

Date

Farm Name

FSA#

Kentucky Agriculture Water Quality Plan Producer Workbook



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Introduction

The Kentucky General Assembly passed the Kentucky Agriculture Water Quality Act (AWQA) in 1994 with the goal of protecting the surface and groundwater resources from pollution resulting from agriculture and forestry activities. This workbook is a tool to help you think about the things you do on your farm and determine what practices you have that prevent pollution. Answers to the questions lead the user through sections that may apply to your farm. Honestly answering yes or no below each question will help you choose the practices you have installed that prevent pollution from that activity. You can also use this workbook to help give you ideas about additional practices you may want to add to your farm in the future.

A completed workbook is only part of compliance with the Kentucky AWQA. To be in compliance, you also have to be implementing practices on your farm to stop pollution. These practices are also beneficial to you in preventing loss of soil and nutrients from your farm.

Although there is no required frequency of plan updates, you should review your plan every time you change something on your farm to make sure your plan is up to date. New practices are also added to the state plan periodically, and may be of benefit to add to your plan upon review.

After completing the appropriate sections of the workbook, please complete the “My Agriculture Water Quality Plan” and “Certification” on pages 39 and 40. This site-specific plan will serve as a record of the management decisions made that could prevent impacts to surface or groundwater from this farm. The plan will belong to the landowner or producer and can be used in the event a water quality problem is identified.

Instructions

Use this document to create an Agriculture Water Quality Plan (AWQP). NOTE: If you have more than one farm, you may want to complete an AWQP for each farm.

1. Answer the questions on the following page to determine if an AWQP is needed for the operation, and if so, which sections of this document to complete.
2. Fill out the worksheet on page 5 with your operation's information.
3. Complete the questions under the corresponding sections.
 - a. If you answer yes to a question, refer to the Best Management Practices (BMPs) listed below the question. Check the BMPs that you have already implemented. The selected BMPs represent your current AWQP.
 - b. Take note of additional BMPs that could be installed to your operation, keeping in mind that research has shown that multiple BMPs are often necessary to trap, control, and prevent pollution from leaving your farm.
4. After completing the necessary sections, record all checked BMPs in the worksheet (My Kentucky Agriculture Water Quality Plan) on page 39.
5. Any additional BMPs and the date they were implemented can be recorded in this worksheet to reflect an updated AWQP. NOTE: A resource guide on BMP implementation is included at the back of this workbook.
6. Keep a copy of this document, along with your Nutrient Management Plan, in a folder or binder along with other farm records.
7. Review annually and include additional practices necessary due to changes in the farm operation.

Do You Need an AWQP?

Answer the following questions to determine if you need an agriculture water quality plan, and if so, which sections of the workbook apply to your operation.

1) Do you own 10 or more acres in Kentucky?

Yes - If you answer yes to question 2, you need an AWQP

No - The Kentucky Agriculture Water Quality Act does not require you to complete an AWQP, however, cost-share programs may request one

2) Is your land being used for farming or timber production?

Yes - If you answered yes to question 1, you need an AWQP

No - You do not need to complete an AWQP, however, cost-share programs may require one

3) Do you have a conservation plan, compliance plan, or a forest stewardship plan for your land?

Yes - Utilize these existing plans to help you develop and implement your AWQP

No

Date

Farm Name

FSA#

Landowner

Farm Operator

Address

County

Contact#/Phone

Crops

Do you grow agricultural or silvicultural crops on your property?

Yes - Complete this section of the Workbook

No - Skip this section

1) Do you produce row crops?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #1: Conservation Cropping Sequence

Crops BMP #2: Conservation Cover

Crops BMP #3: Conservation Tillage / Crop Residue Use

Crops BMP #4: Contour Farming

Crops BMP #6: Filter Strip

Crops BMP #7: Grasses and Legumes in Rotation

Crops BMP #10: Strip Cropping

Crops BMP #13: Cover Crop

Crops BMP #15: Grassed Waterway

Livestock BMP #11: Nutrient Management

Livestock BMP#18: Stormwater Management

Notes:

2) Do you apply waste (animal, agricultural, industrial, municipal, or other) to any of your fields?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #6: Filter Strip

Crops BMP #7: Grasses and Legumes in Rotation

Crops BMP #13: Cover Crop

Crops BMP #15: Grassed Waterway

Livestock BMP #11: Nutrient Management

Livestock BMP #18: Stormwater Management

Notes:

3) Do you apply pesticides or fertilizers to any fields?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #6: Filter Strip

Crops BMP #12: Pest Management Including Cultural Control

Crops BMP #15: Grassed Waterway

Livestock BMP #11: Nutrient Management

Notes:

4) Are there water bodies (streams, lakes, wetlands, wet weather streams, etc.) adjacent to any of your crop fields?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #3: Conservation Tillage / Crop Residue Use

Crops BMP #6: Filter Strip

Crops BMP #15: Grassed Waterway

Livestock BMP #3: Riparian Area Protection

Livestock BMP #11: Nutrient Management

Pesticides and Fertilizer BMP #8: Mixing, Loading, and Handling of Pesticides & Fertilizer and their Containers

Notes:

5) Do you produce commercial fruits or vegetables?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #1: Conservation Cropping Sequence

Crops BMP #2: Conservation Cover

Crops BMP #6: Filter Strip

Crops BMP #8: Mulching

Crops BMP #12: Pest Management Including Cultural Control

Crops BMP #13: Cover Crop

Crops BMP #15: Grassed Waterway

Livestock BMP #11: Nutrient Management

Pesticides and Fertilizer BMP #8: Mixing, Loading, and Handling of Pesticides & Fertilizer and their Containers

Notes:

6) Do you have an orchard or a Christmas tree farm?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #2: Conservation Cover

Crops BMP #6: Filter Strip

Crops BMP #12: Pest Management Including Cultural Control

Crops BMP #15: Grassed Waterway

Pesticides and Fertilizer BMP #8: Mixing, Loading, and Handling of Pesticides & Fertilizer and their Containers

Notes:

7) Do you produce sod?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #6: Filter Strip

Crops BMP #12: Pest Management Including Cultural Control

Livestock BMP #11: Nutrient Management

Pesticides and Fertilizer BMP #8: Mixing, Loading, and Handling of Pesticides & Fertilizer and their Containers

Notes:

8) Do you have eroded areas on any of your fields?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #1: Conservation Cropping Sequence

Crops BMP #2: Conservation Cover

Crops BMP #3: Conservation Tillage /Crop Residue Use

Crops BMP #4: Contour Farming

Crops BMP #6: Filter Strip

Crops BMP #8: Mulching

Crops BMP #11: Critical Area Planting and Treatment

Crops BMP #15: Grassed Waterway

Livestock BMP#18: Stormwater Management

Notes:

9) Are there areas in any of your fields where water concentrates and runs off the field?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #6: Filter Strip

Crops BMP #15: Grassed Waterway

Livestock BMP#18: Stormwater Management

Notes:

10) Are there areas in your fields that are not very productive or areas that are too steep to row crop?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #2: Conservation Cover

Crops BMP #9: Pasture and Hay Land Management

Livestock BMP#18: Stormwater Management

Notes:

11) Do you produce forage crops (hay or pasture)?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #7: Grasses and Legumes in Rotation

Crops BMP #9: Pasture and Hay Land Management

Livestock BMP #11: Nutrient Management

Notes:

12) Do any of your crop fields have tile drainage?

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #12: Pest Management Including Cultural Control

Livestock BMP #11: Nutrient Management

Notes:

13) Do any of your fields contain sinkholes?

Yes

No

Choose all practices below that you have implemented on this operation:

Forestry BMP #4: Sinkholes, Sinking Streams, and Caves

Notes:

Farmstead

Do you live on your land or do other people live on your land?

Yes - Complete this section of the Workbook

No - Skip this section

1) Do you need to dispose of solid waste including petroleum products, antifreeze, household paints and cleaners, and lead acid batteries on your land?

