



Nutrient Management Fact Sheet: **Kentucky**

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Nutrient Management Plans

Topic	Summary
Coverage	<p>CAFOs (700 mature dairy cows¹) are required to have a Kentucky Pollution Discharge Elimination System (KPDES) permit that includes a Nutrient Management Plan.</p> <p>Animal feeding operations that do not discharge, do not intend to discharge, and obtain a Kentucky No-Discharge Operational Permit (KNDOP) shall not be considered CAFOs. The KNDOP requires a Nutrient Management Plan. ² A fact sheet on the KNDOP can be found here.</p> <p>Dairy Operations with more than 10 acres may need an Agricultural Water Quality Plan (AWQP) to prevent groundwater and surface water pollution from an agriculture operation. ³ An AWQP includes a conservation plan, a compliance plan and a forest stewardship management plan (if appropriate). A Nutrient Management Plan based on the University of Kentucky’s Extension Publication ID-211, Kentucky Nutrient Management Planning Guidelines, is also required unless the producer is required to follow the NRCS 590 Practice Standard based on federal program participation. Fact sheets on the Agriculture Water Act and the AWQP can be found here and here.</p>
Content	<p>A KPDES permit NMP must include:</p> <ul style="list-style-type: none"> - Adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities. - Proper management of animal mortalities. - Method to ensure clean water shall be diverted from the production area. - System to prevent direct contact of confined animals with Waters of the Commonwealth. - Site-specific conservation practices to be implemented to control runoff of pollutants to waters of the Commonwealth. - Protocols for testing of manure, litter, process wastewater, and soil. - Protocols to land apply manure, litter, or process wastewater in accordance with site-specific nutrient management practices that ensure agricultural utilization of the nutrients in the manure, litter, or process wastewater. - Records to document the implementation and management of the elements described above. <p>KNDOP NMPs must:</p>



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- Ensure adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities.
- Ensure proper management of animal mortalities.
- Ensure that clean water shall be diverted from the production area.
- Prevent direct contact of confined animals with waters of the Commonwealth.
- Identify site-specific conservation practices to be implemented to control runoff of pollutants to waters of the Commonwealth.
- Identify protocols for testing manure, litter, process wastewater, and soil.
- Establish protocols to land apply manure, litter, or process wastewater in accordance with site-specific nutrient management practices that ensure agricultural utilization of the nutrients in the manure, litter, or process wastewater.

Additional requirements for Large Animal Feeding Operations:

- Operations shall identify records that shall be maintained to document the implementation and management.
- Visual inspections of the production area.
- Open surface liquid impoundment shall have a depth marker that clearly indicates the storage capacity.

The [Kentucky Nutrient Management Planning Guidelines](#) includes the following steps for developing an NMP:

1. Determine the total volume and amount of nutrients generated.
2. Determine soil fertility.
3. Determine application rates (right rate) based on existing soil fertility, crop requirements, application timing (right time), application method (right place), and fertilizer type (e.g., commercial fertilizer versus slow-release fertilizer or additives to slow-release) (right source).
4. Create a cropping plan for utilizing generated manure, based on storage capacity, on a field-by-field basis for a total of five years.
5. Implement the plan and keep records.

Note: the extension document clarifies the difference between an NMP and a CNMP.

Frequency of Updates	Permits are valid for 5 years, and annual reports are required under the KPDES permit.
Paperwork	NMPs must be maintained on-site.
Planner Qualifications	Kentucky Nutrient Management Plan Guidelines do not reference professional qualifications or certifications for the individual preparing the NMP.



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Manure Storage and Application

Topic	Summary
Overview	Some operations may also need a Groundwater Protection Plan. Additional information can be found here .
Storage	Under the AWQP, Best Management Practices (BMPs) are established for the AWQP, including nutrient management , milking center wastewater treatment , feeding and heavy use area management , totally covered open confinement , manure management systems , manure storage ponds , manure holding tanks , manure treatment lagoons , sediment and soils separation basins and manure stack pads . Additional BMPs can be found here .
Application	<p>Spreading</p> <p>Under the KNDOP, land application shall not occur on snow-covered, frozen or saturated ground or during a precipitation event. Land application shall be of a sufficiently low rate as to prevent any runoff to Waters of the Commonwealth.</p> <p>Testing</p> <p>Under the NMP, protocols for testing soil, manure and process wastewater will be established.</p>

Technical Assistance

Topic	Summary
Software Tools	<p>The Kentucky Nutrient Management Calculator (v 3.5) allows producers to develop a KyNMP using an Excel workbook.</p> <p>The Kentucky AWQP Producer Workbook is a planning tool to be used by landowners to assess their operation and identify best management practices to be included in their AWQP.</p> <p>Manure Management Planner (MMP) is a software tool created by Purdue University that includes state-specific information for Kentucky producers to create manure management plans for crop and animal feeding operations.</p>
Guides / Handbooks	<p>KY NRCS 590 nutrient management standard.</p> <p>The University of Kentucky provides various Nutrient Management Planning resources that may be useful for completing a KyNMP.</p>

Financial Assistance

Summary



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The Kentucky Energy and Environment Cabinet (KEEC) administers the [Equipment Revolving Loan Program](#), which can provide funding to producers to purchase specialized equipment (like precision applicators for agriculture chemicals and other equipment suited for conservation work).

The Kentucky Office of Agricultural Policy implements the following funding programs for producers:

- The [Shared-Use Equipment Program](#) provides farmers access to equipment that would otherwise be cost-prohibitive, including manure spreaders.
- Through the [On-Farm Water Management Program](#), farmers can conduct Producer Implemented Projects (PIPs) or receive Small Scale Grants (SSGs) for up to 50% project cost-share for enhancing on-farm water management by using KY BMPs like Manure Management or Nutrient Management tactics.

KY NRCS provides assistance 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.

KEEC provides funding for:

- The KY Conservation Districts conduct the [State Cost-Share Program](#) for producers implementing conservation practices like animal waste control facilities, animal waste utilization, and precision nutrient management.

¹ <https://apps.legislature.ky.gov/law/kar/401/005/002.pdf>

² <https://apps.legislature.ky.gov/law/kar/401/005/005.pdf>

³ <https://apps.legislature.ky.gov/law/statutes/chapter.aspx?id=38338>