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Dogs and Lawns

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Dogs and high-quality lawns sometimes do not mix. But they can, with a little extra work and some simple training for the pet and the owner. The most frustrating lawn problem comes from dog urine and feces. Small amounts may produce a green-up or fertilizer effect, while larger amounts result in lawn burn or dead patches. Most burn spots recover with time and regrowth, but large dead areas may require reseeding, plugging, or sodding. For homeowners who are also dog lovers, this presents a dilemma, particularly when one family member prefers the dog and another prefers a well manicured lawn. Understanding the interaction between dogs and the lawn is the first step to resolving the problem.

The basic problem with urine or feces on the lawn is the nitrogen (N) content and concentration in these waste products. Urine is a waste product produced to remove excess nitrogen from the body via the kidneys. Nitrogen waste products are the result of protein breakdown through normal bodily functions. Carnivores, including cats and dogs, have a high protein requirement, and the volume of urine produced varies with the animal's size. Urine is a more serious problem for lawns because it is applied all at once as a "liquid fertilizer." Waste products in feces are released slowly over time. Since stools are usually solid, owners have the option of frequent manual removal to limit damage to the lawn.

Sexual maturity in domestic dogs occurs between 6 and 9 months of age. Social maturity is the time during which problem behaviors (roaming, mounting, urine marking, fighting, etc.) develop. These problems are often prevented or greatly reduced by neutering, especially in males. Female dogs may also mark territory, although less commonly than male dogs. Once dogs begin urine-marking, they often use numerous scent-posts, resulting in numerous, small-volume urinations rather than large-volume puddles. Grass handles small-volume N bursts easier than a large application. Unfortunately, the young shrub or tree that becomes a marking post may suffer from N overload with repeated marking.

A primary concern in addressing urine damage to lawns is minimizing the N concentration added to the lawn at any single time. Female dogs, being less likely to urine-mark and more likely to squat, are the primary culprits of lawn damage. They will urinate anywhere on a lawn and usually release all the urine at once. This results in a single N application confined to a small patch of grass. It is a myth that the urine of a female dog is more concentrated or different from that of a male dog.

The brown spot that results will often have a green ring around the outside. The N overload at the center causes burning, but as the urine concentration is diluted toward the periphery, the N has a fertilizer effect. This characteristic brown-spot-green-ring pattern has been called "dog spot disease" by some people. As might be expected, lawns are most susceptible to N burn when fertilized with high levels of N fertilizer. Homeowners making the extra effort to have a quality lawn may become quite discouraged by the damage effects of deposits from their own or their neighbor's dog.

Research has found that urine volume and N concentration have the most serious effects on lawns, while the urine pH has no effect, nor do common pet-food additives designed to alter urine pH. Bermudagrass, the most common lawn grass in Hawaii, appears sensitive to any urine concentration, and severe burns can result.

Problem-avoidance techniques

Fences make good neighbors and can keep neighboring dogs from eliminating on the lawn. Advising neighbors of leash laws may restrict the damage to areas near sidewalks and on street lawns. Unfortunately, no repellents are universally effective, although a variety of home remedies have been tried. Hot (spicy) and bitter substances are most likely to have a taste or odor that dogs

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dislike. Most repellents function better as taste repellents than as touch or odor repellents. Some odor repellents may actually encourage a dog to mark over the strange smell. Some of the better known commercial repellents have these limitations as well.

One home-spun remedy uses glass jars filled with water placed strategically around the lawn perimeter to ward off dogs seeking relief. According to the folklore, the jars must be glass; plastic apparently will not work. The theory sometimes offered as an explanation for the presumed effect is that the dog sees its image reflected in the jug and is scared away. No evidence other than anecdotal testimonials can be given for the method's supposed success, while other testimonials indicate that dogs use the jugs as pillars to mark with urine. The jugs' contribution to the aesthetic qualities of the landscape or the neighborhood is a matter of opinion.

A motion-activated sprinkler designed primarily to keep cats and other animals out of gardens may have benefits for some yards. Such a sprinkler may help in small yards or at corners of front yards where damage is most likely to occur. However, frequent activation of the system by numerous stray animals or children may result in over-watering and high water bills.

In many cases, the problem dog is a housemate to the owner. While time-consuming, walking the dog to a park or field away from the house is a simple remedy. The time spent also may have physical and emotional benefits for both dogs and their owners. Dog-walkers should choose an appropriate location and not create lawn problems for someone else.

A more feasible approach may be to train the pet to eliminate in a designated area of the yard. Dogs develop a substrate preference for elimination at about 8–9 weeks of age, which is also probably the best time to adopt a puppy. Training a new puppy to choose a particular substrate other than a grassy lawn to relieve itself may be an option for some dog owners. For example, a puppy can be trained to seek out a gravel area, a sandy spot, packed soil, mulch, or another suitable surface for bodily eliminations. Training a puppy is a complicated topic, and trying to decide what level of training is right for you and your dog is not easy. Effective training requires patience, consistency, and good timing. Timing is probably the most difficult thing for most dog owners to learn. Good timing becomes critical to connect the action (an anxious puppy looking for a place to relieve itself) to the event (making puppy choose someplace other than the lawn). By timing your response to the point at which the dog is forming the intent to act but has not yet committed to it, you will be able to make the strongest connection between your response and the act.