Yes

No

Choose all practices below that you have implemented on this operation:

Farmstead BMP #1: Solid Waste Procedures

Forestry BMP #4: Sinkholes, Sinking Streams, and Caves

Notes:

2) Do you dispose of on-site wastewater or sewage through methods such as lagoons, constructed wetlands, septic tanks and drain fields, seepage pits, cesspools, or straight pipes?

Yes

No

Choose all practices below that you have implemented on this operation:

Farmstead BMP #2: Septic Systems and On-Site Sewage Disposal

Forestry BMP #4: Sinkholes, Sinking Streams, and Caves

Notes:

3) Do you have any petroleum storage tanks that contain fuel (gasoline, diesel) or waste oil, not used for heating purposes, on your land?

Yes

No

Choose all practices below that you have implemented on this operation:

Farmstead BMP #3: On-Farm Petroleum Storage and Handling

Notes:

4) Are there any water wells (currently in use or abandoned) on your land?

Yes

No

Choose all practices below that you have implemented on this operation:

Farmstead BMP #4: Well Protection

Notes:

Livestock

1) Do you have livestock on your property?

Yes - Complete this section of the Workbook

No - Skip this section

Choose all practices below that you have implemented on this operation:

Livestock BMP #11: Nutrient Management

Livestock BMP #15: Dead Animal Disposal

Notes:

2) Are there any streams, rivers, wetlands, or other water bodies in, or adjacent to, any of your production areas, pastures, or wooded pasture areas?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #1: Planned Grazing System

Livestock BMP #2: Proper Grazing Use

Livestock BMP #3: Riparian Area Protection

Livestock BMP #4: Limiting Access to Streams by Fencing with Alternative Water Systems or Limited Access Points

Livestock BMP #11: Nutrient Management

Livestock BMP #13: Filter Strip

Livestock BMP #14: Feeding and Heavy Use Area Management

Livestock BMP#18: Stormwater Management

Notes:

3) Do you overgraze your pastures?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #1: Planned Grazing System

Livestock BMP #2: Proper Grazing Use

Livestock BMP #3: Riparian Area Protection

Livestock BMP #4: Limiting Access to Streams by Fencing with Alternative Water Systems or Limited Access Points

Livestock BMP #11: Nutrient Management

Livestock BMP #13: Filter Strip

Livestock BMP #14: Feeding and Heavy Use Area Management

Livestock BMP#18: Stormwater Management

Notes:

4) Do you have livestock in roofed, paved confined feeding areas?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #5: Manure Management System

Livestock BMP #6: Manure Storage Pond

Livestock BMP #7: Manure Storage Structure (Holding Tank)

Livestock BMP #8: Manure Treatment Lagoon

Livestock BMP #9: Sediment or Solids Separation Basin

Livestock BMP #10: Manure Storage Structure (Stack Pad)

Livestock BMP #11: Nutrient Management

Livestock BMP #13: Filter Strip

Livestock BMP #14: Feeding and Heavy Use Area Management

Livestock BMP#18: Stormwater Management

Notes:

5) Does water go through your production areas?

Helpful hint: Production areas include but are not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, stables, lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, composting piles, feed silos, silage bunkers, bedding materials, settling basins, areas within berms and diversions which separate uncontaminated storm water. Also included is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #1: Planned Grazing System

Livestock BMP #2: Proper Grazing Use

Livestock BMP #3: Riparian Area Protection

Livestock BMP #4: Limiting Access to Streams by Fencing with Alternative Water Systems or Limited Access Points

Livestock BMP #11: Nutrient Management

Livestock BMP #13: Filter Strip

Livestock BMP #14: Feeding and Heavy Use Area Management

Livestock BMP #18: Stormwater Management

Notes:

6) Do you have livestock in unroofed, unpaved, confined feeding areas including pastures?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #1: Planned Grazing System

Livestock BMP #2: Proper Grazing Use

Livestock BMP #5: Manure Management System

Livestock BMP #9: Sediment or Solids Separation Basin

Livestock BMP #11: Nutrient Management

Livestock BMP #13: Filter Strip

Livestock BMP #14: Feeding and Heavy Use Area Management

Livestock BMP#18: Stormwater Management

Notes:

7) Do you scrape your paved and unpaved feeding areas before rainfall events?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #2: Proper Grazing Use

Livestock BMP #5: Manure Management System

Livestock BMP #9: Sediment or Solids Separation Basin

Livestock BMP #11: Nutrient Management

Livestock BMP #13: Filter Strip

Livestock BMP #14: Feeding and Heavy Use Area Management

Livestock BMP#18: Stormwater Management

Notes:

8) Do you store animal waste prior to spreading it on fields?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #5: Manure Management System

Livestock BMP #6: Manure Storage Pond

Livestock BMP #7: Manure Storage Structure (Holding Tank)

Livestock BMP #8: Manure Treatment Lagoon

Livestock BMP #9: Sediment or Solids Separation Basin

Livestock BMP #10: Manure Storage Structure (Stack Pad)

Livestock BMP #11: Nutrient Management

Livestock BMP #13: Filter Strip

Livestock BMP#18: Stormwater Management

Notes:

9) Do you apply animal waste to your land?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #11: Nutrient Management

Livestock BMP #13: Filter Strip

Livestock BMP#18: Stormwater Management

Notes:

10) Does excess rainwater enter or flow through your production area?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #2: Proper Grazing Use

Livestock BMP #5: Manure Management System

Livestock BMP #9: Sediment or Solids Separation Basin

Livestock BMP #11: Nutrient Management

Livestock BMP #13: Filter Strip

Livestock BMP #14: Feeding and Heavy Use Area Management

Livestock BMP#18: Stormwater Management

Notes:

11) Do you dispose of or store poultry waste?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #5: Manure Management System

Livestock BMP #7: Manure Storage Structure (Holding Tank)

Livestock BMP #10: Manure Storage Structure (Stack Pad)

Livestock BMP #12: Equine / Poultry Waste Feed

Livestock BMP #17: Poultry Siting and Land Application of On-Farm
Generated Waste By-Products

Livestock BMP#18: Stormwater Management

Notes:

12) Do you generate milk parlor/milk house wastewater or silage leachate?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #5: Manure Management System

Livestock BMP #6: Manure Storage Pond

Livestock BMP #8: Manure Treatment Lagoon

Livestock BMP #9: Sediment or Solids Separation Basin

Livestock BMP #11: Nutrient Management

Livestock BMP #16: Milking Center Wastewater Treatment

Livestock BMP#18: Stormwater Management

Notes:

13) Do you use animal waste (poultry litter or horse muck) as feed for other livestock on your farm?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #12: Equine / Poultry Waste Feed

Notes:

14) Do you store or dispose of horse muck?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #5: Manure Management System

Livestock BMP #10: Manure Storage Structure (Stack Pad)

Livestock BMP #11: Nutrient Management

Livestock BMP#18: Stormwater Management

Notes:

15) Do you have or plan to build poultry houses on your farm?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #11: Nutrient Management

Livestock BMP #17: Poultry Siting and Land Application of On-Farm
Generated Waste By-Products

Livestock BMP#18: Stormwater Management

Notes:

16) Do any of your fields have sinkholes?

Yes

No

Choose all practices below that you have implemented on this operation:

Forestry BMP #4: Sinkholes, Sinking Streams, and Caves

Notes:

17) Do any of your pastures have gully erosion?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #1: Planned Grazing System

Livestock BMP #2: Proper Grazing Use

Livestock BMP #3: Riparian Area Protection

Livestock BMP #4: Limiting Access to Streams by Fencing with Alternative Water Systems or Limited Access Points

Livestock BMP #18: Stormwater Management

Notes:

18) Do you keep records of where you apply manure?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #11: Nutrient Management

Notes:

19) Is the storage capacity of your liquid storage structure capable of handling high rainfall events (do you keep adequate freeboard)?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #5: Manure Management System

Livestock BMP #6: Manure Storage Pond

Livestock BMP #7: Manure Storage Structure (Holding Tank)

Livestock BMP #8: Manure Treatment Lagoon

Livestock BMP #9: Sediment or Solids Separation Basin

Livestock BMP #10: Manure Storage Structure (Stack Pad)

Livestock BMP #11: Nutrient Management

Livestock BMP #18: Stormwater Management

Notes:

20) Do you operate a liquid manure system?

