



April 8, 2021

Mr. Clarence Prestwich
National Agricultural Engineer
Conservation Engineering Division
NRCS, USDA
1400 Independence Avenue
South Building, Room 4636
Washington, DC 20250

RE: Docket ID NRCS-2020-0008, Document Number: 2021-05005

Dear Mr. Prestwich,

Thank you for this opportunity to provide comment on the proposed changes to several NRCS Conservation Practice Standards (**Docket Number NRCS-2020-0008, Document Number 2021-05005**). The dairy industry has licensed dairy farms in all 50 states and Puerto Rico, all doing their part to advance sustainable production of milk across the wide range of climatic and geographic differences. Part of that sustainability journey includes adopting new practices and technologies for continuous improvement in sustainability, making America's dairy farmers an environmental solution while providing wholesome and nutritious dairy products to the U.S. and the world. NRCS voluntary conservation programs and the corresponding conservation practice standards are an important part of aiding dairy operations in adopting new practices and technologies. The requirements under the practice standards must make sense for dairy operations in terms of the implementation of practices into the operation, the economic and the environmental benefits. These comments are being jointly submitted by Newtrient LLC and the National Milk Producers Federation.

Newtrient LLC was formed by 14 leading dairy organizations and represents nearly all U.S. dairy farmers. Created to reduce the environmental footprint of dairy and make it economically viable to do so, Newtrient delivers innovative technology, manure-based products and market-driven solutions to create added value for farmers, communities and the environment.

The National Milk Producers Federation, based in Arlington, VA, develops and carries out policies that advance the well-being of dairy producers and the cooperatives they own. The members of NMPF's cooperatives produce the majority of the U.S. milk supply, making NMPF the voice of dairy producers on Capitol Hill and with government agencies.

U.S. Dairy Industry Commitment to Sustainable Production

The U.S. dairy industry's sustainability progress has been intimately tied to the long-standing USDA work in research, education, and economics. Due to the foundational research from and extension outreach by USDA going back many decades, producing a gallon of milk used 90 percent less land and 65 percent less water with a 63 percent smaller carbon footprint in 2007 than in 1944.¹ In 2009 and reaffirmed in 2013, the U.S. dairy industry and USDA committed to increase sustainability by reducing

¹ Capper, J.L., R.A. Cady, D.E. Bauman The environmental impact of dairy production: 1944 compared with 2007. 2009. Journal of Animal Science. 87:6 Pp 2160–2167. <https://doi.org/10.2527/jas.2009-1781>



GHG intensity 25% by 2020.² Preliminary analysis shows the goal is within reach with producing a gallon of milk in 2017 requiring 30% less water, 21% less land, a 19% smaller carbon footprint and 20% less manure than it did in 2007.³

In 2018, the Innovation Center for U.S. Dairy convened leadership from across the industry to establish the U.S. Dairy Stewardship Commitment to document and demonstrate collective social responsibility progress in important areas including animal care, environmental stewardship, product quality and safety, workforce development and community contributions.⁴ As part of its collective commitment to provide the world responsibly-produced dairy foods that nourish people, strengthen communities and foster a sustainable future, earlier this year the U.S. dairy industry set aggressive new environmental sustainability goals to become carbon neutral or better, optimize water usage and improve water quality by 2050.⁵

In 2010, the U.S. dairy industry launched the National Dairy FARM Program: Farmers Assuring Responsible Management™ *“to show customers and consumers that the dairy industry is taking the very best care of cows and the environment, producing safe, wholesome milk and adhering to the highest standards of workforce development.”*⁶ Created by the NMPF in partnership with Dairy Management Inc., the FARM Program helps ensure the success of the entire industry by demonstrating that U.S. dairy farmers are committed to producing the best milk with integrity. The FARM Environmental Stewardship platform provides a comprehensive estimate of greenhouse gas emissions and energy use on dairy farms with a suite of tools and resources for farmers to measure and improve their footprint.⁷ Today, 99 percent of U.S. dairy farmers participate in the FARM Program with almost 80 percent of milk volume participating in the FARM Environmental Stewardship area.

