no till', while others argue that tillage can also be necessary in regenerative agriculture. What is your opinion on this?
12. I know there are some people who argue that a regenerative system needs animals or else it isn't really regenerative, while others argue this isn't the case, what is your opinion on this?
13. What do you wish more people knew about being a farmer and farming the way you do in New England?
14. Is there anything else you would like to add, maybe a topic that we didn't discuss that you would like to comment on?

Visit Design

Following the initial Zoom interviews, on-site farm visits were conducted with approximately half of the participants. These visits were not designed as standalone interviews but as complementary extensions of the original conversations, allowing for a deeper, more embodied engagement with the relational, material, and ecological contexts of each farm. Visits were organized according to place-responsive and relational methodologies (Leverentz 2023; Lynch and Mannion 2016), recognizing that place is not a passive backdrop but an active participant in the co-production of meaning and knowledge.

Visits typically involved walking interviews, during which farmers guided me through fields, barns, compost sites, pastures, and equipment areas while narrating their farming practices, material challenges, multispecies relationships, and environmental observations. These mobile, conversational interactions enabled the emergence of rich narratives grounded in the material, sensory, and relational realities of regenerative agriculture (Brinkmann 2020). Material infrastructures—such as fences, irrigation systems, soil conditions, and livestock behavior—became integral parts of the storytelling process, illustrating how sociomaterial elements stabilize or constrain farming practices (Thorpe et al. 2024).

Visit formats were highly flexible and participant-led: some farmers preferred structured farm tours, while others invited more spontaneous movement through their spaces. This responsiveness allowed farmers to prioritize what aspects of their farm life they wanted to highlight, aligning with the broader commitment to participant agency and relational ethics (Lokot 2021; Hsiung 2008). Observations were documented through detailed fieldnotes, and where permitted, supplemented by photographs of farm environments and material arrangements.Photographs were also taken during farm visits to visually document material infrastructures, land conditions, multispecies interactions, and the spatial organization of farming practices. These images supplemented fieldnotes, providing additional sensory and relational context for interpreting the sociomaterial dimensions of regenerative farming.

Validity and Researcher Reflexivity

Data Triangulation

Triangulation, or the use of multiple data sources and perspectives, was another key strategy used to enhance the validity of the study. In this case, triangulation was achieved through the combination of interviews, field observations, and the review of secondary sources, such as event reports and academic literature. This method provided a fuller picture of the practices and experiences of regenerative farmers, strengthening the findings and reducing the likelihood of biased interpretations. The use of diverse data sources allowed for a more nuanced understanding of the context and the interplay between different factors influencing regenerative practices

Member Checks and Respondent Validation

To strengthen the credibility of the findings, I employed member checks, where participants were invited to review the interpretations of their responses and provide feedback on the accuracy of the findings. This process helped prevent misinterpretation of the data and ensured

that the voices of the participants were represented authentically. By engaging participants in this way, I was able to validate the themes and ensure that the data reflected their true experiences

Reflexivity and Researcher Positionality

In qualitative research, reflexivity is essential for understanding how the researcher's identity, experiences, and position influence the research process. This section discusses three key elements—safety concerns, privileges, and limitations—each of which played a role in shaping the study.

Safety concerns are an important aspect of reflexivity because they directly relate to how the researcher's identity and the fieldwork environment intersect. While I had already established rapport with participants through interviews, conducting farm visits alone in rural settings introduced safety risks, especially since many of the farm sites were also personal residences. These concerns are inherent in this research, but my gender and age likely heightened my anxiety.

Another critical element of reflexivity is recognizing how the researcher's socio-economic, cultural, and educational background can shape their access to participants, as well as the dynamics of trust and rapport. As an upper-middle-class, highly educated white woman from New England, my background likely facilitated access to many farmers who shared similar socio-economic and cultural characteristics. Furthermore, my affiliation with institutions such as Boston College and the Sustainable Agriculture Research and Education (SARE) program may have added legitimacy to the research, making some farmers more willing to participate.

Despite efforts to diversify the sample by reaching out to farmers of color, only one farmer of color participated. This limited diversity highlights a constraint in the study's ability to capture a broader range of experiences within regenerative agriculture. It may reflect structural barriers, such as historical mistrust of academic research or socio-political factors that influence willingness to engage in such studies. Additionally, my positionality as a white, upper-middle-class woman may have affected how I was perceived by participants, particularly farmers of color. This dynamic may have shaped the depth and scope of the responses I received, further limiting the diversity of perspectives in the data.

At the same time, studying the experiences of white farmers is not inherently problematic. Doing so can still yield valuable insights into how regenerative agriculture is practiced, negotiated, and understood within particular social, economic, and cultural contexts. The key is to avoid conflating these experiences with those of all farmers. Acknowledging the limitations

in representation allows for a more accurate and reflexive interpretation of the data, and underscores the need for future research that more fully incorporates the perspectives of farmers of color.

Data Analysis

Data analysis followed an iterative, multi-phase process combining both inductive and deductive approaches, grounded in the theoretical framework of meanings, materials, competencies, and field dynamics.

Coding Phase I: Inductive Thematic Coding of the bundles of regen ag and their bundles

Initial data analysis was inductive, allowing themes to emerge from the raw data. Interviews, field notes, and content from the events were reviewed to identify broad categories and patterns related to farmer motivations, challenges, and the broader socioecological context. The data analysis was guided by Braun and Clarke's (2006) approach to thematic analysis, which is well-suited to capturing patterns and themes in qualitative data. Themes were not generated from a few vivid examples but were based on a comprehensive and inclusive coding process. I ensured that all relevant extracts from each theme were collated and checked against each other, making sure that the themes were internally coherent and consistent. This thorough approach to coding and analysis ensured that the findings reflected the complexity and depth of participants' experiences.