Helpful hint: Producers with a liquid manure system are required to follow the steps below.

Yes

No

Requirements:

- Producers cannot have a discharge from the operation.
- The landowner should submit a Short Form B to the Division of Water to receive a Kentucky No Discharge Operational Permit (KNDOP).

As part of the KNDOP, the producer must also:

Develop a Comprehensive Nutrient Management Plan (CNMP) or Kentucky Nutrient Management Plan (KYNMP) (Livestock BMP #11: Nutrient Management).

Ensure that clean water shall be diverted from the production area (Livestock BMP#18: Stormwater Management).

Prevent direct contact of confined animals with waters of the Commonwealth (Livestock BMP #3: Riparian Area Protection).

Notes:

21) Do you need to manage buffers to prevent manure from moving offsite?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #3: Riparian Area Protection

Livestock BMP #11: Nutrient Management

Livestock BMP #13: Filter Strips

Livestock BMP #18: Stormwater Management

Notes:

22) Do you analyze manure for nutrient concentrations?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #11: Nutrient Management

Notes:

23) Do you analyze your soils for fertility?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #11: Nutrient Management

Notes:

24) Do you apply manure in the winter to frozen or snow covered soils?

Helpful hint: Manure applications on frozen or snow covered soils is not recommended, and are only allowed if BMPs such as filter strips, crop residue management, vegetative cover management, and other strategies are implemented to reduce the risk of pollution.

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #2: Conservation Cover

Livestock BMP #3: Riparian Area Protection

Livestock BMP #5: Manure Management System

Livestock BMP #6: Manure Storage Pond

Livestock BMP #7: Manure Storage Structure (Holding Tank)

Livestock BMP #8: Manure Treatment Lagoon

Livestock BMP #9: Sediment or Solids Separation Basin

Livestock BMP #10: Manure Storage Structure (Stack Pad)

Livestock BMP #11: Nutrient Management

Livestock BMP #13: Filter Strip

Livestock BMP #18: Stormwater Management

Notes:

25) Do you allow livestock in your forested areas or in forested areas along creeks, streams, lakes, or ponds?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #3: Riparian Area Protection

Livestock BMP #4: Limiting Access to Streams by Fencing with Alternative Water Systems or Limited Access Points

Livestock BMP #13: Filter Strip

Livestock BMP #14: Feeding and Heavy Use Area Management

Livestock BMP #18: Stormwater Management

Notes

Forestry

Do you harvest and/or raise trees for timber on your land?

Yes - Complete the Forestry section of the Workbook

No - Skip this section

1) As part of any timber harvesting and/or silvicultural (forestry) operation, will you or the logger need to construct, use, and/or maintain roads, trails, and/or log landings on your property?

Helpful hint: Access roads, trails, and landings generally are in timber harvesting operations in Kentucky, and this question is normally answered yes.

Yes

No

Choose all practices below that you have implemented on this operation:

Forestry BMP #1: Access Roads, Trails, and Landings

Forestry BMP #3: Streamside Management Zones (SMZ)

Notes:

2) Does the area where the forestry operation is to occur contain perennial or intermittent streams or other bodies of water?

Helpful hint: Perennial streams flow all year round. Intermittent streams have defined banks and flow only during the wet portions of the year and directly after rainfall in dry summer months.

Yes

No

Choose all practices below that you have implemented on this operation:

Forestry BMP #3: Streamside Management Zones

Notes:

3) Does the boundary or tract where the forestry operation is to occur contain sinkholes or similar natural openings where surface water can drain into the ground?

Yes

No

Choose all practices below that you have implemented on this operation:

Forestry BMP #4: Sinkholes, Sinking Streams, and Caves

Notes:

4) In conjunction with your forestry operations, other than those associated with timber harvesting, are there disturbed or otherwise bare areas that need to be revegetated to prevent and/or control soil erosion?

Helpful hint: This question pertains to areas where bare mineral soil is exposed and susceptible to erosion. This question usually does not pertain to areas where groundcover is being killed to aid in tree planting or to encourage natural reforestation.

Yes

No

Choose all practices below that you have implemented on this operation:

Forestry BMP #2: Revegetation of Silviculturally Disturbed Areas

Notes:

5) Will operations on your property use equipment or machinery and/or produce trash?

Helpful hint: Equipment and machinery use fluids such as fuel, oil, hydraulic fluid, anti-freeze and similar fluids. Operations can also produce trash including discarded containers, filters, cable, tires, etc.

Yes

No

Choose all practices below that you have implemented on this operation:

Forestry BMP #5: Trash and Fluids

Notes:

6) Will you conduct any forestry activities in areas classified as wetlands by the Natural Resources Conservation Service (NRCS) or the U.S. Army Corps of Engineers?

Helpful hint: It is sometimes difficult for an untrained individual to determine if an area is a wetland. Many bottomland hardwood forests on floodplains are considered wetlands. Generally, soils that stay wet near the surface indicate a wetland. If you have an area that you suspect is a wetland, you can contact the Corps of Engineers, your local district conservationist with the Natural Resources Conservation Service, your county Cooperative Extension Service agent, or personnel from the Kentucky Division of Forestry for help.

Yes

No

Choose all practices below that you have implemented on this operation:

Forestry BMP #10: Silviculture in Wetland Areas

Notes:

7) Will you, an operator, or a vendor working for you engage in site preparation activities prior to, or as part of, reforestation practices on your property?

Helpful hint: Site preparation activities are forestry practices.

Yes

No

Choose all practices below that you have implemented on this operation:

Forestry BMP #6: Proper Planting of Tree Seedlings by Machine

Forestry BMP #9: Site Preparation for Reforestation

Notes:

8) Will you or a contractor working for you be applying pesticides, including herbicides or fertilizers, in connection with your forestry activities?

Helpful hint: This question usually pertains to silvicultural operations for culturing tree plantings or timber stand improvement work. Timber harvesting operations might include the use of fertilizers to help ensure successful revegetation of roads, trails, or landings. If this is the case, use only BMP No. 7, which includes herbicides.

Yes

No

Choose all practices below that you have implemented on this operation:

Forestry BMP #7: Fertilization

Forestry BMP #8: Application of Pesticides

Notes:

9) Do you allow livestock to have access to your forested areas or to forested areas in streamside corridors or around lakes or ponds?

Helpful Hint: The Kentucky Agriculture Water Quality Act requires that you adhere to Livestock BMPs if cattle are grazing around streams in woodlands. However, if you are concerned about timber production, you should limit livestock access to woodlands, because they will damage standing trees and destroy seedlings in the understory.

Yes

No

Choose all practices below that you have implemented on this operation:

Crops BMP #6: Filter Strip

Livestock BMP #3: Riparian Area Protection

Livestock BMP #4: Limiting Livestock Access to Streams by Fencing with Alternative Water Systems, Limited Access Points, or Stream Crossings

Livestock BMP #14: Feeding and Heavy Use Area Management

Notes:

10) Will low water stream crossings be constructed, or will gravel, sediments, or logjams be removed from a stream?

Yes

No

Choose all practices below that you have implemented on this operation:

Streams BMP #1: Stream Crossing Protection

Streams BMP #2: Sand and Gravel Removal

Streams BMP #4: Proper Stream Drainage Maintenance

Notes:

Pesticides and Fertilizers

Do you use and/or store pesticides and/or fertilizers on your land?

Yes - Complete the Pesticides and Fertilizers section of the Workbook

No - Skip this section

1) Do you store 25 tons or more of dry bulk fertilizer in a non-mobile structure for more than a year?

Yes

No

Choose all practices below that you have implemented on this operation:

Pesticides & Fertilizers BMP #1: Storage of Dry Bulk Fertilizer

Livestock BMP #18: Stormwater Management

Notes:

2) Do you store 5,000 gallons or more of bulk liquid fertilizer in a non-mobile structure for more than a year?

