Testimony for Todd Fornstrom, President of Wyoming Farm Bureau Federation,

before the Senate Environment and Public Works Committee

"Hearing to examine S. 3135, the Cold Weather Diesel Reliability Act"

March 11, 2026

Chairman Capito, Ranking Member Whitehouse, and Members of the committee, I appreciate the opportunity to testify today on the impact of diesel exhaust fluid (DEF) on the agricultural community. My name is Todd Fornstrom, I am a fourth-generation farmer and President of the Wyoming Farm Bureau Federation. I am proud to farm with my father near Pine Bluffs, Wyoming, where we maintain a diversified farm that produces irrigated corn, wheat, alfalfa, and dry beans. I also own and run Premium Hay Products, an alfalfa pellet mill and run a trucking business and custom combining business. It is an honor to be here on behalf of the nearly 12,000 members of the Wyoming Farm Bureau Federation and the more than 5 million members of the American Farm Bureau Federation.

Clean air and water are essential to successful farms and ranches. Agriculture depends on natural systems, and the quality of the air and water surrounding a farm strongly influence crop growth, soil health, livestock well-being, and overall productivity. When these resources are clean and abundant, farmers are better able to produce healthy food, maintain sustainable land practices, and support the long-term viability of their farms.

Farm Bureau believes effective and sound environmental policies are those that balance economic, social, and environmental outcomes. Farmers today must continually adapt their operations to navigate an evolving regulatory landscape that affects how they produce, manage, and bring their goods to market. The requirement for farmers to use diesel exhaust fluid (DEF) in agricultural equipment has created significant concern. DEF was introduced as part of modern emissions systems to help reduce harmful pollutants from diesel engines and improve air quality. However, this technology has placed incredibly onerous burdens on the agricultural sector.

What is DEF?

DEF is a liquid solution used in modern diesel engines to reduce emissions. It is made from a mixture of high-purity urea and deionized water and is stored in a separate tank on vehicles and equipment equipped with selective catalytic reduction (SCR) systems. DEF itself is not a fuel or fuel additive. Instead, it is part of the emissions control system designed to lower the amount of nitrogen oxides (NOx) released into the atmosphere by diesel engines.

When a diesel engine operates, it produces exhaust gases that include NOx. In engines equipped with SCR technology, DEF is injected into the exhaust stream after combustion occurs. The heat of the exhaust causes the DEF to break down into ammonia, which then reacts with the nitrogen oxides inside the catalytic converter. This chemical reaction converts the exhaust gases into nitrogen and water vapor, both of which are naturally present in the atmosphere.

How DEF Impacts Agriculture

DEF became a part of farms and ranch operations due to the Environmental Protection Agency's (EPA) Tier 4 emissions regulations, first finalized in 2004 and phased in from 2008 to 2015. These rules require modern diesel engines to drastically reduce NOx and particulate emissions, prompting farm equipment manufacturers to adopt SCR systems that use DEF. By 2015, most large tractors, combines, and sprayers were equipped with DEF tanks, and regulations required operators to maintain proper fluid levels to ensure emissions compliance. Over the following years, the agricultural community began to realize the many problems associated with DEF. I would like to highlight the challenges that many farmers and ranchers across Wyoming, and this country, face in their pursuit to comply with DEF mandates.

Reliability in harsh operating conditions

Farmers and ranchers have raised significant concerns about the reliability of DEF systems when operating in the harsh conditions often encountered on farms. Agricultural equipment is frequently exposed to extreme temperatures, dust, dirt, and vibration, all of which can affect the performance of DEF tanks, pumps, and sensors. For instance, DEF can freeze in cold weather, requiring heating systems that must function properly to avoid interruptions. Likewise, high summer temperatures can accelerate fluid degradation if storage and handling are not carefully managed. These environmental factors can make maintaining DEF reliability more complicated than simply keeping fuel tanks full.

The *Cold Weather Diesel Reliability Act of 2025*, introduced by Senators Dan Sullivan (AK) and Cynthia Lummis (WY), aims to address problems that diesel-powered vehicles and

equipment requiring DEF face in extreme cold environments. The bill would direct the EPA to allow manufacturers to suspend automatic engine derates or shutdowns triggered by emissions-control malfunctions when ambient temperatures are at or below freezing. It would also require the EPA to grant a year-round exemption from DEF system requirements for vehicles and equipment that primarily operate in very cold regions or encounter extensive freezing conditions that make DEF use difficult. These changes are needed to keep essential diesel machines running safely in cold climates.

Living and farming in Wyoming, dealing with DEF in the winter can feel like a battle against both the cold and the clock. Temperatures routinely drop well below freezing, and if DEF freezes or the SCR system triggers an engine derate, it can bring a tractor or combine to a halt right in the middle of critical planting or feeding windows. Storing DEF properly is a constant challenge, and even when tanks are heated, there's always the worry that sensors or pumps will fail in subzero conditions. For many of us, what should be a simple maintenance task becomes a high-stakes operation, where any delay can cost time, money, and crop yield. The technology works in theory, but in Wyoming's harsh winters, it often feels like we're fighting the weather as much as we are our fields.

