I'm not robot	reCAPTCHA
	reCAPTCHA

Continue

15663659.180851 9827837.1470588 32637581.085714 6351929024 26614966378 7069401.1351351 134064161528 538595237.66667 5252645.7391304 110781264272 33050520.833333 62922826161 33256746.057692 63770456156 11360377.678571 43386101009 428912364.6 142842617810 15987525084 834214.31428571 42368259.521739 68532166.037037 97166469312

fterlife the stranc	re science of de	cav worksheet an	swers free online te

```
They're everywhere.-But overlooked?1:09:351:09:351:09:351:09:351:09:351:09:42-unless you know where to look.-Shy slime moulds!1:09:42-unless you know where to look.-Shy slime moulds!1:09:42-unless you know where to look.-Shy slime moulds!1:09:45-Do you remember the film The Blob?-Yes.1:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10:051:10
we'll find here.1:10:121:10:14Not as big as that, I hope.1:10:37Bruce's 54 years in the field prove vital as we hunt the elusive slime mould.1:10:221:10:37But it's still the real McCoy.1:10:371:10:41This
small patch of orange is creeping slime mould.1:10:431:10:48Up close, you can see how it's constantly pulsating.1:10:591:11:02Scientists believe that it's this pulsating that helps transmit1:11:021:11:06information across the entire
 cell,1:11:061:11:061:11:08allowing the slime mould to move towards its food source.1:11:211:11:210r even around the oat flakes of the Tokyo rail map.1:11:211:11:26What's so special about slime mould is that it can use1:11:291:11:32this information to make multiple
decisions, simultaneously.1:11:321:11:321:11:37Pretty ingenious stuff for a single-celled organism.1:11:56I:11:50f:11:59The flocks of birds work in a similar way.1:11:541:11:56With no leader, no overall control,1:11:561:11:59the flock
nevertheless acts as a single unit, 1:11:591:12:03But slime mould can do something that flocks of birds could never do.1:12:031:12:07Meet the Phi-Bot is the brain child of Dr Soichiro Tsuda1:12:141:12:18and Dr Klaus Peter Zauner from Southampton
University.1:12:181:12:22Their robot takes its orders from a tiny blob of slime mould.1:12:221:12:28I sort of don't believe you, I want to ...1:12:281:12:31HE LAUGHS1:15:201:15:201:15:23HE LAUGHS1:15:251:15:27I can't get them all out.1:15:271:15:29I've never
seen so many flies in one bottle, in my life.1:15:291:15:35I can barely get them out.1:15:371:15:38That sort of explains why I wasn't seeing as many flies in one bottle, in my life.1:15:291:15:35I can barely get them out.1:15:371:15:38That sort of explains why I wasn't seeing as many flies in one bottle, in my life.1:15:291:15:35I can barely get them out.1:15:371:15:38That sort of explains why I wasn't seeing as many flies in one bottle, in my life.1:15:291:15:35I can barely get them out.1:15:371:15:38That sort of explains why I wasn't seeing as many flies in one bottle, in my life.1:15:291:15:35I can barely get them out.1:15:371:15:38That sort of explains why I wasn't seeing as many flies in one bottle, in my life.1:15:291:15:30Look at it. Is that really harmful?0:25:270:25:30Well, what you're scraping off is really flies in one bottle, in my life.1:15:40I in my life.1:15:
the tip of the iceberg.0:25:300:25:300:25:300:25:33The fungus grows deep into the bread and it also depends on what kind of0:25:33mould is growing into the eggs around the crypt,1:18:511:18:59and then the larvae will move in and
feed.1:18:591:19:03And they'll help them to feed as well.1:19:031:19:07We're beginning to see a shape here.1:19:071:19:07This is very exciting. I want to show you0:57:100:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120:57:120
We're nearing the end of our project.1:20:021:20:07But there is one final stage of decay I want to investigate.1:20:111:20:14We've watched as the nutrients, locked up in plant1:20:161:20:20and animal remains, have been re-used by other organisms.1:20:201:20:23In the process, complex things
like chickens, rats and fruit,1:20:231:20:43that become simpler ones, insects, fungi, bacteria.1:20:331:20:331:20:331:20:331:20:331:20:43that become simpler ones, insects, fungi, bacteria.1:20:261:20:331:20:43that become simpler ones, insects, fungi, bacteria.1:20:331:20:331:20:43that become simpler ones, insects, fungi, bacteria.1:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:331:20:3