Yes

No

Choose all practices below that you have implemented on this operation:

Pesticides & Fertilizers BMP #2: Storage of Liquid Bulk Fertilizer

Notes:

3) Do you store less than 25 tons of dry fertilizer or less than 5,000 gallons of liquid fertilizer for any period of time?

Yes

No

Choose all practices below that you have implemented on this operation:

Pesticides & Fertilizers BMP #3: Storage of Liquid or Dry Fertilizer (small quantities)

Livestock BMP #18: Stormwater Management

Notes:

4) Do you store more than 300 lbs of dry bulk pesticides in a non-mobile structure for more than a year?

Yes

No

Choose all practices below that you have implemented on this operation:

Pesticides & Fertilizers BMP #4: Storage of Dry Bulk Pesticides

Livestock BMP #18: Stormwater Management

Notes:

5) Do you store more than 300 gallons of liquid bulk pesticides in a non-mobile structure for more than a year?

Yes

No

Choose all practices below that you have implemented on this operation:

Pesticides & Fertilizers BMP #5: Storage of Liquid Bulk Pesticides

Notes:

6) Do you store less than 300 lbs of dry pesticides or less than 300 gallons of liquid pesticides for any period of time?

Yes

No

Choose all practices below that you have implemented on this operation:

Pesticides & Fertilizers BMP #6: Storage of Liquid and Dry Pesticides (small quantities)

Notes:

7) Do you transport pesticides or fertilizers on public highways?

Yes

No

Choose all practices below that you have implemented on this operation:

Pesticides & Fertilizers BMP #7: Transport of Pesticides and Fertilizers

Notes:

8) Do you mix, load, or otherwise handle pesticides or fertilizers and their containers at your farm?

Yes

No

Choose all practices below that you have implemented on this operation:

Pesticides & Fertilizers BMP #8: Mixing, Loading and Handling

Forestry BMP #4: Sinkholes, Sinking Streams, Caves

Notes:

9) Do you store unused or leftover pesticides or fertilizers on your farm at any time?

Yes

No

Choose all practices below that you have implemented on this operation:

Pesticides & Fertilizers BMP #9: Excess Pesticide Disposal

Notes:

10) Do you ever dispose of empty pesticide or fertilizer containers?

Yes

No

Choose all practices below that you have implemented on this operation:

Pesticides & Fertilizers BMP #10: Pesticide and Fertilizer Container Disposal

Notes:

Streams and Other Waters

Do you have streams, wetlands, or other waters on your land?

Yes - Complete the Streams and Other Waters section of the Workbook

No - Skip this section

1) Do you ever cross a stream with farm equipment or vehicles?

Yes

No

Choose all practices below that you have implemented on this operation:

Streams BMP #1: Stream Crossing Protection

Notes:

2) Are there sand or gravel deposits in any stream on your land that you want to remove?

Yes

No

Choose all practices below that you have implemented on this operation:

Streams BMP #2: Sand and Gravel Removal

Notes:

3) Are any stream banks on your land scouring, caving in, or sloughing off?

Yes

No

Choose all practices below that you have implemented on this operation:

Streams BMP #3: Streambank and Shoreline Protection

Crops BMP #15: Grassed Waterway

Livestock BMP #3: Riparian Area Protection

Livestock BMP #14: Feeding and Heavy Use Area Management

Notes:

4) Do any streams on your land have log jams or sediment blockage that you want to remove?

Yes

No

Choose all practices below that you have implemented on this operation:

Streams BMP #4: Proper Stream Drainage Maintenance

Notes:

5) Do you plan to carry out any activities on areas considered to be wetlands?

Yes

No

Get site specific technical help. A permit may be required for this activity.

Contact the Army Corps of Engineers, the Natural Resources Conservation Service (NRCS), or the Kentucky Division of Water (DOW) Water Quality Certification Section.

Notes:

6) Do you have gully erosion?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #18: Stormwater Management

Crops BMP #15: Grassed Waterway

Notes:

7) Do you have streams, springs, and/or other conveyances that flow through your production area (areas where manure, feed, and/or agricultural chemicals are stored; or areas where animals are held, housed, fed, and/or handled)?

Yes

No

Choose all practices below that you have implemented on this operation:

Livestock BMP #3: Riparian Area Protection

Livestock BMP #18: Stormwater Management

Forestry BMP #4: Sinkholes, Sinking Streams, and Caves

Notes:

MY AGRICULTURE WATER QUALITY PLAN

Field No.	Date to Complete Practice	Date Practice Completed	BMP Name	Planning Records: Past Performance (What I've been doing) Present Activities (What I'm now doing) Future Action (Other things I need to do)

Certification

I understand my obligations under the Agriculture Water Quality Act to implement the applicable requirements of the statewide water quality plan and I have developed a water quality plan for my individual operations based on its guidance. I am aware of the need to review my plan periodically to record those practices or measures that I have completed and to modify my plan as major changes are made in my operation. If my management practices are questioned by regulatory agencies or through civil actions, these updated records will serve as documentation of my efforts to improve and protect the natural resources.

This plan will entitle me to:

- The Corrective Measures process. A process to correct any identified water quality problems that may be the result of activities conducted on my operation.
- Availability of technical assistance through the conservation districts to develop or modify as needed my water quality plan, practices and/or measures or to recommend changes to the statewide water quality plan.
- Financial Assistance needed for implementation of my plan as resources become available.
- Possible extensions of time for compliance with a water quality plan based on the availability of technical and financial assistance.

I would like to be kept informed, through the conservation districts mailing list, of new information as it becomes available regarding: resource needs, water quality, environmental conditions, new or more effective best management practices, new and beneficial technologies, and new or expanded sources of technical and financial assistance such as cost share or incentive programs.

Physical Property Information

Date

City, State Zip

County

No. of Acres

FSA#

Land Owner Information

Name

Signature _____

City, State Zip

Land User (tenant, manager, etc.) Information, If Different from Land Owner

Name

Signature _____

City, State Zip

INSTRUCTION: Please mail or deliver to your local county conservation district office or contact them if you need technical assistance or additional information to complete your plan.

Crop BMP Descriptions

Crops BMP #1: Conservation Cropping Sequence

A conservation cropping sequence is an adopted sequence of crops designed to provide adequate organic residue for maintenance or improvement of soil tilth, usually year by year. Crops to be planted on a given parcel are changed year by year in a planned sequence. Crop rotation is a common practice on sloping soils because of its potential for soil saving. This will also reduce soil erosion, improve water use efficiency and water quality, enhance wildlife habitat, and break the reproduction cycle of plant pests.

Crops BMP #2: Conservation Cover

Conservation cover is the establishment and maintenance perennial vegetative cover (grass, legume, trees, and shrubs) to protect soil and water resources on land retired from agricultural production.

Crops BMP #3: Conservation Tillage / Crop Residue Use

Conservation tillage is any tillage and planting system in which enough of the soil surface is covered by plant residue after planting to control soil erosion by water.

Crops BMP #4: Contour Farming

Contour farming is farming in such a way that all operations, such as plowing, land preparation, planting, cultivating, and harvesting are across the slope, rather than up and down the slope.

Crops BMP#5: Nutrient Management

See Livestock BMP #11

Crops BMP #6: Filter Strip

A filter strip is a strip or area of vegetation that removes sediment, organic matter, and other pollutants from runoff.

Crops BMP #7: Grasses and Legumes in Rotation

This BMP concerns the use of grasses and/or legumes for one or more years as part of a crop rotation.

Crops BMP #8: Mulching

Mulching is the application of plant residue (which is not produced on the site), wood fiber or by-products, asphalt or synthetic sprays, or other suitable material to the soil surface.

Crops BMP #9: Pasture and Hay Land Management

This BMP concerns the establishment, re-establishment, and maintenance of adapted grasses and/or legumes for long-term pasture or hay land uses. It also concerns keeping pasture and hay plants growing and vigorous as long as possible to reduce water loss and protect the soil.