To reach these 2050 goals, the U.S. dairy industry will need to identify technological and other advancements that can accelerate improvements, enabling nimble adaptation and focus on technology and practices that can be scaled for maximum impact. To meet these aggressive goals, we have mobilized through the Net Zero Initiative. The initiative is a partnership of the U.S. dairy community that seeks to unite the assets and expertise of trade, professional and industry organizations in a collaborative effort to create a path and growing portfolio of strategies and programs to achieve carbon neutrality, as well as significant improvements in water quality, through adoption of economically viable technologies and practices. USDA is an important part of this collaborative effort and the USDA Agriculture Innovation Agenda aligns with and will enhance our efforts.

² Memorandum of Understanding Between United States Department of Agriculture and The Innovation Center for U.S. Dairy. April 2013. <https://www.usda.gov/sites/default/files/documents/usda-mou-innovation-center-us-dairy.pdf>

³ Capper, J.L., and R.A. Cady. 2020. The effects of improved performance in the U.S. dairy cattle industry on environmental impacts between 2007 and 2017. *Journal of Animal Science*. 98:1. Pp.1-14. <https://doi.org/10.1093/jas/skz291>

⁴ Innovation Center for U.S. Dairy. 2018. The U.S. Dairy Stewardship Commitment. <http://commitment.usdairy.com/>

⁵ Innovation Center for U.S. Dairy. 2020. New Environmental Goals Including Carbon Neutrality and Cleaner Water with Maximized Recycling by 2050. <https://www.usdairy.com/sustainability/environmental-sustainability>

⁶ National Dairy FARM Program. 2020. <https://nationaldairyfarm.com/>

⁷ FARM Environmental Stewardship. 2020. <https://nationaldairyfarm.com/dairy-farm-standards/environmental-stewardship/>



Net Zero Initiative

Imagine a world where dairy is an environmental solution. Dairy presents solutions for today's nutrition and environmental challenges by providing accessible and affordable nutrition while sequestering carbon and improving soil health through improved land use systems; reducing greenhouse gas emissions through feed management, manure management and energy efficiency; and generating renewable energy that can cleanly power homes and businesses.

With this vision in mind, the Net Zero Initiative launched in 2020 as an industry-wide effort to accelerate voluntary action on farms to reduce environmental impacts by making sustainable practices and technologies more accessible and affordable to U.S. dairy farms of all sizes and geographies. This is achievable through research, on-farm pilots, development of manure-based products and ecosystem markets, and other farmer technical support and opportunities. The primary expected outcomes include 1) the collective U.S. dairy industry advances to net zero carbon emissions and significant improvements in water use and quality, 2) in addition to nutrient-dense foods and beverages, dairy farms provide products and services that enable other industries and communities to be more sustainable, and 3) farmers are able to realize the untapped value on-farm, making the system of continuous improvement self-sustaining.

Conservation Practice Standard Comments

The following are comments on individual conservation practice standards. Please note that these are only standards that are relevant to the dairy industry.

Conservation Practice Standards	Highlights Proposed Revisions	Newtrient Comments
Agrichemical Handling Facility (Code 309)	Minor revisions were made for improved organization and for clarity. Some flexible membrane liner thicknesses were changed. The minimum storage volume of the Agrichemical Handling Facility was changed to 1.1 times the volume of largest storage container within the containment area, plus the displacement volume that is occupied by all the other tanks within and below the height of the containment wall or dike.	<p>Comment: For clarity, under “DESIGN STORAGE CAPACITY” the sentence “<i>For unroofed facilities, provide storage as stated above and the volume of the 25-year, 24-hour storm.</i>” Should be written “<i>For unroofed facilities, provide storage as stated above plus the volume of the 25-year, 24-hour storm.</i>”</p> <p>Comment: The “PLANS AND SPECIFICATIONS” for a permanent facility should also include the distance and direction to the nearest stream, pond, lake, wetland, sinkhole or well and the estimated depth of the seasonal high water table as minimum requirements to ensure that these have been identified and considered in the design.</p> <p>Comment: Under “CONSIDERATIONS” add a bullet recommending the posting</p>