A "designated relief area" for your pet can be specifically landscaped for the dog. Consider a gravel or mulch surface that the dog finds acceptable. You can include a marking post like a large boulder, bird bath, or lawn ornament; some people might find a plastic fire hydrant amusing. To encourage the dog to begin using the designated area, collect its urine and apply it in the area for several days as an odor attractant. Feces can also be collected and transported to the designated area. Consistency for at least 2–3 weeks is important to establish a routine, trained behavior, and 2–3 months may be necessary in some cases. Initially, training can occur with the dog on a short leash, and food rewards can be given to encourage use of the area. Dogs should not be left unsupervised in the yard during this initial training. It is often easier to train a young puppy to a particular ground texture and area than an adult dog, but it is never impossible at any dog age.

Try a variable reward system using one treat if urinating anywhere outside and several treats or a special treat if in the designated area. Excessive meat or protein rewards will contribute to increased N content in the urine. During the training period, many dog owners find it helpful to train their dog to an elimination command. Common commands include "Potty," "Piddle," or "Hurry up," and dogs so trained take less time to accomplish the task during inclement weather.

Dietary modification

Many dietary modifications for dogs, often based on home remedies, have been tried. Dietary modification is potentially harmful to your dog, and a veterinarian should be consulted beforehand, whether the change is an addition to or subtraction from standard nutrient guidelines. Urine pH has little or no effect on the damage to the lawn. Thus, addition of acidifying agents including nutritional supplements like ascorbic acid (vitamin C) or fruit juices have no benefit and may predispose the dog to an increased incidence of certain bladder stones. Likewise, alkalinizing agents, including baking soda and potassium citrate, can predispose the animal to other types of bladder stones or infections. The addition of any of these supplements is not recommended.

Diluting the urine N concentration with liquids can

help. Safe ways to dilute urine include feeding canned food, moistening dry food with water before feeding, and adding salt or garlic salt to the regular food. One particular home remedy, tomato juice, likely has its primary benefit through both increased salt and water intake. While salt will make the dog drink more and dilute the urine, increased salt intake can cause problems with existing kidney or heart conditions.

Dogs with more dilute urine may have to urinate more frequently and need to be given more frequent elimination opportunities. While specific breed differences have not been noted, smaller dogs produce less urine than larger dogs, so they are dumping less N waste. Dogs with bladder infections often demonstrate an urgency to urinate and typically squat several times, leaving small amounts or drops each time. These dogs may be less of a problem for lawns than normal dogs who empty their whole bladder in one sitting. Dog owners who note that their dog's urine is no longer causing lawn burn without having made any dietary or feeding changes should have their dog examined by a veterinarian and a urinalysis done to make sure there are no medical conditions causing the change.

An option to consider besides diluting the urine is to reduce the amount of N waste being dumped in the urine. The average family dog does not have an activity level that requires as high a protein level as most commercial maintenance dog foods provide. Although dog food purchases often reflect consumer perception that high protein equals better food, in fact moderate- to low-protein foods are often adequate for all but the most energetic, working, and hunting dogs. When examining a food label, protein content must be compared on a dry-matter basis, and unfortunately this is like comparing apples to oranges. Dry foods vary in how much moisture they have, so the protein percent listed cannot be immediately compared to other foods. Canned foods have a lower protein percent listed than dry foods, but they also have a much higher water content.

Repair or recovery of damaged lawn areas

Watering the spot after urinations effectively dilutes the N dose with no ill effects on the dog. This is an easy, inexpensive way to avoid the problem. To work, however, it requires that someone to go out with the dog and spray the spot. If the dog consistently urinates in one area, it can be sprayed once or twice per day to lessen damage.

Using gypsum or lime on spots has been advocated, but these will not prevent urine damage. Several other home remedies have been passed along, most of which involve applying something to spots that merely dilute the urine, as opposed to having a curative effect. Water works as well as any "witch's brew."

Lawn burn, when mild, repairs itself over time, especially in the case of the warm-season turfgrasses that spread by stolons and rhizomes. Dark green spots and taller, faster growing grass may remain for several weeks, but these are less noticeable with frequent mowing. Fertilizing regularly with low amounts of N will help mask some of the fertilizer effects of dog urine in a lawn. Sodding is a quick way to patch severely damaged spots that would otherwise be invaded by weeds. Plugs can be removed from healthy sections of the lawn and planted into the bare spots. Common bermudagrass and other seeded grasses can be re-seeded. When using plugs or seeds, cultivate the area and water regularly to aid establishment. Urine spots do not have any long-term effect that prevents seed germination or sod or plug establishment.

Other pet-related problems for lawns

Dogs will sometimes wear paths along a fence or other boundary. Constant traffic and wear, even from a dog, will damage turf, compact the soil, and cause bare areas or increased weed infestations. Periodic core-aeration and top-dressing with fine-screened compost can reduce compaction and help the areas recover. Bermudagrasses tolerate traffic reasonably well and regrow quickly. Zoysiagrasses tolerate traffic, but regrowth is slow. If the problem persists in specific areas, consider installing mulch instead of turf.

Many dog owners complain about their pets digging holes. Training is probably the best remedy. The areas can be sodded, reseeded, or plugged.

Using lawn pesticides

Application of herbicides, insecticides, fungicides, or other pesticides to turf will not cause problems with pets or people if it is done correctly. Always read and follow label directions on application rates and procedures and delay time for reentry into a treated area. For herbicides, the area is typically safe after the material has dried. Use slug and snail pellets very carefully—pets and children could consume these poison bait pellets. Read the label and use only according to directions; place the pellets where they cannot be found and consumed.