Crops BMP #10: Strip Cropping

Strip cropping is a cropping system of growing two different crops in alternate strips on the contour or across the slope.

Crops BMP #11: Critical Area Planting and Treatment

Critical area planting is the establishment of vegetation on severely eroded, sediment-producing areas that often require special planting and management techniques to overcome unfavorable soil-site conditions.

Crops BMP #12: Pest Management Including Cultural Control

This BMP concerns the wise use and application of insecticides, herbicides, and other agriculture chemicals in the production of farm crops and livestock. It includes safe storage of unused chemicals and proper disposal of empty containers and wash materials. Cultural control is also included.

Crops BMP #13: Cover Crop

A cover crop is a close-growing crop (grass, legume, or small grain) grown primarily for the purpose of temporarily protecting from erosion and improving the soil.

Crops BMP #14: Nutrient Management

See Livestock BMP #14

Crops BMP #15: Grassed Waterway

A grassed waterway is a natural or constructed channel, usually broad and shallow, covered with erosion-reducing grasses, used to safely carry surface runoff water from a field, terrace, diversion, or other area to a suitable outlet.

Farmstead BMP Descriptions

Farmstead BMP #1: Solid Waste Procedures

Solid waste includes any garbage, refuse, sludge, and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining (excluding coal mining), or agricultural operations, and from community activities.

Farmstead BMP #2: Septic Systems and On-Site Sewage Disposal

Septic systems and on-site sewage disposal systems use natural processes to treat and dispose of the wastewater from a home. It typically consists of a septic tank and a drainfield. The system accepts both "blackwater" (toilet wastes) and "greywater" (wastes from the kitchen sink, bathtub, shower, and laundry).

Farmstead BMP #3: On-Farm Petroleum Storage and Handling

An "underground storage tank (UST) system" is any tank, including underground piping connected to the tank, which has at least 10% of its volume underground. This BMP applies only to UST systems that have stored or are storing petroleum products.

Farmstead BMP #4: Well Protection

This BMP applies to wells for human consumption and non-human consumption.

Forestry BMP Descriptions

Forestry BMP #1: Access Roads, Trails, and Landings

An access road is constructed to connect timber harvesting or some other forest activity with the farm or public road system. Trails are secondary vehicle travel routes, for log skidders and forwarders through the forest used to remove harvested timber from a point near where it was harvested to an access road or concentration area. Landings or log yards are concentration areas where harvested forest products are temporarily concentrated and stored before being permanently removed from the woods. It is important to construct and maintain these areas in a way that minimizes soil erosion and protects nearby water bodies from sedimentation.

Forestry BMP #2: Re-vegetation of Silviculturally Disturbed Areas

“Revegetation” means establishing a vegetative cover to stabilize the soil and reduce damage to downstream areas from sediment and runoff resulting from silvicultural activity.

Forestry BMP #3: Streamside Management Zones (SMZ)

A streamside management zone (SMZ) is a strip of woodland located adjacent to a stream (or other bodies including but not limited to lakes, ponds, and sloughs) where only limited disturbance is desirable. SMZs maintain natural temperatures in perennial water bodies through shading, maintain the integrity of the bank, and reduce the amount of sediment entering the water by minimizing soil disturbance and filtering overland flow. Intermittent streams are generally dry in the summer months and do not require shading. Both “perennial SMZs” and “intermittent SMZs” require protection of the banks, channel, and of the adjacent strip of forestland.

Forestry BMP #4: Sinkholes, Sinking Streams, and Caves

This BMP concerns forested areas in karst topography which contain “sinkhole” depressions. Sinkholes are open or closed circular depressions in limestone areas where surface waters flow to join an underground drainage system.

Forestry BMP #5: Fluids and Trash

This BMP is designed to protect water bodies from pollution by trash and fluids associated with logging and other forestry equipment. It is applicable in forested areas where silvicultural practices such as timber harvesting, site preparation, or woodland improvement are to be applied.

Forestry BMP #6: Proper Planting of Tree Seedlings by Machine

This BMP concerns planting of tree seedling stock with mechanical tree planting machines in a manner to minimize potential degradation of water quality.

Forestry BMP #7: Fertilization

This BMP concerns minimizing water quality degradation while applying specific chemicals to the soil to favor increased growth of vegetation. This practice induces desirable vegetation to achieve maximum growth practical for site conditions, while managing the fertilizer in such a way as to protect the quality of nearby water bodies.

Forestry BMP #8: Application of Pesticides

Pesticides include insecticides, herbicides, fungicides, rodenticides and nematocides. Applications of these chemicals destroy, prevent, or control woody or herbaceous vegetation and other forest pests on forested lands or areas being reforested. The BMP is to apply pesticides in such a manner that water quality degradation is minimized.

Forestry BMP #9: Site Preparation for Reforestation

This BMP concerns treatment of lands prior to the planting of tree seedlings or direct seeding of tree seed. This is done to aid in the successful establishment and growth of tree seedlings once planted. This BMP is to apply such treatment in a manner by which potential water quality degradation is minimized.

Forestry BMP #10: Silviculture in Wetland Areas

Wetlands are areas characterized by soils saturated with moisture during all or a significant proportion of the year and which support a dominance of plants adapted to wet conditions. Such areas are transition zones between predominately dry upland sites and permanent water in streams and lakes. Official determinations of whether a forested area is a wetland are the responsibility of the US Army Corps of Engineers unless there is adjacent cropland, in which case the determination may be made by the Natural Resources Conservation Service of USDA. Forested wetlands, because of their uniqueness, require additional considerations above those listed in other BMPs dealing with silvicultural activities.

Livestock BMP Descriptions

Livestock BMP #1: Planned Grazing (Rotational Grazing, Stockpiling, etc.) System

A planned grazing system is a practice in which two or more pastures are alternately rested and grazed in a planned sequence for a period of years in order to maintain minimum recommended grazing coverage as typically measured by height. Rest periods may be scheduled throughout the year or during the growing season of key plants.

Livestock BMP #2: Proper Grazing Use

Proper stocking density is defined as grazing at an intensity that will maintain enough cover to protect the soil and maintain or improve the quantity and quality of desirable vegetation and crop residues. This may include matching stocking rates to maintain cover when Livestock BMP #1 is not implemented. Apply practices that will keep pastures growing and vigorous over as long a period as possible. This includes grazing and pasture management practices that improve the quantity and quality of the forages and to maintain adequate vegetative cover. The amount of animal waste and nutrients reaching streams will be reduced by the filtering effects of the vegetation slowing runoff and by the increased uptake of nutrients.

Livestock BMP #3: Riparian Area Protection

A protected riparian area is an area of trees, woody shrubs, grasses, and other vegetation located adjacent to or up-gradient from water courses, wetlands, and impounded water bodies. This area should be protected from livestock, or livestock should be managed in a manner to protect the area. The area reduces sediment, organic material, nutrients, and pesticides in surface runoff and shallow groundwater flow. Benefits of this practice include enhanced wildlife habitat, reduced stream water temperature, streambank protection, and erosion control.

Livestock BMP #4: Limiting Access to Streams by Fencing with Alternative Water Systems or Limited Access Points

This BMP includes fencing, alternative water systems, and stream crossings. Fencing involves enclosing or dividing an area of land with a suitable structure that acts as a barrier to livestock or people. An alternative water system is a water supply other than a present system (generally a stream), which may include a spring development, pipeline and tank, or temporary water system. Stream crossings involve installing a designated crossing for livestock using a design that utilizes rock and geotextile fabric. Gates should be installed to prevent livestock from standing or loafing in the stream.

Livestock BMP #5: Manure Management System

A manure management system is a planned system for managing liquid and solid manure, in which all necessary components are installed in a manner that does not degrade soil or water resources and uses a nutrient management plan.

