

Confined Animal Feeding Operations (CAFOs)

Water Quality Requirements:

[What laws or rules apply to DAFOs in regard to water quality, specifically groundwater protection?](#)

Federal and State regulators and local Conservation Districts have a zero water discharge policy for dairies:

- Federal Clean Water Act
- Washington State Dairy Nutrient Management Plan (DNMP)
- Washington State water Quality Standards for surface and Groundwater; and
- Washington State Solid Waste Handling Requirements

Federal Clean Water Act:

40 CFR part 122 – defines CAFOs, any size operation that confines animals for more than 45 days on non-growing surface. Facility has to have a permit if they have a discharge or propose discharge to surface waters of the state. The proposed combined permit will encompass groundwater. Discharges must meet criteria and cannot be excessive.

Washington State DNMA:

(WSDA) All dairies must comply (RCW 15.36). In place to protect surface and ground waters (RCW 90.64.026) Dairy producers that have a grade A license to sell milk must develop an DNMP that is approved and certified by conservation district. BMPs must follow NRCS specs. RCW 90.48 does not allow discharge to surface or groundwater

and is much more restrictive than the federal CWA. Dairies must keep application records, perform soil testing and adhere to maximum N levels in their fields.

Washington State Water Quality Standards for Surface and Groundwaters:
(Ecology)

Applies to everyone regardless of industry.

Washington State Solid Waste Handling Requirements: (Ecology)

The current solid waste rules are in the process of being updated and may have some impact to dairies and others who generate manure. Currently, ag inputs are exempt from this statute. Ag inputs must be used at agronomic rates.

[Practices pertaining to water quality protection in Yakima County:](#)

The following are practices that dairy producers employ to prevent surface or groundwater contamination on the dairy foot print:

1. Sites engineered to have slope to a central collection site location
2. Catch basins for effluent at low spot on dairy
3. Manage effluent in catch basins or piped to lagoon – liquid evaporates, periodic removal of solid materials
4. Corral management: Packed and groomed
 - A) Grooming to prevent low spots that could accumulate water; fill holes to keep pen surface integrity
 - B) Haul bulk materials away as needed, generally composted
 - C) Clean solid material from under fence lines as needed

D) Animals fed on impervious surfaces

5. Feed management: Most feed that has excess moisture is kept on impervious surfaces such as concrete silage bunkers. Any excess moisture fed into catch basins or lagoon. Rations balanced by professional nutrition specialist that prevents excessive intake that reduces animal waste.

6. Lagoon Management: Solids reduction to limit volume and N and P concentrations going into lagoon. New technology includes centrifuge and floating filtration separation that takes out over 90% of solids. Concrete settling basins used in-line with this technology. Better separation reduces lagoon volume that translates into the dairy needing less lagoon space. Lagoons are engineered and most have clay liners. A few newer ones have put in synthetic liners. New permit will require testing of all existing lagoons. After solid separation, left over liquid is pumped or trucked to ag fields. This material generally runs less than 1% N per volume. Bio filter is new technology in testing that would add additional extraction of solids leaving 99% pure water.

7. Compost Areas: 75% of manure generated is composted which reduces the volume by 50%. Over 50% of this compost is exported out of Yakima County. (Information from WSDA, SYCD and Organix). Compost yards are placed on packed surfaces and are continually repacked by the use of large trucks and tractors running over them while hauling material in, out and turning compost. Compost areas do not generate moisture and during the summer must have moisture added to operate properly. Areas are kept smooth and flat to prevent ponding. Water is not applied that ponds up or runs off the compost area, but if water were to run off, it would be captured with the rest of the dairy's water.

This is a verbatim copy of a document that was prepared and shared by Steve George and Laurie Crowe with the Lower Yakima Valley Groundwater Management Area in November 2016.