

Environmental Persistence of Pathogens in Grass & Soil

Why Real Grass is Unsanitary for Dog Daycare Environments

This document summarizes scientific and veterinary evidence showing that pathogens such as **Giardia**, **Coccidia**, and **Canine Parvovirus** persist for long periods in organic materials (grass, soil, feces, leaves, and debris), and cannot be reliably sanitized. These findings demonstrate that using real grass in front of a dog daycare poses a substantial and ongoing sanitation risk.

1. Giardia

Survival: Giardia cysts are protected by a durable outer shell, allowing them to survive for **weeks to months** in moist, cool environments such as soil and water. (CDC)

Organic Protection: Organic matter such as dirt and stool shields cysts from disinfectants, reducing cleaning effectiveness.

Disinfection Difficulty: Even strong disinfectants like bleach become less effective when organic material is present.

Implication: Moist grass and soil under frequent dog traffic provide an ideal habitat for Giardia cysts, making it virtually impossible to eliminate contamination completely.

2. Coccidia (Cystoisospora species)

Survival: Coccidia oocysts can survive for **several months** in moist or shaded soil, and are even resistant to freezing. (Cornell University Veterinary School)

Disinfection: Most standard disinfectants do not kill coccidia. Only **boiling water, steam cleaning, or 10% ammonia** solutions are effective, all of which are impractical for outdoor grass.

Implication: Because grass and soil are porous and organic, oocysts can easily accumulate and persist. Veterinary shelter guidelines recommend **sealed, nonporous surfaces** such as concrete instead of soil or turf to control coccidia outbreaks.

3. Canine Parvovirus (CPV)

Survival: Parvovirus is extremely hardy and can remain infectious in **soil for years** under damp, shaded conditions.

Organic Resistance: Soil, grass, and fecal material shield the virus from disinfectants. Once contaminated, grassy areas act as long-term reservoirs.

Disinfection: Bleach and accelerated hydrogen peroxide lose potency when organic matter is present. Complete decontamination of soil or grass is **impossible without removal of the substrate**.

Implication: Grass cannot be reliably disinfected after parvo exposure, making it a permanent contamination risk in any high-dog-traffic area.

Summary & Recommendations

- Giardia, Coccidia, and Parvovirus all persist in moist, organic environments and resist disinfection.
- Real grass and soil provide perfect conditions for these pathogens to survive and spread.
- Outdoor grass areas are repeatedly reseeded by fecal material and organic debris, making sterilization unfeasible.
- Veterinary experts recommend **nonporous, sealed surfaces (concrete or synthetic turf)** for dog facilities.

Conclusion: Using real grass at a dog daycare presents an unavoidable sanitation hazard and cannot be maintained to health standard compliance. Synthetic or sealed alternatives are the only practical sanitary options.