Livestock BMP #6: Manure Storage Pond

A manure storage pond is a reservoir, pit, or pond made by excavation or earth fill for the temporary storage of liquid and/or solid livestock manure, waste water, and/or other polluted runoff prior to land application. Construction of a storage pond for animal manure allows it to be used more effectively for fertilizer. Livestock manures are temporarily held in the manure storage pond until land application using a nutrient management plan.

Livestock BMP #7: Manure Storage Structure (Holding Tank)

A holding tank is an essentially water-tight structure of concrete, concrete block, steel, fiberglass, or similar materials to temporarily store livestock liquid and slurry manure. Holding tanks are an effective means of storing animal manure on site, reducing its potential as a pollutant. The manure can be hauled and applied in a slurry form when soil conditions permit and utilized as a beneficial product for crop production using a nutrient management plan.

Livestock BMP #8: Manure Treatment Lagoon

A manure treatment lagoon is an impoundment made by excavation or earthfill to biologically treat livestock manure or other agricultural waste, reduce pollution, and protect the environment. Lagoons biologically treat agricultural wastes to reduce nitrogen content. . Effluent is applied as a fertilizer source periodically using a nutrient management plan by irrigation or hauling.

Livestock BMP #9: Sediment or Solids Separation Basin

A separation basin is a structure that temporarily restrains runoff and permits liquids to drain gradually to a holding pond, lagoon, or infiltration area. Solids remain in the basin for drying and later removal for field application using a nutrient management plan.

Livestock BMP #10: Manure Storage Structure (Stack Pad)

A stack pad is a stacking facility constructed of durable materials to temporarily store solid livestock manure or agricultural waste until it can be removed and properly applied on the land using a nutrient management plan.

Livestock BMP #11: Nutrient Management

A nutrient management plan is one of the most important conservation practices that protects our natural resources and potentially saves producers money by spending less on commercial fertilizer. A nutrient management plan is required when producing or applying livestock manure and/or applying commercial fertilizer. The minimum requirements include taking soil tests, testing animal manure for nutrients, managing animal manure to prevent environmental problems, rotating crops, and having sufficient land available to utilize manure so that soils are not overloaded or exceed crop requirements. Producers must follow guidelines in the University of Kentucky's Extension Publication ID-211 Kentucky Nutrient Management Guidelines (KyNMP) to develop nutrient management plans unless the producer is required to follow current NRCS Practice Code 590 based on federal program participation.

Livestock BMP #12: Equine / Poultry Waste Feed

Certain animal waste can be utilized as feed for other livestock. Feeding broiler litter to cattle is an example of effective use of a by-product from one livestock industry by another. This type of activity usually requires some type of processing prior to feeding.

Livestock BMP #13: Filter Strip

A filter strip is a strip of close growing dense vegetation for filtering sediment, nutrients, and pathogens. Ideally, they are established down slope of animal production areas to capture and treat runoff before it reaches environmentally sensitive areas.

Livestock BMP #14: Feeding and Heavy Use Area Management

This BMP concerns managing heavily used livestock areas in a manner that protects areas prone to water quality or soil erosion problems by establishing vegetative cover, by surfacing with suitable materials, or by installing needed structures.

Livestock BMP #15: Dead Animal Disposal

This BMP concerns methods of disposing of dead livestock that are legally and environmentally acceptable, including incineration, boiling, burying, rendering, placing in a landfill, composting, or a combination of the previously listed methods.

Livestock BMP #16: Milking Center Wastewater Treatment

Milking center wastewater includes waste from the milking parlor and milkhouse. It comprises milk solids, fat, casein, detergents, manure, and other solid and liquid particles.

Livestock BMP #17: Poultry Siting and Land Application of On-Farm Generated Waste By-Products

This BMP applies to the construction of poultry facilities and the use of nutrient management planning in conjunction with land applications to control or eliminate the contribution of excess nutrients (especially nitrogen and phosphorus) to our water resources.

Livestock BMP #18: Stormwater Management

Stormwater management is the practice of keeping manure out of water and keeping water out of manure. In accordance with the Clean Water Act, agriculture operations must manage wastewater in a manner that creates no discharge to surface water resources. Diverting clean water reduces the amount of wastewater that requires containment, and management, conserves wastewater storage space, creates a drier environment for animals, and reduces odors. Keeping manure out of water means managing livestock in a manner that prevents the direct deposit or runoff of manure into streams and waterways.

Pesticide & Fertilizer BMP Descriptions

Pesticides & Fertilizers BMP #1: Storage of Dry Bulk Fertilizer

This BMP applies to the storage of over 25 tons of dry fertilizer in a non-mobile structure or container for longer than one year.

Pesticides & Fertilizers BMP #2: Storage of Liquid Bulk Fertilizer

This BMP applies to the storage of over 5,000 gallons of any liquid fertilizer in a non-mobile structure or container for longer than one year.

Pesticides & Fertilizers BMP #3: Storage of Liquid or Dry Fertilizer (small quantities)

"Fertilizer" refers to any fertilizer in liquid or dry forms. This BMP applies to dry fertilizer in accumulated quantities of less than 25 tons of net dry weight, stored for any period of time. It also applies to liquid fertilizer in accumulated quantities of less than 5000 U.S. gallons liquid measure, stored for any period of time.

Pesticides & Fertilizers BMP #4: Storage of Dry Bulk Pesticides

This BMP applies to the storage of more than 300 pounds of any dry pesticide in a non-mobile structure or container or in an individual container in undivided quantities for longer than one year.

Pesticides & Fertilizers BMP #5: Storage of Liquid Bulk Pesticides

This BMP applies to the storage of more than 300 gallons of any liquid pesticide in a non-mobile structure or container or in an individual container for more than one year.

Pesticides & Fertilizers BMP #6: Storage of Liquid and Dry Pesticides (small quantities)

This BMP applies to the storage, over any period of time, of dry pesticides in quantities less than 300 pounds. It also applies to storage, over any period of time, of liquid pesticides in quantities less than 300 U.S. gallons.

Pesticides & Fertilizers BMP #7: Transport of Pesticides and Fertilizers

This BMP concerns transportation of all pesticides and fertilizers on public highways.

Pesticides & Fertilizers BMP #8: Mixing, Loading and Handling

This BMP concerns the mixing, loading, and handling of all pesticides and fertilizers and their containers.

Pesticides & Fertilizers BMP #9: Excess Pesticide Disposal

This BMP applies to the disposal of any pesticide meeting the definition of "pesticide" at [KRS 217B.040](#).

Pesticides & Fertilizers BMP #10: Pesticide and Fertilizer Container Disposal

This BMP concerns disposal of containers for all pesticides and fertilizers.

Stream & Other Waters BMP Descriptions

Streams BMP #1: Stream Crossing Protection

A stream crossing is a bridge or low water crossing built for farm or vehicular traffic. It is important to construct and maintain these areas in a way that minimizes soil erosion and protects nearby water bodies from sedimentation. This BMP covers activities described by [Corps of Engineers \(COE\) Nationwide Permit #14](#).

Streams BMP #2: Sand and Gravel Removal

The removal of sand and gravel deposits in streams by mechanical means for commercial or other purposes can affect aquatic ecosystems. These guidelines are provided to minimize the disturbances and adverse effects on water quality.

Streams BMP #3: Streambank and Shoreline Protection

Streambank protection is structural and/or vegetative practices designed to control or prevent stream banks from scouring, caving, or sloughing. This BMP covers activities described by [Corps of Engineers NWP #13](#).

Streams BMP #4: Proper Stream Drainage Maintenance

Stream drainage maintenance is that group of practices used to assure that streams are able to carry the optimum water flow to prevent flooding. Examples include removal of log jams and sediment blockage. These stream drainage activities can affect water quality. In order to minimize negative effects, proper stream drainage maintenance techniques need to be employed. This activity may be covered by [Corps of Engineers Nationwide Permit #27](#).

