

# FY 20-21 CLEAN WATER POLICY RECOMMENDATIONS

## ENHANCING CLEAN WATER BY INCREASING CONTINUOUS PRODUCTIVE VEGETATIVE COVER IN MINNESOTA AGRICULTURE

### Policy Statement

The Clean Water Council recommends that the State of Minnesota enhance clean water by increasing continuous vegetative cover on cropland, with an initial focus on wellhead protection areas, through development of new agricultural production systems, markets, and supply chains in Minnesota agriculture by directing the University of Minnesota to:

- Establish a **Minnesota Agricultural Diversification Steering Council** with agriculture- focused representation from public agencies, the private sector, non-profit organizations, multicultural representatives, and research institutions, to create and direct a Minnesota Agricultural Diversification Network.
- Create a **Minnesota Agricultural Diversification Network** to accelerate the development and commercialization of new crops (e.g., perennial crops and winter-annual crops) that enhance continuous productive vegetative cover, defined as coverage of soil throughout the year, by crops that produce marketable commodities.



*Camelina - Soybean Relay; Photo credit: Frank Forcella*

### Background

Achievement of Minnesota’s clean water goals is complicated by agricultural production systems that primarily utilize annual row crops that grow during the summer.

These crops cover soil only during the warm season; at other times of the year soil is exposed to wind and water erosion with documented losses of sediment and nutrients to surface and groundwater and alterations of the hydrologic system.



*American Hazelnut*

Recent analyses show that certain clean-water goals can be met by increasing vegetative cover in Minnesota’s agricultural regions, so that more land is covered by living plant cover for more months of each year. However, it is clear that this approach will be prohibitively expensive if it is based on taking farmland out of crop production. Instead, a new approach is needed, based on augmenting current crop production systems with economically viable perennial and winter-annual crops. Such crops enable agriculture to move toward continuous vegetative cover by growing plants that produce marketable agricultural commodities while also protecting against damage to water through soil erosion, nutrient losses, and precipitation runoff. However, to realize the potential of this new approach, viable markets and robust supply chains for these crops are critically needed; otherwise farmers cannot obtain adequate economic return on the production of these crops at the scales needed to realize their potential contributions to clean water goals.

The University of Minnesota’s Forever Green Initiative (FGI) is the national leader in this new approach to achieving clean water via enhancing continuous vegetative cover. The FGI links University resources to public, private and non-profit-sector partners. The FGI program focuses on development of new perennial and winter annual crops, new agricultural production systems that include these crops, and new supply and value chains that provide profitable markets for these crops. For example, FGI is taking this approach to advancing winter-hardy “cash cover crops” such as pennycress, camelina, and winter barley, and perennial crops such as intermediate wheatgrass (Kernza®), and hybrid hazelnuts.