



# U of M Forever Green

## Developing Perennial and Winter-Annual Agricultural Crops

The [Forever Green Initiative](#) at the University of Minnesota is developing perennial and winter-annual crops that protect soil and water while driving new economic opportunities for growers, industry, and communities.

By combining these novel crops with traditional annual crops like corn, soybeans, and wheat, farmers can keep the soil covered all year round. This approach to farming with “continuous living cover” can greatly enhance the efficiency and sustainability of Minnesota agriculture.

The Forever Green Initiative’s portfolio includes over 15 crop development platforms (see next page), each supported by a team that may include expertise in genomics, breeding, agronomics, natural resource sciences, food science, sociology, economics, and commercialization.

Uniquely, The Forever Green Initiative combines basic research with crop commercialization efforts, so that it can be profitable for farmers to produce these crops across rural Minnesota. This comprehensive approach moves new crops out of the lab and onto the landscape, where they can make a difference for farmers, the environment, industry, and society.

In short, Forever Green crops can help farmers build soil health, profitably. They advance all the key principles of soil health and regenerative agriculture by protecting the soil with plant cover, keeping living roots in the ground, reducing tillage, and diversifying crop rotations.

These new cropping systems also protect rural drinking water, reduce soil erosion and nutrient loss, and provide wildlife and pollinator habitat.

Forever Green crops diversify economic opportunities for Minnesota’s farmers through the production of new sources of food, feed, and high-value biomaterials, without interfering with current annual production systems.

Forever Green is a “win-win” for our farmers, our economy, our rural communities, and our environment.

### Benefits of Forever Green Crops

- Enhance farm profits
- Diversify crop portfolios & farm income streams
- Attract investment in new rural agricultural industries
- Protect drinking water
- Restore water quality
- Improve soil health & resilience
- Reduce soil erosion
- Enhance wildlife habitat
- Provide pollinator habitat



## The Forever Green Partnership

The [Forever Green Partnership](#) is an innovative network of farmers, agribusinesses, researchers, and NGOs charged with providing strategic leadership in shared efforts to accelerate statewide adoption of Forever Green cropping systems. The Partnership leverages a wide array of resources and connections to drive progress.

## Forever Green Crops

PERENNIAL CROPS	WINTER ANNUAL CROPS	WOODY PERENNIAL CROPS
<ul style="list-style-type: none"> <li>▪ <b>Kernza® intermediate wheatgrass</b> (grain milled for food products, forage, biomass)</li> <li>▪ <b>Perennial sunflower</b> (edible seeds, protein, oil)</li> <li>▪ <b>Native polyculture grassland mixtures</b> (biomass, forage, natural products)</li> <li>▪ <b>Perennial flax</b> (edible oil and protein, industrial fiber)</li> <li>▪ <b>Silphium</b> (edible oil and protein)</li> <li>▪ <b>Alfalfa</b> (food and feed protein)</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Pennycress</b> (edible oil and protein, biofuel, cover crop)</li> <li>▪ <b>Camelina</b> (edible oil and protein, biofuel, cover crop)</li> <li>▪ <b>Winter barley</b> (food, malting barley)</li> <li>▪ <b>Hairy vetch</b> (cover crop, N-fixation, forage)</li> <li>▪ <b>Winter pea</b> (cover crop, edible protein)</li> <li>▪ <b>Hybrid rye</b> (cover crop and food and feed grain)</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Hazelnut</b> (nuts, edible oil, and protein)</li> <li>▪ <b>Shrub willow</b> (biomass)</li> <li>▪ <b>Elderberry</b> (food, antioxidant-rich fruit)</li> <li>▪ <b>Agroforestry</b> (woody and herbaceous crop mixtures for feed, food, and fuel)</li> </ul>

## 2023 Legislative Funding Request: SF 1314 - Sen. Judy Seeberger

[SF 1314](#) would provide \$2 million in FY2024 and FY2025 from the general fund to the Forever Green Initiative, helping to protect the state's natural resources while increasing the efficiency, profitability, and productivity of Minnesota's farmers by incorporating perennial and winter-annual crops into existing agricultural practices. Stable funding would allow Forever Green to pursue longer-term projects and retain key researchers, among other important benefits.

SF 1314 also seeks a one-time, \$10 million appropriation in FY 2024 from the general fund to purchase and maintain critical equipment and physical infrastructure to support breeding, agronomic research, and food science activities of the Forever Green Initiative.