Crops BMP #1: Conservation Cropping Sequence	Lime and Nutrient Recommendations (AGR-1)
Crops BMP #2: Conservation Cover	Lime and Nutrient Recommendations (AGR-1)
Crops BMP #3: Conservation Tillage / Crop Residue Use	Comparing No-Till and Tilled Wheat in Kentucky (ID-177) No-Till Corn (AGR-100) No-Till Soybeans (AGR-101) Tillage and Crop Residue Management (AGR-99) Tillage Systems (ID-139)
Crops BMP #6: Filter Strip	Filter Strips (ENRI-107) Lime and Nutrient Recommendations (AGR-1) Enhanced Vegetative Strips for Livestock Facilities (ID-189)
Crops BMP #7: Grasses and Legumes in Rotation	Lime and Nutrient Recommendations (AGR-1)
Crops BMP #9: Pasture and Hay Land Management	Establishing Horse Pastures (ID-147) Lime and Nutrient Recommendations (AGR-1)
Crops BMP #10: Strip Cropping	Lime and Nutrient Recommendations (AGR-1) Strip Cropping and Contouring (AGR-98)
Crops BMP #11: Critical Area Planting and Treatment	Building a Grade Stabilization Structure to Control Erosion (AEN-100) Lime and Nutrient Recommendations (AGR-1)
Crops BMP #12: Pest Management Including Cultural Control	Farm and Woodlands Pest Management (http://www2.ca.uky.edu/gogreen/farm_pest.php)
Crops BMP #13: Cover Crop	Lime and Nutrient Recommendations (AGR-1) Winter Cover Crops for Kentucky Gardens and Fields (ID-113)
Crops BMP #15: Grassed Waterway	Grassed Waterways (ENRI-108) Lime and Nutrient Recommendations (AGR-1)
Farmstead BMP #1: Solid Waste Procedures	Household Waste Management: Hazardous Waste (HENV-104) Household Waste Management: Recycle (HENV-103) Open Burning (IP-74)
Farmstead BMP #2: Septic Systems and On-Site Sewage Disposal	Homeowner's Septic System Guide and Record Keeping Folder (http://water.ky.gov/groundwater/Groundwater%20Protection%20Plans/GPseptic.pdf) Septic System Maintenance (HENV-501) Septic System Failure and Environmental Impacts (HENV-502) Septic Tanks: The Primary Treatment Device of Septic Systems (HENV-503) Importance of Wastewater Biological Oxygen Demand in Septic Systems (HENV-504)

	<p>Impacts of Additives on Septic System Performance (HENV-505)</p> <p>Turfgrass Color: Indicator of Septic System Performance (HENV-506)</p> <p>Flood Conditions and Your Septic System (HENV-507)</p>
Farmstead BMP #3: On-Farm Petroleum Storage and Handling	<p>Assessing and Reducing the Risk of Groundwater Contamination from Petroleum Product Storage (IP-42)</p> <p>Liquid Fuels: Safe Handling and Storages (IP-63)</p>
Farmstead BMP #4: Well Protection	<p>Groundwater Protection Plan for Domestic Well Owners (http://water.ky.gov/groundwater/Groundwater%20Protection%20Plans/GWBGPPdom_well_owner.pdf)</p> <p>How to Close an Abandoned Well (AEN-104)</p> <p>Management of Wells for Drinking Water (IP-68)</p> <p>What you Need to Know About Testing Your Well Water (ENRI-202)</p>
Forestry BMP #1: Construction of Access Roads and Skid Trails	BMP #1: Access Roads, Skid Trails, and Landings (FOR-67)
Forestry BMP #2: Revegetation	Lime and Nutrient Recommendations (AGR-1)
Forestry BMP #3: Streamside Management Zones	<p>Comparing No-Till and Tilled Wheat in Kentucky (ID-177)</p> <p>No-Till Corn (AGR-100)</p> <p>No-Till Soybeans (AGR-101)</p> <p>Tillage and Crop Residue Management (AGR-99)</p> <p>Tillage Systems (ID-139)</p>
Forestry BMP #4: Sinkholes	BMP#4: Sinkholes (FOR-67)
Forestry BMP #5: Logging Debris	BMP #5: Logging Debris (FOR-67)
Forestry BMP #6: Proper Planting of Tree Seedlings by Machine	BMP #6: Proper Planting of Tree Seedlings by Machine (FOR-67)
Forestry BMP #8: Application of Pesticides	<p>BMP #8: Application of Pesticides (FOR-67)</p> <p>Understanding Pesticide Labels and Labeling (ID-100)</p>
Forestry BMP #10: Silviculture in Wetland Areas	BMP #10: Silviculture in Wetland Areas (FOR-67)
Livestock BMP #1: Rotational Grazing System	<p>Lime and Nutrient Recommendations (AGR-1)</p> <p>Pasture Feeding, Streamside Grazing, and the Kentucky Agriculture Water Quality Plan (AEN-105)</p> <p>Planned Fencing Systems for Intensive Grazing Management (ID-74)</p> <p>Rotational Grazing (ID-143)</p> <p>Temporary Fencing for Horse Pastures (ID-165)</p> <p>Using a Grazing Stick for Pasture Management (AGR-191)</p>
Livestock BMP #2: Proper Stocking Density	<p>Lime and Nutrient Recommendations (AGR-1)</p> <p>Pasture Feeding, Streamside Grazing, and the Kentucky Agriculture Water Quality Plan (AEN-105)</p>

	<p>Planned Fencing Systems for Intensive Grazing Management (ID-74)</p> <p>Using a Grazing Stick for Pasture Management (AGR-191)</p>
Livestock BMP #3: Riparian Area Protection	<p>Living Along a Kentucky Stream (IP-73)</p> <p>Pasture Feeding, Streamside Grazing, and the Kentucky Agriculture Water Quality Plan (AEN-105)</p> <p>Planting a Riparian Buffer (ID-185)</p> <p>Riparian Buffers (ID-175)</p> <p>Shade Options for Grazing Cattle (AEN-99)</p> <p>Stream Management for Horse Owners http://www2.ca.uky.edu/enri/PUBS/Stream%20Management%20tri-fold%207-16%20(2).pdf</p>
Livestock BMP #4: Limiting Access to Streams by Fencing with Alternative Water Systems or Limited Access Points	<p>Alternative Water Source: Developing Springs for Livestock (AEN-98)</p> <p>Drinking Water Quality Guidelines for Cattle (ID-170)</p> <p>Incentives for Fencing Streams (ENRI-131)</p> <p>Pasture Feeding, Streamside Grazing, and the Kentucky Agriculture Water Quality Plan (AEN-105)</p> <p>Stream Crossings for Cattle (AEN-101)</p>
Livestock BMP #5: Manure Management System	<p>The Agronomics of Manure Use for Crop Production (AGR-165)</p> <p>Composting Horse Muck (ID-168)</p> <p>Managing Liquid Dairy Manure (AEN-91)</p> <p>Paved Feeding Areas and the Kentucky Agriculture Water Quality Plan (AEN-107)</p> <p>Potential for Livestock and Poultry Manure to Provide the Nutrients Removed by Crops and Forages in Kentucky (IP-57)</p> <p>Sampling Animal Manure (ID-148)</p> <p>Using Animal Manures as Nutrient Source (AGR-146)</p>
Livestock BMP #6: Manure Storage Pond	<p>The Agronomics of Manure Use for Crop Production (AGR-165)</p> <p>Managing Liquid Dairy Manure (AEN-91)</p> <p>Paved Feeding Areas and the Kentucky Agriculture Water Quality Plan (AEN-107)</p> <p>Potential for Livestock and Poultry Manure to Provide the Nutrients Removed by Crops and Forages in Kentucky (IP-57)</p> <p>Sampling Animal Manure (ID-148)</p> <p>Using Animal Manures as Nutrient Source (AGR-146)</p>
Livestock BMP #7: Manure Storage Structure (Holding Tank)	<p>The Agronomics of Manure Use for Crop Production (AGR-165)</p> <p>Managing Liquid Dairy Manure (AEN-91)</p> <p>Paved Feeding Areas and the Kentucky Agriculture Water Quality Plan (AEN-107)</p> <p>Potential for Livestock and Poultry Manure to Provide the Nutrients Removed by Crops and Forages in Kentucky (IP-57)</p>