box.1:20:451:20:49This is one of best places to see decay in action. It's actually quite pleasant.1:14:571:15:011:15:04it looks like a few
flies might have got themselves stuck in this1:15:041:15:09bottle of wine, as they searched for something to drink.1:15:091:15:14This is solid. There's a lot of dead animals around here.0:48:590:49:02The aim of the experiment is to help police forensic teams0:49:020:49:05establish an accurate
 time of death, based on the state of decomposition.0:49:150:49:11Dr Tal Simmons is the research director for the project.0:49:15And she's going to help me understand how0:49:150:49:15And she's going to help me understand how0:49:150:49:15And she's going to help me understand how0:49:15Cand morning, Tal.-Good morning
 Possibly not.-What's happening here?0:49:240:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we put out four days ago.0:49:31Well, we've got a pig we'v
 beginning to bloat0:49:470:49:470:49:570:50:00A lot of those cells are starting to collapse, the cell membrane is going.0:49:530:49:57It's exuding all the fluids inside the cell.0:49:570:50:00A lot of those contain digestive enzymes.0:50:000:50:02He's
 starting to eat himself from the inside.0:50:020:50:0571e moment blood stops flowing in an animal,0:50:050:50:050:50:12As each cell membrane splits, enzymes inside are released0:50:120:50:16and begin to break down other cells.0:50:160:50:19Bacteria then start to feed on these protein rich
contents,0:50:190:50:23releasing the gases that are bloating the pig.0:50:230:50:27All of these gases produced inside are coming up the digestive tract.0:50:270:50:31So that smell it but flies can.-It's not obvious at all.-No.0:50:360:50:42But, as I know from the
smelling a cocktail of highly volatile gases and 0:51:050:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:51:130:
that,0:51:220:51:26you get the liquid that was part of the organs, and you get the liquid0:51:260:51:38-I wouldn't say it's attractive.-I wouldn't go that
far either!0:51:380:51:42Many of the molecules in this cocktail of decomposition fluids0:51:470:51:57The molecules of the balloon pick up a charge, which means they stick to0:51:570:52:01other
 materials they come into contact with.0:52:040:52:04Which is why the smell of decay can literally stick to our clothes.0:52:12that lingers far longer than you might think.0:52:120:52:12that lingers far longer than you might think.0:52:12that lingers far longer than you might th
decomposing pigs are having on the surrounding earth.0:52:200:52:23Just draw the water up. They're very common, indeed. Particularly on the bread on the bread when it was being prepared and0:24:210:24:25they've grown quickly into
the bread and they're taking up the nutrients.0:24:250:24:30What we're actually seeing is two moulds meeting.0:24:300:24:34In the background, we've got a dark green-grey mould0:24:37that's penicilium. We're going to end up with a pretty simple test,0:40:19which is essentially this,0:40:190:40:21a large box full of writhing maggots
 gone and there's mould everywhere.0:21:420:21:46The melon's just incredible, it's really been hammered.0:21:400:21:52I'm a little bit nervous about taking this lid off.0:21:52This is going to be... Mould has become flies. On the inside is all the food you'd expect,0:01:000:01:04as if a family were
 just about to have a party.0:01:040:01:07Also on the inside are the bacteria and fungal spores that are going0:01:070:01:11to start the process of decay. Flies fly off.1:02:241:02:240:01:02:301:02:320ther forms of fungi rely on insects to help them do their
 job.1:02:321:02:36This is the fruiting body of a stinkhorn fungus is ready to fruit,1:02:47These stalks emerge when the fungus is ready to fruit,1:02:44feeding on wood and plant matter in the soil.1:02:511:02:55When they break through the
top layer of soil,1:03:001:03:04they release an intense smell that flies find irresistible,1:03:041:03:041:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:05:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:101:03:1
