

Twin Cities Campus

Forever Green Initiative

*Department of Agronomy and
Plant Genetics*

*College of Food, Agricultural
and Natural Resource Sciences*

*411 Borlaug Hall
1991 Upper Buford Circle
St. Paul, MN 55108-6026*

www.forevergreen.umn.edu

September 10, 2025

Minnesota Pollution Control Agency
Attention: Corrie Layfield
520 Lafayette Road N
Saint Paul MN 55155

Greetings Corrie:

The Forever Green Initiative in the College of Food, Agriculture and Natural Resource Sciences at the University of Minnesota is grateful for the opportunity to provide comments on the 2025 update to the Minnesota Nutrient Reduction Strategy (NRS). We also appreciate the strong expression of support for Continuous Living Cover (CLC) and the acknowledgment of our work throughout the draft report. Given that you will receive well-considered feedback from others within the Forever Green Partnership on the science and regulation of water quality standards, our comments will focus specifically on prioritizing harvestable crops, increasing research investments, convening a CLC campaign and task force, and developing the CLC Index.

Prioritizing Harvestable CLC Crops

Our work centers on advancing harvestable and marketable CLC crops in a system that presents profitable opportunities to farmers and industry. We do this because we know that the economics of traditional CLC practices are a key barrier to broad adoption. Given their potential to deliver water quality benefits at scale with lower ongoing cost to the public, our primary recommendation for the NRS is to distinguish between CLC practices (non-market based) and prioritize harvestable and marketable (market-based) CLC crops throughout the report.

The economics of a market-based CLC cropping system favors farmers, taxpayers and market actors by generating new commercial opportunities as they deliver environmental benefits. Clearly distinguishing between the two and prioritizing market-based CLC crops will focus public actions on a diverse range of impact-mitigating crops as well as the policy and economic development infrastructure needed to support the growth of agriculturally-based businesses.

Increase Research Funding on Harvestable Continuous Living Cover Crops

To date, research on harvestable and marketable CLC crops and crop systems has provided data-driven understanding of how they can enhance the effectiveness of nutrient reduction strategies and ensure that public funding is used to achieve the greatest possible impact. We call for sustained and robust public investments in research on these crops and systems. At the same time, further economic analysis should be done to evaluate the potential of market-based CLCs and the associated costs and benefits that would be borne by the market. This could be an invaluable resource for the proposed task force as they consider a multi-agency and multi-sector investment strategy.

CLC Campaign and Task Force

We strongly endorse the proposed CLC Campaign and Task Force. On the basis of our research findings, we also strongly concur with the acknowledgement that our state's water quality goals (and we would argue enhancements to soil health, air quality and the agricultural economy) "cannot be achieved without transformative changes in crop system rotations and more months of living cover each year." This provides a compelling rationale for a sustained, strategic, cross-agency, cross-sector, and cross-scale campaign, so we strongly endorse the proposed CLC Campaign and Task Force. We see great value in setting a concrete goal for that campaign, namely the 8 million acre target stated in the draft report. Finally, we see a well-resourced task force as an essential vehicle for the implementation of a CLC campaign.

We strongly endorse recognition that infrastructure and market development support will be critically important to advancing CLC toward that target. That is to say, a push for acres will need to be very closely tied to, if not preceded by, a major market development investment and strategy to recruit industry players of all sizes (e.g. agribusiness, small and medium sized enterprises, entrepreneurs and start-ups, investors, etc.). Without capital, talent, and long-term commitment, this will end up a supply side push, limiting its effectiveness. We believe that strategic investments on the public side are needed to support development of market demand for the products of CLC agriculture. For these reasons, we believe that market and demand-side development must be a focus for the proposed CLC campaign and task force.

An initiative is currently underway that can serve as a central organizing resource and prototype for this work. The multi-sector effort, 1MASS or the One Million Acres Scaling Study for Winter Camelina, is looking at the pathway to putting 1 million acres of winter camelina on the landscape. It is investigating and defining what (and when) investments are needed from the public, private, nonprofit, philanthropic and investor communities to achieve that scale. We recommend the proposed campaign be similarly specific, actionable and focused on scaling harvestable CLC crops that will stimulate economic growth and achieve the desired environmental outcomes.

Further, the task force that serves this purpose must be multi-agency and multi-sector. In addition to providing guidance and oversight to the campaign, it needs to consider what new and enabling strategies will allow us to move faster, and in bigger ways, to achieve the transformative change called for in the draft. Their charge should include the responsibility to secure the buy-in of a market-based CLC investment strategy across state government, from agriculture to natural resources to economic development. Such a coherent state investment strategy can be catalytic for other sectors, including foundations, private investors and the federal government.

CLC Index

We concur with and are enthusiastic in our support for the need for an "index to track annual changes in living cover on agricultural lands over time." We stand ready to contribute to shaping such an instrument and to drawing on it to inform our research on the environmental services provided by the crops in our research portfolio. In alignment with the proposed multi-agency strategy for the campaign and task force, we recommend that tracking select additional variables beyond water quality be considered to make the index valuable across multiple dimensions of achieving a market-based CLC system at scale. These will include measures of soil health, wildlife diversity, climate resilience, and farm and rural economy and community vitality.

Again, we are grateful for the opportunity to add our thinking to others. Please let me know if I can clarify any points shared here. We look forward to the final report and to working with the Minnesota Pollution Control Agency, the Minnesota Department of Agriculture and other state agencies to achieve the aims of the Nutrient Reduction Strategy.

Sincerely,



Nicholas Jordan
Co-Director | Forever Green