

# You can be green without putting your business in the red

These 20 low- and no-cost practices can help you meet high environmental standards on your dairy

By Karl Czymmek, Lee Telega and Peter Wright

**Management of your fields and farmstead** reduces your dairy's pollution potential. Best of all, most of the management practices don't require large, if any, cash outlays.

### Around the farmstead

#### 1. Exclude clean water from contaminated areas.



Clean water can be kept from contaminated areas by putting stone over tile beneath dairy housing roofs as is done at Table Rock Farm, Castile, N.Y.

- Have you installed gutters on barn roofs to channel clean water away from manure or feed areas?

#### 2. Manage barnyard areas.

- Do you contain and collect barnyard runoff so it can be released to vegetative filter areas or spread on cropland?

- Better yet, can you eliminate, downsize or relocate barnyards to save on runoff handling?

#### 3. Control bunk silo runoff.

- Have you created a low-flow, high-concentration collection system that when combined with a high-flow, low-concentration filter area one-third the size of the bunk area can control silage juices?

- Do you manage silage for the proper moisture content and to prevent

spoilage, reducing the chance of runoff?

#### 4. Maintain your milkhouse wastewater treatment system.

- Do you regularly pump all settling and storage tanks?

- Do you keep leach fields and vegetative filter areas clean, healthy and functioning?

#### 5. Maintain waterway integrity.

- Do you maintain grass buffer areas around lakes and ponds and along creeks that run close to your dairy?

#### 6. Keep piles of manure and rotted silage away from watercourses.

- Do you have at least a 300-foot flow path between manure or rotted silage piles and the nearest down-slope watercourse?

- Do you manage the flow course to diffuse overland flow through well-vegetated fields?

- Do you keep up-slope water from contacting silage and manure piles?

#### 7. Store all petroleum products safely.

- Do you store all petroleum products in above-ground tanks, eliminating the risk of underground leaks?

- Do you have secondary containment around aboveground tanks that hold 125% of tank capacity to protect against leaks and tank failure?

#### 8. Dispose of dead animals properly.

- Can they be picked up within 48 hours? Composting is a viable alternative. If you bury dead animals, are they at least 200 feet from any watercourse and at least 6 feet deep, avoiding areas where water pools during the wet season?

#### 9. Clean up fuel and oil spills.

- Do you use clay absorbents for spills on concrete floors and dispose of residue in licensed landfills? For ground spills, remove contaminated soil to a licensed landfill and



To store petroleum products safely, managers of Table Rock Farm, Castile, N.Y., use a concrete "bunker" around the tank.



A curb and overflow pipe, such as this one at Table Rock Farm, Castile, N.Y., helps prevent bunker silo runoff from being an environmental hazard.

### FYI

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refill the area with clean topsoil.

**10. Respect your neighbors.**

Do your neighbors find the odors from your dairy unpleasant, the dirt in the road bothersome, slow-moving traffic an inconvenience or your farmstead unsightly? Do all you can to alleviate their perceived or real problems with your business. Communicate with neighbors regularly and project a positive image by keeping your dairy attractive.

**In your fields**

**1. Reduce soil erosion.**

- Do you follow crop rotations that reduce sheet and rill erosion?

■ Have you instituted water management practices on fields with persistent gully erosion?

**2. Maintain field water management practices.**

- Are your earthen diversions and grass waterways properly vegetated, free of sediment buildup and not showing signs of water channeling?
- Properly designed and maintained grass waterways can reduce erosion by 65% and filter out up to 35% of the nitrogen and 50% of the phosphorus in water that passes through them.

■ Do you use a pre-sidedress nitrogen test to determine the need for additional nitrogen on manured fields that have been in corn for two years or more and where pre-plant broadcast nitrogen isn't used?

**3. Avoid applying additional nitrogen when it's not needed.**

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**4. Plant cover crops on corn silage fields.**

- Do you reduce erosion with cover crops? On corn silage fields, cover crops can reduce the effects of raindrop impacts on open ground, add to soil organic matter and capture some nitrogen from fall manure applications.

**5. Kill sods later in the fall.**

- Do you wait until late in the fall when soils are cold to kill sods?

While soils are still warm in early fall, sod

residues, especially legumes, will start to decompose, releasing inorganic nitrogen. Since no active uptake occurs in the killed sod, the released nitrates will leach during fall and early winter rain. Cold soils retard decomposition and keep nitrogen in the organic form.

**6. Keep pesticides away from water-courses.**

- Are pesticide applications kept 30 feet from open water or surface inlets to tile drains?

- Are they applied no closer than 200 feet from wells or springs?

**7. Know the nutrient content of your manure.**

- Do you test manure at least annually, or often enough to be confident of its nutrient value for crop production?

**8. Calibrate manure spreaders.**

- Do you know your manure application rate? It's critical to effectively use manure as a crop nutrient and reducing fertilizer inputs.

**9. Spread manure soundly.**

- Is manure applied uniformly?
- Do you avoid spreading manure on fields that have a high potential for runoff during wetter periods?

- Do you keep manure at least 200 feet from wells and springs? And maintain buffers along waterbodies in fields receiving manure?

- Do you till in fall-applied manure? It will break up soil macropores and reduce flow into drain tiles or shallow groundwater. Tilling in fall-applied manure also reduces the potential for manure to leave fields through overland flow.

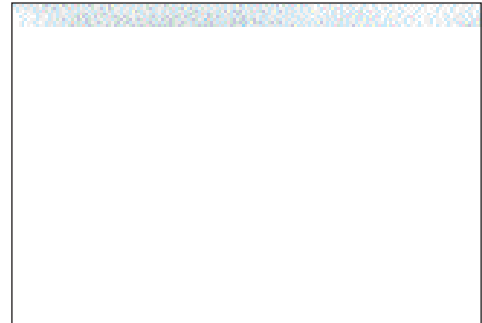
- Have you tried frost tillage for winter-applied manure as an alternative to heavy fall applications? Frost tillage mixes manure with soil and allows manure nitrogen to be stabilized and absorbed by cold soils.

**10. Hire a crop consultant.**

- Can someone other than you do a better job of tracking field crop pests to improve your pesticides use? ■



Zone tillage, done at Burke Hill Farms, Perry, N.Y., reduces soil erosion.



Keep pesticides from waterways.



Manure injection, done at Emerling Farms, Perry, N.Y., helps control odors and runoff.