	<p>Sampling Animal Manure (ID-148)</p> <p>Using Animal Manures as Nutrient Source (AGR-146)</p>
Livestock BMP #8: Manure Treatment Lagoon	<p>The Agronomics of Manure Use for Crop Production (AGR-165)</p> <p>Managing Liquid Dairy Manure (AEN-91)</p> <p>Paved Feeding Areas and the Kentucky Agriculture Water Quality Plan (AEN-107)</p> <p>Potential for Livestock and Poultry Manure to Provide the Nutrients Removed by Crops and Forages in Kentucky (IP-57)</p> <p>Sampling Animal Manure (ID-148)</p> <p>Using Animal Manures as Nutrient Source (AGR-146)</p>
Livestock BMP #9: Sediment or Solids Separation Basin	<p>The Agronomics of Manure Use for Crop Production (AGR-165)</p> <p>Managing Liquid Dairy Manure (AEN-91)</p> <p>Paved Feeding Areas and the Kentucky Agriculture Water Quality Plan (AEN-107)</p> <p>Potential for Livestock and Poultry Manure to Provide the Nutrients Removed by Crops and Forages in Kentucky (IP-57)</p> <p>Sampling Animal Manure (ID-148)</p> <p>Using Animal Manures as Nutrient Source (AGR-146)</p>
Livestock BMP #10: Manure Storage Structure (Stack Pad)	<p>The Agronomics of Manure Use for Crop Production (AGR-165)</p> <p>Managing Liquid Dairy Manure (AEN-91)</p> <p>Paved Feeding Areas and the Kentucky Agriculture Water Quality Plan (AEN-107)</p> <p>Potential for Livestock and Poultry Manure to Provide the Nutrients Removed by Crops and Forages in Kentucky (IP-57)</p> <p>Sampling Animal Manure (ID-148)</p> <p>Using Animal Manures as Nutrient Source (AGR-146)</p>
Livestock BMP #11: Nutrient Management	<p>The Agronomics of Manure Use for Crop Production (AGR-165)</p> <p>Dairy Waste Utilization Management Tool (AEN-92)</p> <p>Lime and Nutrient Recommendations (AGR-1)</p> <p>Livestock Waste Sampling and Testing (ID-123)</p> <p>Managing Liquid Dairy Manure (AEN-91)</p> <p>Managing Nutrients on the Farm to Protect Water Quality (ENRI-110)</p> <p>Kentucky Nutrient Management Planning Guidelines (KyNMP) (ID-211)</p> <p>Pasture Feeding, Streamside Grazing, and the Kentucky Agriculture Water Quality Plan (AEN-105)</p> <p>Paved Feeding Areas and the Kentucky Agriculture Water Quality Plan (AEN-107)</p>

	<p>Potential for Livestock and Poultry Manure to Provide the Nutrients Removed by Crops and Forages in Kentucky (IP-57)</p> <p>Sampling Animal Manure (ID-148)</p> <p>Soil Sampling and Nutrient Management in Horse Pastures (AGR-200)</p> <p>Using Animal Manures as Nutrient Source (AGR-146)</p>
Livestock BMP #13: Filter Strip	<p>Filter Strips (ENRI-107)</p> <p>Lime and Nutrient Recommendations (AGR-1)</p> <p>Pasture Feeding, Streamside Grazing, and the Kentucky Agriculture Water Quality Plan (AEN-105)</p> <p>Paved Feeding Areas and the Kentucky Agriculture Water Quality Plan (AEN-107)</p> <p>Enhanced Vegetative Filter Strips for Livestock Facilities (ID-189)</p>
Livestock BMP #14: Feeding and Heavy Use Area Management	<p>High Traffic Area Pads for Horses (ID-164)</p> <p>Lime and Nutrient Recommendations (AGR-1)</p> <p>Pasture Feeding, Streamside Grazing, and the Kentucky Agriculture Water Quality Plan (AEN-105)</p> <p>Paved Feeding Areas and the Kentucky Agriculture Water Quality Plan (AEN-107)</p> <p>Reducing Mud Using Highway-Type Filter Materials (AEU-68)</p> <p>Using Dry Lots to Conserve Pastures and Reduce Pollution Potential (ID-171)</p> <p>Using Geotextiles for Feeding and Traffic Surfaces (AEN-79)</p> <p>Using Soil Cement on Horse and Livestock Farms (ID-176)</p> <p>Winter Woodland Feeding (ID-187)</p>
Livestock BMP #15: Dead Animal Disposal	<p>On-Farm Composting of Animal Mortalities (ID-166)</p> <p>On-Farm Disposal of Animal Mortalities (ID-167)</p>
Livestock BMP #18: Stormwater Management	<p>Paved Feeding Areas and the Kentucky Agriculture Water Quality Plan (AEN-107)</p> <p>Stormwater BMPs for Confined Livestock Facilities (AEN-103)</p>
Pesticides & Fertilizers BMP #1: Storage of Dry Bulk Fertilizer	Agricultural Chemical Storage and Handling (IP-41)
Pesticides & Fertilizers BMP #2: Storage of Liquid Bulk Fertilizer	Agricultural Chemical Storage and Handling (IP-41)
Pesticides & Fertilizers BMP #3: Storage of Liquid or Dry Fertilizer (small quantities)	Agricultural Chemical Storage and Handling (IP-41)
Pesticides & Fertilizers BMP #4: Storage of Dry Bulk Pesticides	<p>Kentucky's Pesticide Applicator Training & Certification Program (PAT-2)</p> <p>Understanding Pesticide Labels and Labeling (ID-100)</p> <p>Pesticides and Pesticide Safety (ENT-70)</p> <p>Agricultural Chemical Storage and Handling (IP-41)</p>
Pesticides & Fertilizers BMP #5: Storage of Liquid Bulk Pesticides	<p>Kentucky's Pesticide Applicator Training & Certification Program (PAT-2)</p> <p>Understanding Pesticide Labels and Labeling (ID-100)</p>

	<p>Pesticides and Pesticide Safety (ENT-70)</p> <p>Agricultural Chemical Storage and Handling (IP-41)</p>
<p>Pesticides & Fertilizers BMP #6: Storage of Liquid and Dry Pesticides (small quantities)</p>	<p>Kentucky's Pesticide Applicator Training & Certification Program (PAT-2)</p> <p>Understanding Pesticide Labels and Labeling (ID-100)</p> <p>Pesticides and Pesticide Safety (ENT-70)</p> <p>Agricultural Chemical Storage and Handling (IP-41)</p>
<p>Pesticides & Fertilizers BMP #7: Transport of Pesticides and Fertilizers</p>	<p>Personal Protective Equipment for Pesticide Applicators (PAT-6)</p> <p>Pesticides and Pesticide Safety (ENT-70)</p>
<p>Pesticides & Fertilizers BMP #8: Mixing, Loading and Handling</p>	<p>Kentucky's Pesticide Applicator Training & Certification Program (PAT-2)</p> <p>Personal Protective Equipment for Pesticide Applicators (PAT-6)</p> <p>Pesticides and Pesticide Safety (ENT-70)</p> <p>Agricultural Chemical Storage and Handling (IP-41)</p> <p>Lime and Fertilizer Recommendations (AGR-1)</p> <p>Lawn Fertilization in Kentucky (AGR-53)</p>
<p>Pesticides & Fertilizers BMP #10: Pesticide and Fertilizer Container Disposal</p>	<p>Pesticides and Pesticide Safety (ENT-70)</p> <p>Agricultural Chemical Storage and Handling (IP-41)</p>
<p>Streams BMP #1: Stream Crossing Protection</p>	<p>Stream Crossings For Cattle (AEN-101)</p>
<p>¹The University of Kentucky Cooperative Extension publications listed above can be found at http://www2.ca.uky.edu/agcomm/pubs.asp. Additional information from other land-grant universities can be found at http://www.extension.org/.</p>	