Coding Phase II: Practice Theory Coding

After the initial round of inductive coding, the data were revisited using a practice theory-specific codebook that integrated the concepts of meanings, materials, and competencies, as well as field dynamics. This step aligned with the work of Fox and Alldred (2015), who emphasize that materialist theories, such as new materialism, provide useful frameworks for understanding how different elements of practice intertwine.

Coding Phase III: Social Embeddedness

In the third phase of analysis, coding focused on the social embeddedness of regenerative agriculture practices. Drawing on sociological literature on embeddedness (Granovetter 1985), this phase examined how farmers' relationships, social ties, and networks of support influenced both the adoption and adaptation of regenerative practices. The goal was to understand how

farming is not only shaped by individual motivations or material conditions, but by the web of social relations in which it is situated.

Codes were developed to capture dimensions such as peer farmer networks, collaborative marketing, mentorship, customer relationships, and community integration. Peer-to-peer learning, in particular, emerged as a foundational element of continuity and innovation in regenerative practice. Examples included informal exchanges of tools, skills, labor, and emotional support. Farmers frequently described how seeing other farmers succeed—or fail—encouraged them to persist through challenges.

Market ties and consumer expectations also shaped regenerative choices. Some farmers described reshaping production based on CSA member feedback or local food hub demands, while others struggled with tensions between seasonal variability and consumer expectations shaped by industrial norms. Collaborative structures like food hubs, shared CSAs, or cooperative land management practices further exemplified how social embeddedness influenced practice sustainability.

This phase also explored the vulnerabilities that come with social embeddedness. While many networks offered support, others introduced pressure or dependency. For instance, community goodwill could be uneven, and customer support often came with demands for year-round availability or price sensitivity. Farmers managing educational farms or nonprofit models noted the emotional toll of performing accessibility, sustainability, and success simultaneously.

Ultimately, Phase III showed that social relations are not just peripheral to regenerative agriculture—they are constitutive. Farming practices are maintained, adapted, or abandoned in relation to these networks. Understanding regenerative agriculture requires tracing the meshwork of interpersonal, institutional, and market relations in which it is embedded.

Coding Phase IV: Entangled Practice Analysis with Cross-Coding Synthesis

The fourth phase of analysis focused on overlapping coding, allowing for the integration of previously coded themes—meanings, materials, competencies, and social embeddedness—into a more complex matrix of interaction. Rather than introducing a new analytic frame, this phase re-engaged with the dataset to understand how multiple codes interact and co-constitute practice in situated contexts.

This overlapping analysis was attentive to how elements such as material constraints (e.g., tools, soil conditions), social relationships (e.g., mentorships, community ties), and embodied

competencies (e.g., skill, exhaustion, learning) clustered together in particular moments. The goal was not to isolate variables, but to trace constellations of entangled practice. In this way, the analysis reflects Barad's (2007) notion of intra-action, emphasizing that outcomes are not the sum of discrete parts, but emergent from entangled relations.

For example, a farmer's ability to implement no-till methods was often shaped by a combination of technical knowledge (competency), equipment availability (material), peer demonstration (social embeddedness), and belief in soil regeneration (meaning). These were not coded separately in this phase, but jointly—to explore how successful or failed practices are co-produced through alignment or misalignment across domains.

This phase also identified common patterns of alignment that facilitated sustained regenerative practices, such as the presence of multi-functional tools that reduced labor strain, peer mentorship that validated experimentation, or consumer relationships that stabilized financial precarity. Conversely, it highlighted points of friction: mismatches between moral commitment and bodily exhaustion, between ecological ideals and customer expectations, or between institutional support and land tenure insecurity.

Ultimately, overlapping coding deepened the explanatory power of the analysis by surfacing the relational configurations that underpin success, adaptation, or breakdown in regenerative agriculture. It moved the research beyond thematic aggregation and toward a dynamic map of how practices are made and unmade through complex, entangled forces.

References

Alshenqeeti, Hamza. 2014. "Interviewing as a Data Collection Method: A Critical Review." *English Linguistics Research* 3(1):39–45.

Billups, Felice D. 2021. *Interview Protocols: Exploring Qualitative Research Design and Interviewing Techniques*. New York: Routledge.

Brinkmann, Svend. 2020. *Unstructured and Semi-Structured Interviewing*. In *The Oxford Handbook of Qualitative Research*, edited by Patricia Leavy, 424–443. 2nd ed. Oxford: Oxford University Press.

Hsiung, Ping-Chun. 2008. "Teaching Reflexivity in Qualitative Interviewing." *Teaching Sociology* 36(3):211–226.

Jiménez, Tori, and Madison Orozco. 2021. "Prompts, Not Questions: Four Techniques for Crafting Better Interview Protocols." *Qualitative Research Journal* 21(3):363–374.

Kvale, Steinar, and Svend Brinkmann. 2014. *InterViews: Learning the Craft of Qualitative Research Interviewing.* 3rd ed. Thousand Oaks, CA: Sage.

Leverentz, Andrea. 2023. "Interview Location as Data: Exploring Relational Place in Qualitative Research." *Qualitative Sociology* 46(1):21–45.

Lokot, Michelle. 2021. "Whose Voices? Whose Knowledge? A Feminist Analysis of Participatory Research in Displacement Contexts." *Qualitative Research* 21(1):119–134.

Lynch, Jake, and Greg Mannion. 2016. "Enacting a Place-Responsive Research Methodology: Walking Interviews with Educators." *Journal of Outdoor and Environmental Education* 19(2):34–47.

Thorpe, Holly, Rebecca Olive, and Simone Fullagar. 2024. "Methods for More-Than-Human Wellbeing: A Collaborative Call for Sensory, Creative, and Relational Research." *Emotion, Space and Society* 50:100971.