

Feces Math

What in the heck is this crazy blog page about, right?

Well, you may have heard feeding high-carb food causes your dog to poop more than high-protein foods. Or you may have wondered how to reduce the poop you have to pick up in the yard or litter box. Whatever your thoughts, this blog is going to do the math to show you how much your dog or cat is capable of producing based on the food you are feeding!

We'll even show you how to do the math yourself. If you don't care about the math, that's cool, you'll still be able to see the significant differences in fecal output depending on diet.

The first thing you need to know if you're going to do the math with us is that 100% of a Guaranteed Analysis is 100 grams.

We will use grams for the weight of everything (food and poo).

Let's start by looking at the **MOISTURE CONTENT** of your selected diet.

Did you know that only 4% of the water that you consume or drink in a day is eliminated in a day of normal bowel movements?

Next, let's look at potential fecal output if your pet's diet is 10% (max) Moisture (like an average kibble) vs 68% (max) Moisture (like Solutions Pet Products).

10% moisture (10g / 100g) = 90% dry matter (90g / 100g)

68% moisture (68g / 100g) = 32% dry matter (32g / 100g)

10g x 4% moisture = 0.4g of moisture + 90g of dry matter = this pet could poop out as much as 90.4g per 100g of food consumed!

68g x 4% = 2.72g of moisture = 32g of dry matter = this pet could poop out as much as 34.72g per 100g of food consumed!

Did you know that only 4% of the water that you consume or drink in a day is eliminated in a day of normal bowel movements?

A pet on Solutions Pet Food (or high moisture diet) will poop nearly 2.4 times less volume than a pet consuming a dry kibble!

Next, let's look at this same math but relative to how much a pet eats in a day.

Using a 50lb dog that's eating 1,000kcal/day.

An average kibble is around 400kcal/cup and weighs about 4oz/cup (you can learn how to do that math in our feeding guide series).

1,000kcal (fed/day) x 400kcal (in 1 cup of food) means you need to feed 2.5 cups of this food a day. At 4oz per cup x 2.5 cups/day that's 10oz/day of food (10 x 28.57grams in 1oz that's 285.7g)

This food, being a kibble, would be 10% (max) moisture.

Using the math from above:

We know that 90%+ of that is dry matter that could be pooped out. $285.7 \times 90\% = 257.1\text{g}$
 $257.1/28.57 \text{ (g/oz)} =$ as much as 9oz a day of this food could be pooped out.

Solutions is 560kcal/cup and weighs 8oz/cup.

1,000kcal (fed/day) x 560kcal (in 1 cup of food) means you need to feed 1.8 cups of this food a day. At 8oz per cup x 1.8 cups/day that's 14.4oz/day of food (14.4 x 28.57 grams in 1oz that's 411.4g)

This food, being raw, is 68% (max) moisture.

Using the math from above:

We know that 32% of that is dry that could be pooped out. $411.4\text{g} \times 32\% = 141.2\text{g}$.
 $141.2/28.57 \text{ (g/oz)} =$ as much as 4.9oz a day of this food could be pooped out.

That's 4.1oz less per day... that's
93.5 POUNDS LESS POOP IN A YEAR!



You may be thinking, “yeah, but they’re not going to poop out 100% of the dry matter and nutrients that they eat so that’s not that accurate.” You’re right, they’re not.

However, using statements from the AAFCO 2020 Official Publication (the (poorly written and minimally researched as far as we can tell from FOIA’s) handbook of recommendations that many regulators use to determine how pet food works) the macro and micronutrients in high-heat processed pet foods are between 10% and 90% absorbable.

While we can assume that fresh, whole, high-moisture (as nature intended) foods are more absorbable, we’ll make it equal and compare them both right down the middle - the average of 10 and 90 is 50.

Let’s just pretend that 50% of high-heat processed foods and 50% of fresh natural foods are absorbed.

We calculated 257.1g of dry matter in the low moisture food and 141.2g of dry matter in Solutions. At 50% of each that’s 128.6g, or 4.5oz, of potential poop per day from the kibble vs 70.6g, or 2.5oz, of potential poop per day from Solutions.

And keep in mind that they’re both formulated to adhere to the same nutritional adequacy requirements so less intake and less fecal output from Solutions does not mean it’s less nutritious. Solutions still adhered to those same guidelines.