



# Sustainability, Environmental Protection and Animal Care

Minnesota's farmers are committed to sustainability, environmental protection and animal research and care. Here's just a few things they're doing:

## WATER CONSERVATION

Minnesota's crop farmers have rapidly adopted water conservation methods ranging from drip irrigation, drought-tolerant crops to cover crops. Additionally, they are implementing measures to improve drainage to help avoid land erosion and run-off of fertilizers. Minnesota's livestock farmers invest in sophisticated waste management systems and science-based application of manure as a natural fertilizer. Minnesota has achieved nearly 100% compliance by farmers in installing vegetative buffers to protect water.

## IMPROVING SOIL HEALTH

Rotating crops for soil health has long been a practice of Minnesota's farmers. Crop farmers have a keen interest in soil health and are constantly adopting new scientifically proven methods to improve soil health including reduced tillage, rotational grazing of animals, precision application of fertilizer, cover crops and nitrogen management. Alfalfa is a vital part of beef and dairy cow diets, naturally fixating nitrogen from the atmosphere as fertilizer, and serving as a multi-year crop to prevent soil erosion.

## IMPORTANCE OF ANIMAL CARE

Minnesota farmers care deeply about the health and well-being of their animals. State of the art technology used in animal facilities helps prevent disease, regulate climate, ensures animals are getting good food and nutrition, effectively managing animal waste and keeping facilities

bio-secure. Veterinarians play a major role in modern animal facilities to provide ongoing preventive care and tend to the needs of animals. Regular programming, seminars and information provided from farm organizations and the UMN Extension Service helps farmers stay up-to-date on animal care best practices and compliance. Technology companies continue to create new data tracking tools that help farmers identify sick animals early and prevent animals from getting sick in the first place – resulting in better care, fewer veterinary visits and less medicine. Minnesota livestock farmers also conduct animal care audits of their farm operations and utilize species specific certification programming to ensure they are up to date on animal husbandry and best management practices.

## DEVELOPING THE FUTURE OF RENEWABLE PLASTICS

Minnesota corn farmers are supporting research at the University of MN to develop the next generation of bioplastics made from renewable sources. The research aims to replace petroleum with renewable sources like corn to manufacture plastics. By doing so, the environmental impact of plastic, both in its manufacturing and disposal, could be significantly reduced.

## NATION-LEADING BIO-DIESEL POLICY

Minnesota's soybean farmers helped shepherd legislation making Minnesota the first state to require B20, or 20 percent biodiesel, be sold during the summer months. As an alternative fuel to petroleum

diesel, it is the only EPA-approved advanced biofuel with the ability to reduce greenhouse gas emissions by more than 50 percent.

## USING ANIMAL MANURE – A SUSTAINABLE FERTILIZER

Minnesota's livestock industry continues to develop and practice precision manure application with nutrient-rich animal manure, which is used as a natural fertilizer for crops. Using animal manure on cropland reduces the use of synthetic fertilizers while building soil health and protecting water quality. Manure is a valuable resource for farmers, with farmers creating nutrient management plans in partnership with agronomists, soil scientists and animal nutritionists.

## EMBRACING GREENER ENERGY

Minnesota farmers have opened access to massive acres of their land to host wind generators and solar power to produce green energy for homes, businesses and other users across the entire state, including the Twin Cities. Without this partnership between farmers and energy providers, Minnesota would not have reached the significant levels of renewable energy production that we have attained. Generating energy from animal manure and food waste is another emerging alternative energy development on the farm. More simple updates like making the switch from high pressure sodium or incandescent lighting to LED lighting results in substantial savings for a farmer's bottom line and reduces their carbon footprint.