Field and filter strip conditions

Managing manure applications to prevent discharge

Manure-contaminated field runoff is an environmental and health concern.

- ❑ **Pathogens** threaten water for drinking, recreation, fruit and vegetable irrigation, and shellfish production.
- ❑ **Nutrients** in surface water impact recreational uses and threaten fish spawning and rearing habitat.

Your Dairy Nutrient Management Plan (DNMP) was developed specifically for your farm by you and your local Conservation District, National Resource Conservation Service (NRCS), or a private planner. These sources can also provide technical assistance about implementing your plan.

Field Conditions

- ❑ Know what protection your fields, ditches, wells, and field drains need.
- ❑ Observe any dates set by your DNMP restricting applications on specific fields.
- ❑ Know weather forecasts before you apply. Check daily and stop if the forecast changes to rain or unexpected rain comes.
- ❑ Nutrients must be applied at agronomic rates (crop needs), but infiltration rates and water holding capacity of soils are also important factors.
- ❑ Be alert to changes in the water table that will impact soil saturation in your field.
- ❑ Don't apply on saturated, frozen, or snow-covered soils.
- ❑ Don't apply on frequently flooded or easily saturated low areas during wet season.
- ❑ Don't rely on a chisel plow or soil aeration by itself to prevent runoff. Manure can cross furrows on saturated soils.
- ❑ Don't apply when drainage tiles are running. Locate and plug tile inlets and outlets during application. Check for contamination before unplugging afterwards.

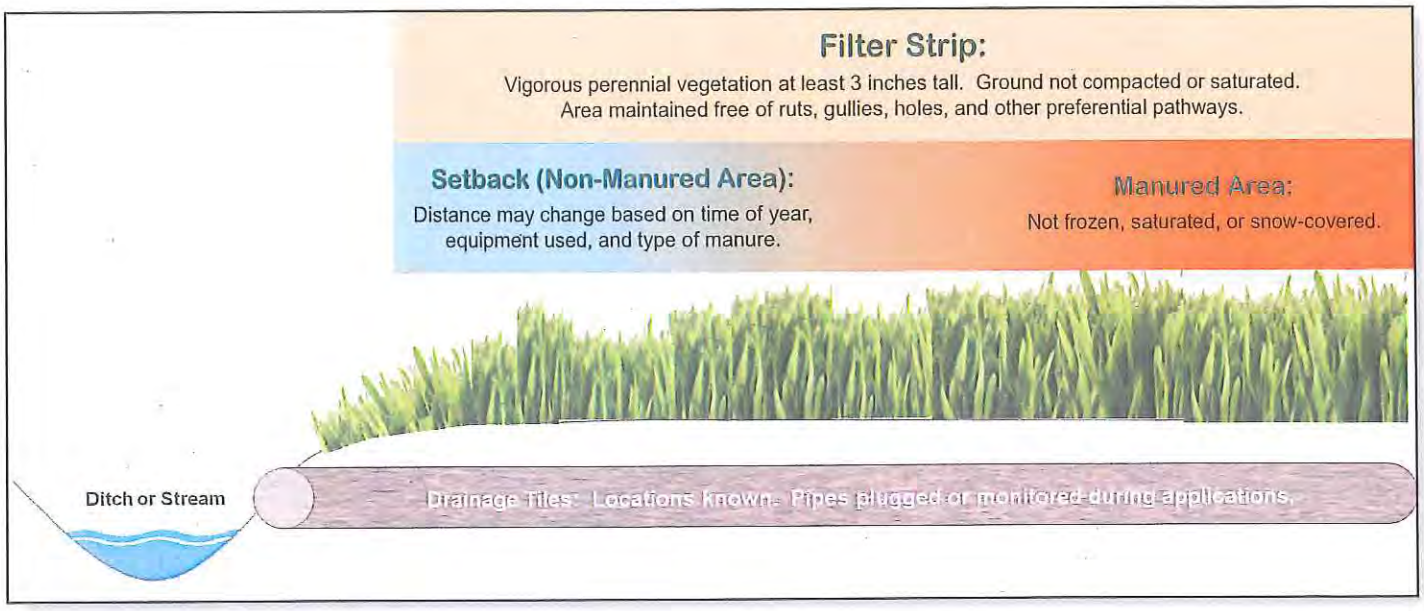
Distance alone doesn't work.

To successfully prevent discharges, operators also must maintain filter strip condition and make good judgments about field conditions.

Setback & Filter Strip Widths

- ❑ Know filter strip widths and the setback distances your DNMP requires between application areas and ditches or streams. These are often field-specific, determined by lands' slope and soil type.
- ❑ Widths may change for solid or liquid applications, time of year, or type of equipment. Local rules or a CAFO Permit may also set a minimum width.
- ❑ Observe 100' setbacks around wellheads to protect groundwater.
- ❑ Failing to properly use and maintain the filter strip outlined in your NMP may result in a discharge and requirements to apply for a CAFO permit.

This fact sheet is one in a series developed to help you understand and follow your Nutrient Management Plan (NMP) as required by the Dairy Nutrient Management Act (RCW 90.64). If you have suggestions or comments on these materials, submit them to Christine Masters (360) 902-2982.



Filter Strip Conditions

- ❑ Maintain a vigorous stand of dense, perennial vegetation, a thick crown of grasses is desirable.
- ❑ Minimize compaction by avoiding excess traffic in the filter strip area. Using the field edge as a road or a turnaround zone makes it unacceptable as a filter strip.
- ❑ Before the application, inspect the filter strip for gullies, washouts, animal holes in ditch banks, swales, tire tracks, and wet spots—anything creating a preferential pathway to water. Block preferential pathways and repair filter strip as needed.
- ❑ After the application, inspect the filter strip area to see if it has been effective, looking closely for any signs of runoff. Don't just assume it worked. Report and cleanup discharges and change practices as necessary.

Additional Considerations

- ❑ Don't assume employees or custom applicators know your fields or NMP requirements. Show drivers your NMP map and discuss setbacks and areas to avoid each time they make an application.
- ❑ Maintain equipment. Broken equipment can cause unintended over-applications that quickly saturate soils and lead to discharge.
- ❑ Plan how you would quickly contain a discharge if it becomes necessary.
- ❑ Observe applicators and correct promptly if instructions are not being followed.

More information

Check out the NRCS Filter Strip Practice Standard WA 393 and these sources:

- ❑ Hoorman, J, N Rausch, & L Brown. 2008. Guidelines for Applying Liquid Animal Manure to Cropland with Subsurface and Surface Drains. Ohio State Extension Fact Sheet. http://oema.osu.edu/publications/Liquid_manure.pdf. Accessed 7/16/09.
- ❑ Fact Sheet #22: Land Application Setback and Buffer Requirements for NPDES Permitted Large CAFOs. 2003. LPES curriculum. Midwest Plan Service, Iowa State University. http://www.lpes.org/cafo/22FS_Setback.pdf. Accessed 7/16/09.

WASHINGTON STATE DEPARTMENT OF AGRICULTURE

Do you need this publication in an alternate format? Contact the WSDA Receptionist at (360) 902-1976 or TTY Relay (800) 833-6388.

AGR PUB 430-291 (N/1/10)