Soil Building for Market Gardens – Case Study Panel

IAS Funding and Soil Biodiversity

The group discussed IAS funding opportunities for biodiversity and energy efficiency projects, with Nigel noting they hadn't yet reviewed the grants. Rachael presented a Soil Building Network presentation highlighting three market gardens with different soil ecosystems and approaches, featuring Angela's farm which has unique challenges due to its water table proximity and soil compaction issues. The presentation included photos of Angela's farm activities, including cover crops, biodiversity observations, and soil amendment applications.

Farm Presentation Photo Review

Rachael presented farm photos to Nigel and Scott for their presentation, explaining how she curated images to showcase their farming practices, including soil building, irrigation systems, and solar projects. Nigel and Scott provided additional photos to Rachael for inclusion in the presentation. Jeff joined the call and mentioned attending a horticulture show, noting its growth and potential future inclusion of vegetable topics.

Excel Spreadsheets and Phosphorus Discussion

The group discussed accessing and updating Excel spreadsheets for case studies, with Jeff offering to copy and paste relevant information for Scott. They also talked about phosphorus levels in farming, with Angela expressing confusion about phosphorus mobility in soil and plants. Jeff advised against using foliar phosphorus applications unless necessary, suggesting that current phosphorus levels were sufficient. The conversation concluded with Angela learning how to blur her background in the video conference, and Rachael preparing to introduce the farmer panel on soil building.

Kootenay Soil Building Network Launch

Rachael introduced the Kootenay Soil Building Network's winter discussion series, highlighting its focus on soil management strategies for diverse Kootenay farms. She explained the network's collaboration with the Ministry of Agriculture and outlined their work on soil building case studies with three market gardens and three forage producers. The evening's event featured a farmer panel with Anj from Crooked Horn Farm, Nigel from Cartwheel Farm, and Scott Humphries from Bent Plow Farm, who would share their experiences and insights on soil building practices.

Regional Soil Management Discussion

The meeting began with introductions from farmers across the region, each sharing their unique soil challenges and farming operations. Participants discussed issues such as acidic soil, gravelly ground, and the need for compost and organic material. Angela Weir, from Crooked Horn Farm, presented photos of her farm's transformation over the years, highlighting the changes in land use and soil conditions. The group expressed interest in learning from each other's experiences and strategies for soil enhancement.

Soil Management Practices on the Farm

Angela described their farm's journey with soil management, starting with challenges in interpreting soil tests and the decision to use boron and copper amendments. They explored various methods including cover cropping with white clover, which proved problematic due to slug pressure, and eventually adopted a system of incorporating amendments with a power harrow and broadforking. The farm's soil, which is 60% silt, required careful moisture management and different handling compared to other soil types, leading to improved biodiversity and successful crop growth after implementing the practices outlined in Steve Solomon's "The Intelligent Gardener."

Organic Farm Nutrient Management Practices

Angela discussed their farm's nutrient management practices, including the use of alfalfa and seed meal as organic fertilizers, which provide nitrogen and potassium. They also use rock phosphate and follow Steve Solomon's method for micronutrient additions. Angela explained their cover cropping approach, using peas, oats, and buckwheat, and their recent experiment with sun hemp and bursium clover. The farm team now uses a flail mower to terminate and mulch cover crops effectively. Angela also shared that they add approximately 40 pounds of alfalfa per 100-foot bed for heavy feeders, sometimes splitting it with seed meal to reduce labor.

Soil Management and Composting Strategies

Rachael and Angela discussed the nitrogen availability from seed meal versus alfalfa pellets, with Angela noting that the alfalfa regime has been effective despite low annual nitrogen release due to long-term building. Angela shared plans to use more local materials like wood chips and tofu sludge in compost, while Nigel Francis from Cartwheel Farm in Creston described his sandy soil challenges and strategies, including using peat moss and now homemade compost made from wood chips and spent grains. Both farmers emphasized the importance of soil testing and targeted amendments based on specific soil needs.

Soil Testing and Fertility Management

Nigel discussed his farm's soil testing and fertility management practices, highlighting the use of different amendments like chicken manure pellets and feather meal across various zones. He explained their soil testing program, which has become more detailed over time, and their approach to mixing and applying amendments. Nigel also shared insights from the case study, noting the similarities and differences between his methods and those of other participants, and mentioned the cost of their soil building and fertility amendment program. He expressed interest in focusing more on soil health in the future, potentially by scaling back and incorporating more cover cropping.

Farmer Insights on Soil Sustainability

Nigel shared his 12-year farm journey, highlighting efforts to improve environmental sustainability through on-farm energy conservation and infrastructure development. Scott presented Bent Plow Farm's soil building challenges, including rapid soil drainage and rock removal, and described their approach of full soil inversion and pH adjustment to address soil quality issues. Both farmers discussed their experiences with soil testing and compost application, with Scott noting that their case study came at a timely point in their farming journey.

Nutrient Management Strategy Adjustment

Scott discussed his nutrient management strategy, revealing that his initial assumption about the effectiveness of compost was incorrect, as compost was doing most of the heavy lifting rather than the 444 fertilizer. He plans to reduce compost application due to high organic matter levels and adjust his nutrient management approach to use a combination of feather meal and compost. Scott also shared his experience with cover cropping, highlighting its benefits and challenges, and mentioned his recent investment in an advanced irrigation system to better manage water use in his rapidly draining soil.

Soil Management and Farmer Experiences

The meeting focused on soil management practices and experiences shared by farmers, including Scott, Angela, and Nigel. They discussed their approaches to building and maintaining soil organic matter, reducing compost applications, and integrating new technologies like soil sensors for irrigation. The farmers highlighted the challenges of farming in non-agronomic soils and the importance of community support and knowledge sharing. The group also addressed soil testing options, with various labs recommended for different needs. The conversation ended with plans for upcoming field days to further explore soil and irrigation practices.