		<p>of emergency contact numbers for the facility and appropriate address for direction of first responders.</p>
<p>On-Farm Secondary Containment Facility (Code 319)</p>	<p>No highlighted changes to this practice standard.</p>	<p>Comment: The “PLANS AND SPECIFICATIONS” for the on-farm secondary containment facility should also include the distance and direction to the nearest stream, pond, lake, wetland, sinkhole or well to ensure that these have been identified and considered in the design.</p>
<p>Cover Crop (Code 340)</p>	<p>Minor wording changes were made throughout for clarification. In the Purpose section, specific soil health resource concerns were added as two purpose statements on soil organic matter quantity and aggregate instability, soil organic matter quality, and habitat for soil organisms. In the General Criteria section, the reference to when cover crops are established has been better defined. One change added “no mechanically harvest of cover crops” to clarify that cover crops can be grazed but not harvested otherwise. In the Additional Criteria section, a change established criteria for grazing cover crops to improve organic matter.</p>	<p>Comment: The Cover Crop Practice Standard is designed to “support one or more” purpose(s) and having language in “GENERAL CRITERIA” makes it apply to all the purposes, all the time. A revision made to the Cover Crop Conservation Practice regarding mechanical harvest seems to be misplaced in the revised document. By including “<i>Do not mechanically harvest cover crops for seed, hay, silage, or other biomass.</i>” in the “GENERAL CRITERIA” the use of cover crops in a livestock operation for reducing erosion and increasing nutrient uptake to allow proper manure application in both spring and fall is severely limited. This criterion should be specific to the “ADDITIONAL CRITERIA TO MAINTAIN OR INCREASE SOIL ORGANIC MATTER QUANTITY” and “ADDITIONAL CRITERIA TO IMPROVE SOIL AGGREGATE STABILITY, HABITAT FOR SOIL ORGANISMS AND ORGANIC MATTER QUALITY”. When this change is made, consideration should be given to adding “<i>When a cover crop will be grazed or hayed ensure the planned management will not compromise the selected conservation purpose(s).</i>” and “<i>Do not harvest cover crops for seed.</i>” back into the “GENERAL CRITERIA”. And adding “<i>If the cover crop will be harvested for feed (hay/balage/etc.), choose species that are suitable for the</i></p>

		<p><i>planned livestock, and capable of removing the excess nutrients present.”</i> back into the “ADDITIONAL CRITERIA TO REDUCE WATER QUALITY DEGRADATION BY UTILIZING EXCESS SOIL NUTRIENTS”.</p> <p>Comment: The specific criterion in “ADDITIONAL CRITERIA TO MAINTAIN OR INCREASE SOIL ORGANIC MATTER QUANTITY” stating “<i>When utilizing livestock, graze at later stages of maturity in order to maximize root biomass and to allow for at least 50% of the total aboveground vegetation to remain with the majority to be flattened onto the soil surface.</i>” Should also be included in the “ADDITIONAL CRITERIA TO IMPROVE SOIL AGGREGATE STABILITY, HABITAT FOR SOIL ORGANISMS AND ORGANIC MATTER QUALITY”.</p>
<p>Air Filtration and Scrubbing (Code 371)</p>	<p>Formatting and writing style were updated to meet current agency requirements. Minor revisions were made for clarity and readability purposes and to update citations for existing references. Major changes were made to the Plans and Specifications to identify needed information and to remove requirements of supplying supporting documentation with plans and specifications.</p>	<p>Comment: Under “DUCTWORK” the sentence “<i>Design and size ductwork to minimize pressure drop, so that the ductwork system is no the limiting factor on ventilation rate.</i>” Should be written “<i>Design and size ductwork to minimize pressure drop, so that the ductwork system is not the limiting factor on ventilation rate.</i>”</p> <p>Comment: Under “CONSIDERATIONS” a note to the effect that combustible dust is a widespread hazard in various sectors including grain milling and transfer locations. Air Filtration and Scrubbing systems should be designed to reduce the risk of a dust explosion or fire, by focusing on controlling dust and reducing the sources of ignition.</p>
<p>Energy Efficient Agricultural Operation (Code 374)</p>	<p>The standard has been revised extensively. The name has been changed from “Farmstead Energy Improvement” to “Energy</p>	<p>No comments, edits were clear and relevant.</p>

