

# The One where we Smell Pee for Science

**Jonathan** Can you come with me for a sec? I need your help.

**Lucy** Can it wait? I'm still eating.

**Jonathan** Please, just come quick. I think I might be dying.

**Lucy** Is this like the time you thought you'd gone deaf, but really you just had sand in your ear?

**Jonathan** No, this is serious. Just come, please! Can you smell that?

**Lucy** Why am I smelling your pee right now?

**Jonathan** It smells really weird, right?

**Lucy** It smells like pee. Pee always smells weird.

**Jonathan** But it's extra intense, right? It's like rotting meat or something. Here, this says if your pee stinks, your intestines are probably leaking into your bladder.

**Lily** Um, guys.

**Jonathan** Lily, smell my pee. Does it smell like meat?

**Lily** What?

**Jonathan** Lily, if I don't make it, I just want you to know.

**Lily** Is this like the time when you thought you'd gone deaf, but really you just had sand in your ear?

**Jonathan** No, this is serious.

**Lily** Why don't you guys meet me in the lab in half an hour? I think we can get to the bottom of this. Okay, so I've been doing some research and I have some good news Jonathan. You're not dying any time soon, at least I don't think.

**Jonathan** Then why does my pee smell like death?

**Lily** You were both eating asparagus earlier, right? When you digest asparagus, it produces chemical compounds that contain sulphur. Turns out sulphur makes your pee stink. Other veggies like garlic start smelling when they react with oxygen. The smell is a defence against insects, kind of like an inbuilt repellent. Asparagus is different, because the stench comes from a reaction inside us.

**Lucy** Wait, I get why garlic has an inbuilt repellent, but what's the point of stinky asparagus pee?

**Lily** No one knows, but it's thought that the same stuff in sulphur that makes your pee stink also helped break down food for organisms when life first began on Earth, when nothing had teeth. So it's entirely possible none of us would even be here if it wasn't for stinky asparagus pee.

**Tuberman** Greetings Super Naturals. I've travelled through all aspects of time and space. I've seen nebula sky sparks dance on the graves of forgotten moons. I've experienced infinite war and infinite joy and grasped flailingly at the foothold of true perfect knowledge and I can confirm that stink molecules have been essential in the evolution of all life.

**Jonathan** Um, who was that?

**Lily & Lucy** Don't ask.

**Lily** So basically, I Googled it and I think your pee stinks like asparagus sulphur.

**Jonathan** But when I searched it, it said my intestines were leaking. I could still be dying right now.

**Lily** That's because you're often convinced you're gravely ill Jonathan. Search engines base results on your predispositions. That's why the only way to know for sure is to do a proper experiment ourselves. So, we're all going to eat asparagus, pee into jars and then eat no asparagus tomorrow, pee into jars again and see if it smells the same.

**Lucy** That's really gross.

**Lily** True, but we're wearing lab coats, so it's science.

**Jonathan** That's it. I'm calling an ambulance. Mm.

**Alice** I'm gonna show you some different ways that Brussels sprouts are cooked. I'm gonna tell you why grownups might think they're super gross and then you're gonna taste them different ways where they're absolutely delicious. First and foremost, what family do you think a Brussels sprout belongs to?

**Joseph** Brassica family.

**Alice** The Brassica family. Give yourself a big tick on that page. Joseph.

**Joseph** Don't the Brassica family have sulphur in them?

**Alice** They totally do. I love that you remember that. So, the Brassica family are full of sulphur. Why is it good for us to eat Brassicas?

**Maddy** It's helps break down things in your stomach.

**Alice** Totally. Lily?

**Lily** It also makes you fart. They definitely make you fart. Billy.

**Billy** And then you get a jet powered bottom and go all the way to the moon.

**Alice** Correct. Very nice. And from the perspective of nutrients, sulphur is fantastic for helping build protein, which is really good for?

**Jonathan** Muscles.

**Alice** Muscle! So, if you want a gun show, you better get into your Brassicas. Why don't you try and guess which one grownups grew up with and what has happened to these? In fact, which one do you think is a Brussels sprout in its natural form? Joseph?

**Joseph** Can we smell them?

**Alice** You can definitely smell them.

**Joseph** It really doesn't smell like anything.

**Alice** No, yeah. Who wants to give the raw one a taste? Lily, you've got one in front of you.

**Lily** It's tastes like smooth on the outside, then on the inside is like leafy.

**Alice** It tastes leafy. I like that. Let's see what this one smells like.

**Maddy** It smells a little bit like lettuce.

**Alice** Yeah, a little bit like lettuce, very good, or liked a cooked cabbage and that's because the difference between this one and this one is that this one's been cooked for about five minutes, just until it's really nice and bright green and that is the right way to cook a Brussels sprout. I want you to tell me with one word what this smells like. Billy.

**Billy** Farts.

**Alice** Lucy.

**Lucy** Disgusting.

**Maddy** Just gross.

**Joseph** Ugh, terrible.

**Alice** What do you think it is that smells party in that? Joseph.

**Joseph** Sulphur.

**Alice** Sulphur.

**Joseph** That's what makes it stink.

**Alice** That's what makes it stink, exactly. So, the difference between this one, which has been cooked for the right amount of time and this one, which has been overcooked, is that this one's been in the heat for so long that the sulphur's released before it's gotten a chance to go into you and give you all the good stuff. Billy.

**Billy** Has that one been overcooked or is just like grilled?

**Alice** Perfect question. This one is cooked in one of my favourite ways. It's been burnt. The Brassica family loves being burnt, because it's naturally quite bitter, but when you char it up, so there are those little black bits there, it brings out the sweetness, the sugars, and bitter and sweet work beautifully together. That sauce is like a honey soy combo, so you've got the sweetness, the saltiness and the burnt into the Brussels sprout, one of my favourite ways to eat it.