



Nutrient Management Fact Sheet: Colorado

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Nutrient Management Plans

Topic	Summary
Coverage	<p>Nutrient Management Plans are required for CAFOs permitted under the NPDES permit.</p> <p>Facility Management Plans are required for non-permitted CAFOs.</p> <p>Colorado Department of Public Health & Environment general information on AFOs and CAFOs can be found here.</p>
Content	<p>A Nutrient Management Plan¹ must include:</p> <ul style="list-style-type: none"> - Adequate storage of manure and process water and procedures to ensure proper operation and maintenance. - Site-specific conservation practices. - Prevent direct contact of confined animals with surface water. - Ensure that clean water is diverted. - Protocols for sampling and testing of manure, process wastewater, and soil. - Protocols to land apply manure and process wastewater.
Frequency of Updates	<p>Under the NPDES permit, annual reports must be filed with the Water Quality Control Division.</p> <p>Elements of the Facility Management Plan should be updated annually, including manure, wastewater and soil analysis and land application calculations with the implementation and documentation of BMPs updated as needed.</p>
Paperwork	<p>NMPs must be submitted as part of the NPDES permit.²</p> <p>Facility Management Plan records must be kept on-site for 5 years.</p>
Planner Qualifications	<p>The Annual Report form asks whether the NMP was prepared by a certified planner, but states that the permit does not require CAFO owners or operators to use a certified nutrient management planner to prepare or approve nutrient management plans.</p>

Manure Storage and Application

Topic	Summary
Overview	<p>Non-permitted CAFOs (700 mature dairy cattle) are required to have and maintain an on-site facility management plan.³ A Facility Management Plan (FMP) includes:</p>



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- Impoundments designed, constructed and maintained to contain wastewater produced at the facility and runoff from a storm event.
- Conveyance structures designed, constructed and maintained to carry runoff from a storm event.
- Impoundment depth markers.
- Procedures for the proper operation and maintenance of impoundments.
- Practices and procedures for land application to protect surface water.

AFOs must implement best management practices and keep records of manure and wastewater applications on-site for 5 years. A fact sheet can be found [here](#).

Colorado's Environmental Agriculture Program forms can be found [here](#).

Storage

Facility Siting/Setback

Groundwater Setbacks for CAFOs:⁴

- Impoundment liners must not be within 4 feet of seasonally high groundwater. If liners are within 4 feet, the impoundment must be constructed and maintained according to a design by a professional engineer registered in Colorado.
- Impoundments cannot be constructed within 150 feet of a private water supply well or within 300 feet of a community domestic water supply well.

Structure

For non-permitted CAFOs, impoundments must be designed, constructed, and maintained to be capable of storing the volume of all manure and wastewater, including the runoff resulting from a 25-year, 24-hour storm.⁵

All CAFOs must obtain certification that all impoundments have a liner meeting seepage rate. A fact sheet with more information can be found [here](#).

Application

Spreading

Land application must be documented in the FMP and include:

- Appropriate conservation practices, including buffers.
- Manure and wastewaters cannot be applied within 150 feet of domestic water supply wells and within 300 feet of community domestic water supply wells.

CAFOs must have [standard operating procedures](#) (SOPs) and certification for removing manure from impoundments to ensure that liners are not damaged.

Incorporation⁶

Solid manure shall be incorporated as soon as possible after application unless the field has perennial vegetation or is no-till cropped. The application must be



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done in a manner to prevent runoff to surface water, including when applied to frozen or saturated ground and through furrow or flood irrigation.

Testing⁷

The soil of land application sites must be sampled annually for available nutrients and once every 5 years for phosphorus.

Manure and wastewater must be sampled annually for nitrogen and phosphorus.

Technical Assistance

Topic	Summary
Software Tools	Manure Management Planner (MMP) is a software tool created by Purdue University that includes state-specific information for Colorado producers to create manure management plans for crop and animal feeding operations.
Guides / Handbooks	<p>CO NRCS gives Colorado producers access to numerous Manure Management and Nutrient Management resources, including the Colorado Nutrient Management 590 Standard.</p> <p>Colorado Ag Water Quality, an outreach project produced by CSU Extension with funding from the Colorado Department of Public Health & Environment (CDPHE), produces Manure Management resources for Colorado livestock producers, including videos, factsheets, and other nutrient management materials.</p> <p>The Colorado Department of Public Health and Environment (CDPHE) gives two factsheets on CAFO groundwater protection requirements and compliance requirements for non-permitted CAFOs for producers interested in water quality control.</p>

Financial Assistance

Summary

CO NRCS helps through:

- Environmental Quality Incentives Program ([EQIP](#)) - offers financial cost-share assistance to farmers for the adoption of conservation practices and development of nutrient management plans.
- Conservation Stewardship Program ([CSP](#)), which gives producers financial assistance to implement new conservation management practices and enhancements.

¹ [Code of Colorado Regulations \(state.co.us\)](#)

² [Code of Colorado Regulations \(state.co.us\)](#)

³ [Code of Colorado Regulations \(state.co.us\)](#)

⁴ [AFO_Reg81_vs2014.pdf - Google Drive](#)



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⁵ [Code of Colorado Regulations \(state.co.us\)](http://state.co.us)

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⁷ [Code of Colorado Regulations \(state.co.us\)](http://state.co.us)