



CURBICUS

# We love our dogs, but their sh\*t is destroying the world

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We're on a mission to transform  
the carbon paw print

BY CHRISTINE LIU APRIL 2022



# What's the Problem?

**IN 2018,** it was recorded that 471 million households worldwide own dogs, making them the world's most popular pet<sub>1</sub>. According to a survey conducted in February and March of 2021 by the American Veterinary Medical Association, the average household owns 1.46 dogs, putting the total number of dogs as pets at approximately 84M all of which need to go potty<sub>2</sub>. We, as their owners, have the responsibility to pick up after their mess and although it's probably the most grueling task that a dog owner must endure, it's something we all must do. There's nothing good about picking up poop, from the accidental whiffs to the reality that the only thing that separates you from the excrement is just a few milliliters of plastic, a leaf, or whatever else you decide to use.

**PICKING UP POOP** is not just an ethical decision but an environmental one as well. Leaving dog excrement on the side of the road or even on a patch of grass is harmful due to its high toxicity level. Dog poop is especially high in elements such as nitrogen and phosphorus due to nutrient packed dog foods. Excess chemicals that are not broken down by their bodies are released with the rest of their waste and contrary to popular belief, leaving it to "decompose" is not helpful to the grass or most ecosystems. Chemicals coming out of your pets bodies are not natural to the ecosystems that they release them in just as your dog's food is not natural to that specific environment. On the other hand, wild animals receive their nutrients directly from the environment that they release their waste in, thus their excrement is not harmful to that environment and completes a natural cycle. Not only is leaving your pet's excrement destructive to the local ecosystem, it can be harmful to distant ecosystems as toxins are spread through



**1 in 3 American Households**



**Have a dog!**

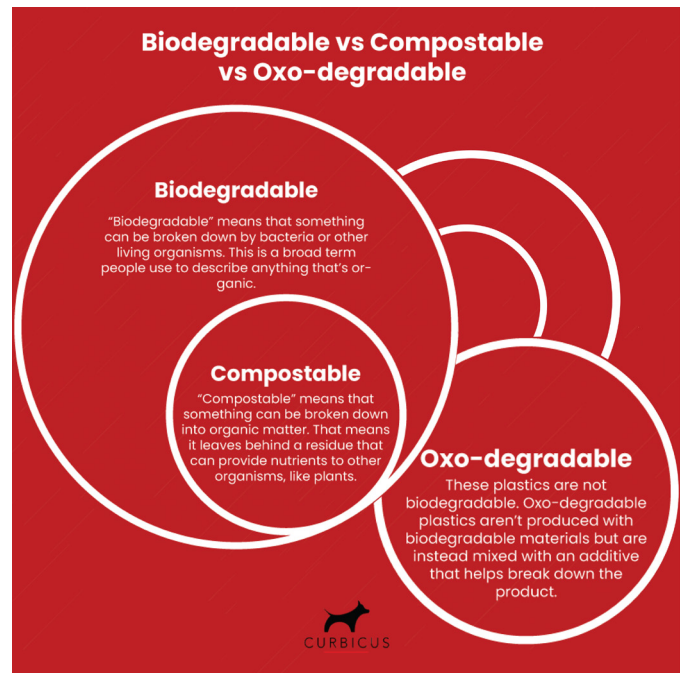
rainfall and waterway systems. Further, a study conducted by a group of researchers analyzing air samples in Cleveland, Ohio and Detroit, Michigan found that feces, and dog feces in particular, were the dominant source of bacteria in the air of a metropolitan area<sub>3</sub>. In an interview with NBCNews, Noah Fierer, one of the researchers of the study, claimed that "A significant percentage, anywhere from 10-50% of bacteria, seem to derive from feces<sub>4</sub>." This has alarming implications for urban areas such as NYC with a high dog density as it guarantees that we're breathing in dog poop bacteria on a daily basis. What's even more alarming is that a single gram of dog poop contains up to 23 million fecal coliform bacteria. Another concern that arises from improperly disposing of dog waste is plastic pollution. Another concern that arises from the current methods of dog waste clean up is the dependency on plastic. Every year more than 415 billion plastic dog poop bags are used and discarded worldwide<sub>5</sub>. Since there are no naturally existing organisms that break down plastic, each disposed bag has a long lifespan with one bag taking approximately 1,000 years to break down<sub>6</sub>.



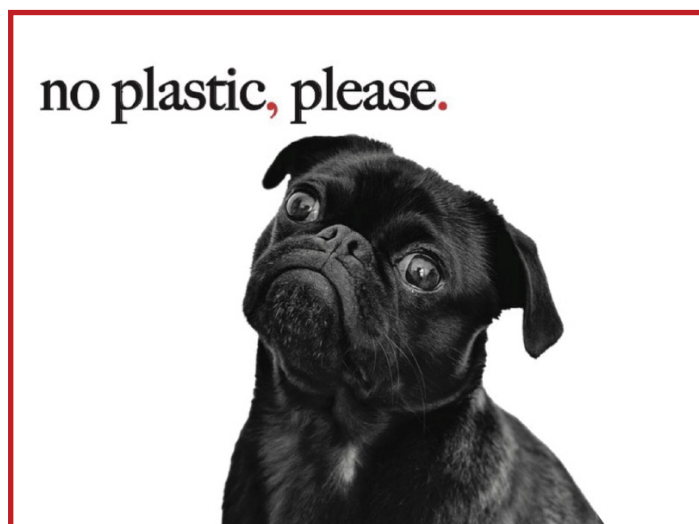
**THE** issue of plastic pollution has recently garnered more attention leading to policies like plastic bag bans or fees being implemented. However, these policies have not completely discouraged the use of plastics, especially when dog owners still require a solution when it comes to picking up after their pets. One consequence of these policies is the rise of plastic alternatives including biodegradable and compostable bags. This market has seen tremendous growth in recent years in part due to the lack of consumer education on the true impacts of these alternatives.