I recently heard from a rancher in Weston County, Wyoming, whose tank cracked on his 2014 Chevrolet Duramax due to frozen DEF after only one year of use. Thankfully, the repair was covered under warranty, however, it happened again within 2 years and this time there was no warranty to cover the repair. Additionally, this rancher's new John Deere tractor has a DEF heater as a part of the cold start package. The cold start system heats the DEF tank to prevent the liquid from freezing, resulting in incredibly high electricity bills. Unfortunately, this rancher was warned by others in the industry that he should anticipate having to trade in the tractor at around 2,000 hours because the DEF system is likely to start having issues, which can cost tens of thousands of dollars to fix.

Contamination and monitoring

Another major concern is the sensitivity of DEF systems to contamination. DEF must be high-purity urea mixed with deionized water, and even small amounts of dirt, oil, or water impurities can damage the SCR system or cause it to shut down. On farms, where dust, mud, and chemicals are commonplace, keeping DEF uncontaminated can be a daily challenge. Farmers worry that accidental contamination could lead to expensive repairs, equipment downtime, and lost productivity during time-sensitive operations like planting or harvesting.

Farmers also report concerns about the electronic monitoring systems tied to DEF. Modern SCR systems are equipped with sensors that track DEF levels and system performance,

and if a sensor detects an issue, the engine may enter a restricted power mode or refuse to start. While this is intended to ensure emissions compliance, it can be highly disruptive on a farm where equipment often needs to run long hours without interruption. Many farmers feel that these safety features add another layer of complexity and risk to day-to-day operations.

Overall, the realities of farm life—extreme weather, dust, contamination risks, and reliance on precise electronic monitoring—mean that the reliability of DEF systems is a constant concern. Farmers must balance regulatory compliance with practical operational needs, making DEF management a frustrating part of modern agriculture.

Added cost to farming operations

The adoption of DEF systems has introduced a range of new costs for farmers, impacting their balance sheets in ways that go beyond the price of the fluid itself. Farmers must budget not only for the ongoing purchase of DEF, which can fluctuate with supply and market conditions, but also for additional infrastructure such as heated or insulated storage tanks, pumps, and dispensers to maintain fluid quality throughout the year. These upfront and recurring expenses add a layer of financial complexity that didn't exist before.

Maintenance and repair costs are another significant factor. As discussed previously, DEF systems are sensitive to mechanical failure, and any malfunction can trigger engine derates or shutdowns. Repairs to SCR components, DEF injectors, or sensors are often expensive, and unexpected downtime can result in lost productivity during critical planting or harvesting periods. For farmers operating on tight margins, even a short delay can affect crop yield, contract obligations, or livestock feeding schedules, which translates directly into financial losses.

Finally, there are indirect costs associated with managing DEF compliance. Farmers must train staff to handle DEF safely, and sometimes transport fluid from off-site suppliers if the on-farm supply runs low. All of these activities require labor, time, and logistical coordination that represent a tangible expense on the farm's balance sheet. Taken together, the combination of fluid purchase, storage infrastructure, maintenance, and operational management makes DEF compliance a recurring and often underestimated cost of modern farming, subtly shifting the economics of agricultural operations.

It's important to remember that the farm economy today is under tremendous strain, with rising input costs, volatile commodity prices, and unpredictable weather already squeezing profit margins for producers. Against this backdrop, DEF requirements have added another layer of financial and operational pressure and farmers are navigating new challenges at a time when margins are already razor-thin. What was intended as an environmental

safeguard has, for many in the industry, become an additional burden on an already struggling sector, highlighting the need for policies and technologies that recognize the economic realities of farming.

For all of the reasons outlined in this testimony, the farming community calls for the elimination of DEF requirements in farming equipment. Removing DEF mandates would allow farmers to focus on productivity and efficiency without the constant burden of managing a sensitive emissions system.

EPA actions on DEF

Under the Trump administration, the EPA recently made a few regulatory changes aimed at addressing farmers' concerns about DEF systems. In August 2025, the EPA issued new guidance urging engine and equipment manufacturers to revise DEF system software so that equipment does not immediately lose power or shut down when DEF levels are low or a sensor fault is detected, which helps prevent sudden derates that leave tractors stranded in fields.

Beyond easing derate requirements, the EPA also clarified that under the Clean Air Act, farmers and owners of non-road diesel equipment have the right to repair their own DEF and emissions systems without being restricted by manufacturers, which will hopefully reduce repair costs and downtime. Additionally, the EPA has asked major diesel engine manufacturers to submit detailed data about DEF system failures so the agency can evaluate whether systemic problems exist and potentially inform future rulemaking that could further reduce the burden of DEF compliance.

Conclusion

We greatly appreciate the work of Senators Sullivan and Lummis and their commitment to solving some of the longstanding challenges associated with using DEF in cold climates. We urge this Committee to pass this legislation to allow for more immediate relief to farmers. However, the problems with DEF do not stop there. The agricultural sector encourages Congress to carefully weigh the environmental benefits of DEF systems against their operational costs and reliability concerns and eliminate DEF requirements for farmers to help reduce burdens on an already struggling agricultural sector. Thank you for the opportunity to testify today.