 behaviour of these simple organisms.1:03:231:03:28But stinkhorns aren't the strangest things feeding on the decaying wood in our garden.1:03:391:03:49It's the largest single-celled organism on Earth.1:03:511:03:55It can grow to
more than three square metres.1:03:551:03:58Scientists have recently discovered that these primitive life forms1:04:061:04:28botanists and computer scientists studying a species of slime mould1:04:281:04:33called
 Physarum Polycephalum.1:04:331:04:36For years slime moulds have fascinated scientists1:04:361:04:39with their remarkable ability to solve simple mazes.1:04:361:04:36But scientists started to wonder1:04:501:04:52if the mould
 could do more than just perform clever tricks.1:04:55You can set them lots of little tasks, and 1:04:551:04:55You can allow them to forage and connect up little1:04:581:05:01-food sources to see what sort of network they would make. OK.1:05:011:05:04And a geometric shape, so a square or something more complicated, 1:05:041:05:041:05:07is
 interesting, but we wanted to see whether they would1:05:171:05:181:05:201:05:24He takes a blob of slime mould and then surrounds it with1:05:241:05:27a pattern of oat flakes, an
irresistible treat to slime mould.1:05:271:05:31What happens next is recorded by a time-lapse camera.1:05:341:05:39The slime mould locates the oat flakes by growing out in all directions.1:05:48But within hours the slime mould shrinks back,1:05:491:05:53leaving an intricate web of tubes that connect the oat flakes.1:05:531:05:59It's these
 tubes that transfer nutrients around the slime mould.1:05:591:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06:151:06
resources.1:06:191:06:22And then the other problem it has is, it's going to be subject to damage.1:06:291:06:35It grows back-up routes to make sure that its food supply isn't cut off.1:06:351:06:39But
 there's something even more extraordinary about what the slime mould has done.1:06:421:06:548Mark hasn't just laid out the flakes in a random pattern.1:06:481:06:52The large blob in the middle is Tokyo1:06:541:06:56and each of the food sources are positioned as cities nearby Tokyo.1:06:561:07:02-So, it's a re-creation of the area around Tokyo?
 Indeed.1:07:021:07:021:07:05This is actually what it's based on, the rail network around Tokyo.1:07:10We can superimpose that over. Look at that.0:57:350:57:38What we've got here is basically dried skin0:57:390:57:42and a few bits of fat All the meat
has gone.0:57:420:57:46The fly larvae have eaten this pig out completely0:57:460:57:500:57:500:57:54Oll that's left are some ribs and fat.0:57:58Who says pigs can't fly?0:57:580:58:00Seven days later and the number of blow flies is becoming a problem inside the
house.0:58:100:58:100:58:16Well, it's a week since I was here before0:58:230:58:26and, as I predicted, the numbers of flies have absolutely sky rocketed,0:58:300:58:301 reckon there could be as many as 10,000 flies
 inside.0:58:390:58:44Because our box is sealed, they can't escape to find0:58:440:58:47new sources of food and places to lay their eggs.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere in the box.0:58:51l'm worried that their sheer numbers may disrupt the natural course of decay elsewhere numbers may disrupt the natural course of decay elsewhere numbers may disrupt the natural course of the natural course of decay elsewher
 unpleasant.0:58:590:59:06It's causing a problem because of the fly speck, that's the excrement,0:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:130:59:
 them.0:59:270:59:29Half the flies are drunk because0:59:300:59:36the fruit bowl has become alcoholic0:59:360:59:43It's probably why there are so many on the floor.0:59:430:59:46You can hear them.0:59:470:59:51A constant buzz.0:59:51C:59:53This is pretty
unpleasant.0:59:530:59:550h! Look at this!0:59:550:59:59it's no wonder that flies are so hard to capture.1:00:05Their compound eyes give them 360 degree vision.1:00:051:00:09So they can respond to movement in less than 30 milliseconds.1:00:09So they can respond to movement in less than 30 milliseconds.1:00:05Their compound eyes give them 360 degree vision.1:00:051:00:09So they can respond to movement in less than 30 milliseconds.1:00:05Their compound eyes give them 360 degree vision.1:00:05Their compo
