



# UofM Forever Green

## Developing Perennial and Winter Annual Agricultural Crops

Minnesota has approximately 25.5 million acres of farmland, occupying nearly half roughly 54 million acres in the state. Two highly productive and profitable crops, corn (8.5 million acres planted in Minnesota in 2021) and soybean (7.7 million acres) are the foundation of our agriculture, along with other important production systems such as animal agriculture, small grains, horticultural crops, and others. The proposed initiative aims to build on these strengths by adding to the productivity and profitability of our current agriculture.

Most of our current crops are ‘summer-annuals’ that are grown during the summer. By selectively adding winter-annual and perennial crops to our agricultural landscapes to create new crop production systems, we can enhance the prosperity of Minnesota agriculture, support rural communities, and provide major benefits to all Minnesotans.

### Forever Green Cropping Systems

The University of Minnesota's Forever Green Initiative is accelerating the development of economically viable, market-based perennial and winter annual (cover crop) cropping systems that maximize our economic and environmental outcomes.

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.

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

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



## Forever Green Initiative & Partnership

The University of Minnesota [Forever Green Initiative](#) consists of 16 crop development platforms designed to develop perennial and winter annual crops. Each crop platform consists of geneticists, plant breeders, agronomists, food scientists, farmers, food companies, and supply-chain and market developers. The [Forever Green Partnership](#) is a network of farmers, agribusinesses, researchers and NGOs charged with providing strategic leadership in shared efforts to accelerate statewide adoption of Forever Green cropping systems.

PERENNIAL CROPS	WINTER ANNUAL CROPS	WOODY & BERRY CROPS
<ul style="list-style-type: none"> <li>▪ <b>Intermediate wheatgrass Kernza</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> </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> </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> <li>▪ <b>Raspberry</b> (nutritious edible fruit)</li> <li>▪ <b>Blueberry</b> (nutritious edible fruit)</li> <li>▪ <b>Black currant</b> (nutritious edible fruit)</li> </ul>

## 2022 Legislative Funding Request [SF 3711]

SF 3711 seeks \$20 million in FY2023 from the general fund to the commissioner of agriculture for grants to the Board of Regents of the University of Minnesota to fund the Forever Green Initiative and to protect the state's natural resources while increasing the efficiency, profitability, and productivity of Minnesota farmers by incorporating perennial and winter-annual crops into existing agricultural practices. Of this amount, up to \$5,000,000 is for equipment and physical infrastructure to support breeding and agronomic activities necessary to develop perennial and winter-annual crops. This appropriation is available until June 30, 2028.