	<p>Efficient Agricultural Operation” to reflect the energy efficiency purpose. The standard has been rewritten to focus on the energy efficiency criteria, fire and electrical safety, flexibility, and manufacturer's requirements. The requirement for an ASABE S612 Type 2 energy audit has been revised to allow other assessment methods. Criteria was added to support Prescriptive Upgrades to simplify and streamline implementation of some instances of the practice. Criteria was added for heat and air transfer systems and equipment.</p>	
<p>Dust Management for Pen Surfaces (Code 375)</p>	<p>The name of this standard has been changed from “Dust Control from Animal Activity on Open Lot Surfaces” to “Dust Management for Pen Surfaces” to reflect that it is now entirely a management standard and to simplify the name. Formatting and writing style were updated to meet current agency requirements. Specific criteria, considerations, and references to water application via solid set sprinkler systems were removed from the standard because it is now covered in Sprinkler System (Code 442). Specific criteria related to increased stocking density to supply additional moisture to the pen surface for reducing dust potential were added. New references were added, and minor revisions were made for clarity and readability purposes and to update citations for existing references.</p>	<p>No comments, edits were clear and relevant.</p>
<p>Fence (Code 382)</p>	<p>Formatting and writing style were updated to meet current</p>	<p>No comments, edits were clear and relevant.</p>

	<p>agency requirements. Minor revisions were made for clarity and readability purposes. References were updated based on literature review.</p>	
<p>Sprinkler System (Code 442):</p>	<p>Formatting and writing style were updated to meet current agency requirements. Minor revisions were made for clarity and readability purposes. Updated Tables to meet current industry standards. Modified the Land Slope section to allow for pivot systems that may not meet the slope requirement but meet the run-off and application rate requirements. Added a section for Mobile Drip Irrigation (MDI). MDI is a type of irrigation that is partially sprinkler and partially drip type irrigation and it was decided that MDI criteria is more applicable to the standard.</p>	<p>No comments, edits were clear and relevant.</p>
<p>Grazing Land Mechanical Treatment (Code 548)</p>	<p>The definition was changed by removing the equipment listed. Added equipment list to criteria separated by soil or plant disturbances. Reduced safe slope work from 30 to 20 percent.</p>	<p>No comments, edits were clear and relevant.</p>
<p>Roof Runoff Structure (Code 558)</p>	<p>One purpose was rewritten to remove references to foundation protection since that is not an established resource concern and now just addresses soil erosion. Minor wording changes were made to the Criteria section for clarity and specificity. Changes were made to the Additional Criteria section to Capture Water for Other Uses to address water quality for reuse of captured water and criteria modified for storage of the captured water.</p>	<p>Comment: Under "OPERATION AND MAINTENANCE" for clarity and readability the third bullet point should be edited from "<i>Ensuring they are clean, operating properly, and overflows are not causing erosion if storage tanks are part of the system.</i>" To "<i>Ensuring storage tanks are clean, operating properly, and overflows are not causing erosion if included as part of the system.</i>"</p>

