On-Farm Trial: Compost vs. Fertigation for Onion Production

Scott and Rachael discussed technical issues related to presenting a screen during a meeting, including adjusting the presentation view and resolving audio problems. Jeff joined the call and shared updates about a conversation with Greg, confirming that forage summaries were on their way. The group also briefly touched on the topic of funding requests, with Jeff humorously confirming that the answer to such requests is always yes.

Unresolved Nitrogen's Impact on Plants

Scott and Jeff discussed the unexpected lack of visible difference in plant growth despite high nitrogen levels in compost, with Scott noting that the plants did not appear to thrive as expected. Jeff suggested that the timing of nitrogen availability might not align with the crop's needs, and they considered factors like incorporation timing and potential negative impacts of excess nitrogen on root development. Rachael mentioned her home gardening experience with nitrogen excess and its negative effects on root crops, while Scott and Jeff reviewed the timing of compost application and planting, noting that the compost was incorporated soon after application. They agreed that further discussion with the group would help troubleshoot these observations, as the mystery of nitrogen's fate in the soil remains unresolved.

Onion Nitrogen and Soil Management

The group discussed nitrogen uptake and yield in onion crops, with Scott noting that despite some missing nitrogen, the crop was one of their better yields and stored well. Jeff confirmed that Scott's nitrogen uptake figures aligned with typical curves, while Scott expressed satisfaction with using an Amber OP variety instead of their usual Talons. The conversation then shifted to soil building practices, with Scott revealing that their compost application rate had decreased from previous years, and Rachael highlighted how different soil textures require different management strategies, citing Anja's farm as an example of managing siltier soil to prevent compaction. The conversation ended with Rachael announcing the start of the Soil Building Network Wednesday evening discussion series, inviting participants to join and introducing a roundtable introduction format for attendees.

Nutrient Management and Soil Building

The meeting focused on nutrient management and soil building practices, with Rachael introducing the Kootenay Soil Building Network and its work with local farms. She highlighted case studies on nutrient management, including Scott Humphries' Bent Plow Farm, which explored reducing organic fertilizer applications while maintaining soil health. The discussion was set to continue with Scott presenting his onion

trial results and Jeff Nimmo from the Ministry of Agriculture providing further insights on nutrient management. Participants were encouraged to share their own experiences and questions before the main presentation.

British Columbia Soil Management Discussion

The meeting brought together farmers from various regions in British Columbia to discuss their soil management practices and challenges. Ryan from Elk Root Conservation Farm shared his experience with growing organic vegetables on sandy soil, highlighting the need to balance compost application. Madeline, Aras, Sabrina, Eric, and Nadine discussed their soil types, fertility needs, and innovative approaches to soil improvement, including the use of compost, manure, and imported soil. Ariella, who farms in Pemberton, expressed interest in soil management and shared her experience with variable soil types and compost application. The conversation ended with Scott preparing to join, setting the stage for further discussions on soil management and fertility.

Soil Management and Nutrient Trials

Scott shared his experience managing soil fertility on Bent Plow Farm, a 2.5-acre farm near Nelson, BC, which transitioned from heavy clay soil in Ontario to more variable glacial fluvial soil. After struggling with rocks and high drainage, he implemented full tillage to homogenize the soil, achieving 10% organic matter and consistent pH. Scott then conducted a trial comparing Terralink's prescription with his own standardized operating procedure (RSOP) for growing storage onions and shallots, working with Jeff and Rachael to measure dry bulb weights. The trial revealed that the agrologist's prescription performed better than Scott's RSOP, leading him to question whether the agrologist could provide better nutrient management advice than he could.

SOP vs. Fertigation Cost Analysis

Scott shared his experience conducting a trial comparing a standard operating procedure (SOP) fertility treatment with fertigation on his farm. He found that while the fertigation program was less expensive in terms of materials, it was more labor-intensive and resulted in lower nutrient content compared to the SOP. The trial showed that the SOP, which included compost and 444 fertilizer, was more cost-effective at $17 per bed compared to $30 per bed for fertigation. Although the yields from the SOP were better, the difference wasn't drastic, leading to questions about nutrient management, particularly in highly skeletal soils. Scott plans to reduce compost application rates, explore alternatives like soymeal, and continue refining his fertility practices based on these findings.

Nutrient Application Efficiency in Trials

Jeff presented detailed analysis of nutrient application in an on-farm trial comparing two treatments: a standard operating procedure (SOP) and fertigation. The SOP treatment applied significantly more nutrients, particularly ammonium-rich compost, while the fertigation treatment used a more balanced approach with gradual nitrogen release. Post-harvest soil nitrate levels were similar between treatments despite the different input amounts, suggesting efficient nitrogen use and potential soil nitrogen contribution. The discussion raised questions about the fate of applied nutrients and the need to repeat the test with reduced compost application.

Compost Trial Yields Higher Results

The group discussed the results of a compost trial where Scott applied 2.5 pounds of feather meal and 45 kilograms of compost per 50-foot bed, with the compost showing higher yields compared to previous treatments. Jeff explained that the high ammonium content in the compost was unexpected and could have been lost as gas or transformed into soil nitrate, while Rachael highlighted the long-term benefits of organic matter addition to soil health. The discussion concluded with Jeff and Rachael offering to help other farmers interpret compost nutrient availability coefficients, and they announced that next week's meeting would focus on phosphorus management in soil.