While often used interchangeably and within the same space, “biodegradable” and “compostable” mean two different things. The term biodegradable only indicates that something can be broken down by bacteria or other living organisms. Compostable means that something can be broken down into organic matter or non-toxic natural elements. So, while compostable products are biodegradable, not all biodegradable products are compostable. Further, for a product to properly biodegrade it requires the right conditions including the right temperature and humidity, but since most landfills have little light, air, and moisture the biodegradation process is significantly slowed.<sup>7</sup> Since most materials, including regular plastic, will biodegrade when given enough time a product labeled biodegradable without further details often paints a misleading image for the consumer.

Another area that causes confusion with consumers is the difference between oxo-degradable and biodegradable products. Oxo-degradable is an entirely separate category from biodegradable since they are not



produced with biodegradable materials but instead are plastic that’s been mixed with an additive to break down the product. This can be more harmful than conventional plastic since oxo-biodegradables allow plastics to break down quicker, but into microplastics.<sup>8</sup> Microplastics are fragments of the larger piece of plastic smaller than 5 millimeters, the diameter of a pencil eraser. Microplastics are much harder to clean up than whole pieces of plastic; just imagine trying to scoop up millions of tiny pieces of plastic as opposed to a single plastic bag. Microplastics are also a direct threat to humans as it inevitably ends up in the food and water that we ingest. It is estimated that just through our caloric intake, Americans consume between 39,000 to 52,000 microplastics a year, this is not counting the amount one would absorb through breathing and drinking water.<sup>9</sup>

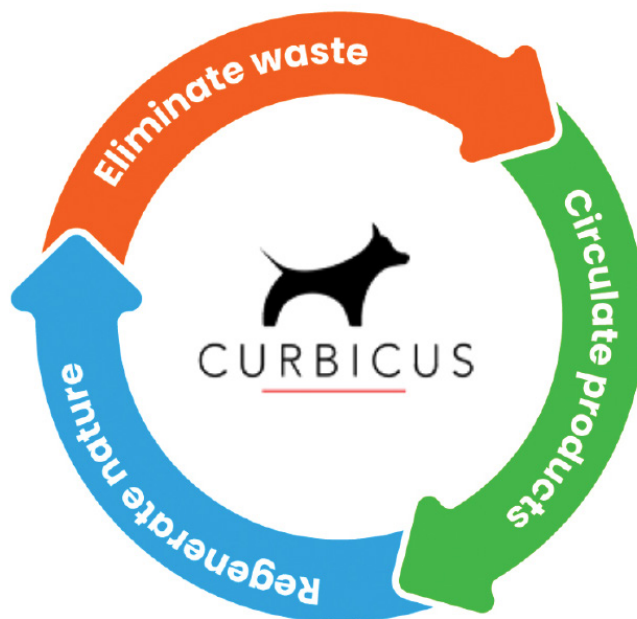


As the demand for more sustainable products grows it’s imperative for there to be better products as well as public awareness of misleading marketing. It is estimated that the biodegradable plastics market will grow from 7.7 billion USD in 2021 to 23.3 billion USD by 2026, at a compounded annual growth rate of 24.9%<sup>10</sup>. The Oxo-biodegradable market is projected to grow at a compounded annual growth rate of 5.4% between 2018 to 2026.<sup>11</sup> It’s clear that consumers are demanding solutions to the plastic problem and it’s important for businesses to honor that request by providing truly sustainable products.

**THE** only true solution to the environmental issues arising from dog waste is a circular one. The circular economy is driven by the guiding principles of eliminating waste and pollution, circulating products and materials, and regenerating nature<sup>12</sup>.

Curbicus's role in this movement starts with providing actual compostable pods that break down into organic matter. These pods are used with the Curbicus device, made with recyclable material, allowing for easy zero-contact pick up of waste, encouraging all dog owners to pick up after their pet and to join our mission to reduce the carbon paw print. Our vision starts locally in the streets of New York City, where 600,000 dogs take walks – and dumps – every day<sup>13</sup>. Once used, compostable pods can be disposed of in Curbicus bins, which will be accessible across the city. From there compost professionals will be able to send the waste to facilities that can provide the proper conditions for it to be turned into a practical resource, like fertilizer. Through this circular model, we can start to reduce billion pounds\* of toxic dog waste that end up in landfills each year and replace the hundreds of millions of plastic bags used annually<sup>14</sup>.

**The circular economy is built on three principles**



\*This is a figure arrived at by multiplying The United States Department of Agriculture's estimated amount of excrement a dog produces per day, 274 pounds, by the estimated number of dogs in the U.S., 84 million.

## Citations:

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## More Resources:

Learn about dog density in NYC

<https://www.bloomberg.com/news/articles/2017-07-10/mapping-the-dogs-of-new-york-city>