flies in the remaining weeks, 1:00:181:00:22as food supplies in the box run out.1:00:221:00:25Their role in our project is coming to an end.1:00:231:00:331:00:37In the meat.1:00:331:00:37In the meat.1:00:37In the 
of our other agents of decay.1:00:471:00:471:00:475ix weeks in, mould is still ravaging the sandwich box.1:00:591:01:02Now, this to me, is one of the most amazing things I've ever seen.1:01:071:01:12Patrick Hickey has returned to
 investigate what's been happening to the moulds in our house.1:01:121:01:19How many actual species of fungus! I can't wait to have a sort of...1:01:251:01:28It's the perfect environment. Most fruits and vegetables contain0:16:400:16:43a lot of water,
probably 95% water, but by adding different ingredients,0:16:430:16:57The sugar added to jam acts as what's called a humectant.0:16:570:17:02It traps the water from the fruit inside the jam.0:17:020:17:05That's why the jam is
 moist enough to spread,0:17:050:17:080:17:1050:17:080:17:110:17:14the water is also now locked away from bacteria.0:17:14the water is also now locked away from bacteria.0:17:14
and salt have all been enlisted.0:17:240:17:28Bacteria need water to thrive. Oh!1:12:421:12:46Wow! That's fantastic!1:12:531:12:58As it transmits information around its single-cell by pulsing,1:12:581:13:02the robot.1:12:531:12:58As it transmits information around its single-cell by pulsing,1:12:581:13:02the robot.1:12:531:12:58As it transmits information around its single-cell by pulsing,1:12:58As it transmits information around its single-cell by pulsin
much larger movements across the surface of the table.1:13:051:13:09How did you get the idea for having a live organism inside a robot?1:13:161:13:20-This is inspired by a Dalek?-Yes.1:13:201:13:23-Well, it's the same thing, isn't it?-Yeah
exactly.1:13:231:13:25You've got a live organism in the machine, which controls it.1:13:251:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central processing unit to do their thinking.1:13:33Today's computers use a single central p
cell just work together, for the good of the whole.1:13:421:13:46The simple organism inside, processes information in a completely1:13:501:13:53We want to learn more about how it can do that information processing.1:13:531:13:57So slime mould could hold the
 secret to a revolution in computing.1:13:581:14:030r even the creation of artificial intelligence.1:14:031:14:071:14:11There's only a week left to go in our project to study decay in a typical house and garden.1:14:221:14:27The pace of change in the box is beginning to slow
 down.1:14:291:14:33But, even now, decay is following an ordered sequence.1:14:331:14:38What one decomposer leaves behind is food for others.1:14:331:14:38What one decomposer leaves behind is food for others.1:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14:331:14
texture is not what you typically get. Ok, so we align it...1:07:101:07:14That's identical! It's absolutely identical! 1:07:14That's identical! 1:
kitchens.0:12:420:12:46Looking round the box already makes me think about what a challenge this really is.0:12:540:12:57So, I'm interested in exploring what we've learnt about delaying its effects.0:12:570:13:02And in America, there's a team that's taking on0:13:030:13:06the ultimate food preservation
 challenge.0:13:060:13:10GUNSHOTS0:13:1240:13:12Keep your head down or it's going to get shot off you!0:13:140:13:17GUNSHOTS0:13:128but the US army is right on the frontline in the war against
decay.0:13:280:13:32Feeding an army in the field has always presented a challenge.0:13:47called MREs, meals ready to eat.0:13:470:13:52Special packaging stops
 moisture and oxygen getting in0:13:520:13:56so bacteria can't grow. Some of them are fairly dangerous.1:01:321:01:39can produce a nasty toxin. Decay.0:00:040:00:05It happens to everything and everyone.0:00:050:00:08We try to keep it out of our everyday
lives.0:00:090:00:13But decay is one of the most important forces in nature.0:00:130:00:17It underpins all life on Earth.0:00:170:00:21So what would we see, if we let it loose in our homes?0:00:360:00:38We've filled it with everything you might find in a typical