<p>Stream Crossing (Code 578)</p>	<p>This standard has a few major changes including that it increases siting flexibility, and the addition of vented fords as an alternative where frequent overtopping is expected.</p>	<p>No comments, edits were clear and relevant.</p>
<p>Wastewater Treatment—Milk House (Code 627)</p>	<p>Added a new conservation practice standard developed to better address the technical complexities of treating greywater from cleaning the milking equipment. The practice standard is based on several university extension publications referenced in the standard and NRCS field experience.</p>	<p>Comment: Under “WASTEWATER DESIGN VOLUME” for clarity the terms “...or a minimum of 5 gallons per cow, per day, plus wash water.” Should be clarified as “...or a minimum of 5 gallons per wet cow based on annual maximum, plus daily wash water required for all tanks and equipment.” The number of cows being milked (wet cows) at any one time does fluctuate during the year and some operations do not wash each tank or all equipment daily, some tanks are only picked up every other day.</p> <p>Comment: Under “PLANS AND SPECIFICATIONS” the minimum information should also provide the direction and distance to those features specified as having a “Setback Distance” or a statement that there is no feature of this sort within the specified setback distance. (For example, “There is no public water supply well within 75 feet of this facility.” Could be used where the nearest public water supply well distance is a significant distance away but not specifically identified.)</p>
<p>Waste Separation Facility (Code 632)</p>	<p>Safety was moved to the beginning of the General Criteria section to emphasize the need for safety on all separation technologies. Wording was added to address location of the facilities and the requirement to manage the 25-year, 24-hour storm event. The sections on Separator selection and</p>	<p>No comments, edits were clear and relevant.</p>

	<p>Separation efficiency were revised to reference NRCS guidance document National Engineering Handbook (NEH), Start Printed Page 13524Part 637, Chapter 4. Direction was added to the Storage or Treatment of Separated Solids section to design storage facilities for separated solids in accordance with the appropriate NRCS standard. A consideration on the biosecurity of separation facilities was added.</p>	
<p>Waste Transfer (Code 634)</p>	<p>Formatting and writing style were updated to meet current agency requirements. Minor revisions were made for clarity and readability purposes. The structural design requirements were updated to align with changes made to the National Engineering Manual. The criteria for reception pit size, pipe clean-outs and pipeline velocity were revised.</p>	<p>Comment: Similar to the WASTE SEPARATION FACILITY Conservation Practice, the “SAFETY” section of this Practice standard should be moved to the beginning of the “GENERAL CRITERIA” section to emphasize the need for safety on all waste transfer technologies.</p> <p>Comment: Under the “SAFETY” section there should be a sentence added like the one in the “OPERATIONS AND MAINTENANCE” section that states <i>“Flush pipes used for transferring waste material with clean water after use to reduce the risk of gas buildup and pipeline explosion.”</i></p> <p>Comment: Under “TRANSFER OPERATIONS” in the “CONSIDERATIONS” section the sentence <i>“Consider the potential for struvite phosphate (magnesium ammonium phosphate) mineral deposition in smaller diameter pipes.”</i> Should be expanded to state <i>“Consider the potential for struvite phosphate (magnesium ammonium phosphate) mineral deposition in smaller diameter pipes and places where there is high kinetic energy (high turbulence) such as pipe connections – especially elbows, pumps and valves.”</i></p>

		<p>Comment: Under the “OPERATIONS AND MAINTENANCE” for clarity the sentence “<i>Flushing pipes used for transferring waste material with clean water after use and to reduce the risk of gas buildup and pipeline explosion.</i>” Should be edited to “<i>Flush pipes used for transferring waste material with clean water after use to reduce the risk of gas buildup and pipeline explosion.</i>”</p>
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Thank you for the opportunity to provide comments on these conservation practice standards. We look forward to continuing to work with NRCS as you review these and additional conservation practice standards.

Sincerely,



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Jamie Jonker, Ph.D.
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