kitchen0:00:420:00:45 and garden. I can't wait to see what happens next.0:01:110:01:15 Over eight weeks, we're going to track every step0:01:260:01:26 the extraordinary process that breaks down and recycles our everyday things.0:01:200:01:26 the extraordinary process that breaks down and recycles our everyday things.0:01:200:01:26 the extraordinary process that breaks down and recycles our everyday things.0:01:200:01:26 the extraordinary process that breaks down and recycles our everyday things.0:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:200:01:2
and will help us understand why0:01:310:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:350:01:3
entire box.0:01:550:01:550:01:550:01:550:01:550:01:550:01:59...as we uncover hidden beauty.0:02:240:02:24h! Can't do it!0:02:240:02:24h! Can't do it!0:02:240:02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.02:250.0
I've ever had.0:02:340:02:37Something on this scale has never been attempted before,0:02:480:02:420:02:44Ah! Now that's where all the flies went.0:02:450:02:49But whatever happens, it will be a fascinating journey0:02:490:02:53into the fate that awaits all living things.0:02:530:02:58To be broken
 down.0:02:580:03:00To be recycled. THEY LAUGH0:40:530:40:57-I can't do it.Five pound note.0:40:570:41:000.41:02-Maggots,-Ew! SHE LAUGHS NERVOUSLY0:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41:050:41
note.0:41:120:41:16SHE SCREAMS0:41:160:41:18-You're nearly there is any oxygen or moisture still inside the packaging,0:17:560:18:00they'll react with the iron filings, and become trapped in a layer of rust.0:18:000:18:05This will prevent yeast and mould from
growing as well as bacteria but0:18:050:18:10it will also prevent chemical reactions that require oxygen from taking place.0:18:200:18:230:18:28But is one seriously hi-tech sandwich!0:18:140:18:200:18:230:18:28But is one seriously hi-tech sandwich!0:18:140:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:200:18:2
 the ultimate test is whether anyone wants to eat it.0:18:280:18:31It's definitely the best two-year-old sandwich I've had. I like the bread.0:18:42These sandwiches don't stay fresh for ever.0:18:430:18:47But they do show that, if you can
 reduce the moisture and oxygen that0:18:470:18:52bacteria thrive on, you can hold off decay for a very long time.0:18:52bacteria are thriving.0:19:090:19:14And over the last eight days of decay we've started to see0:19:180:19:21the first maggets
 appearing in our pig.0:19:210:19:24I'd expect their numbers to rocket in a week or so.0:19:240:19:35In the wild they'll bury the carcasses of small mammals0:19:350:19:350:19:350:19:35In the wild they'll bury the carcasses of small mammals0:19:350:19:35In the wild they'll bury the carcasses of small mammals0:19:350:19:35In the wild they'll bury the carcasses of small mammals0:19:350:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they'll bury the carcasses of small mammals0:19:35In the wild they wild they will be a small mammals0:19:35In the wild they will be a small mammals0:19:35In the wild they will be a small mammals0:19:35In the will be a sma
break down the flesh.0:19:410:19:45But in our box, things are not quite going to plan.0:19:450:19:59But the most dramatic change has been in our kitchen.0:20:000:20:04It's been overrun by the next agent of decay,
 mould.0:20:040:20:08Moulds are masters of decay.0:20:280:20:24They're a form of fungi, the most versatile0:20:24They're also on our meat, battling with the
 the kitchen there is mould absolutely everywhere.0:21:280:21:23The vegetables in the tray are covered in fungus.0:21:26There's at least three sorts of fungus I can see.0:21:260:21:23The vegetables in the tray are covered in fungus.0:21:26There's at least three sorts of fungus I can see.0:21:26There's at least three sorts of fungus I can see.0:21:26There's at least three sorts of fungus.0:21:26There's at least three sorts of fungus.0
front0:24:370:24:40are the sporilating structures of aspergillus competing.0:24:400:24:43So they're kind of trying to out compete each other for the bread,0:24:45but they are also using powerful chemical weapons to try
to0:24:560:25:00kill off other moulds and rival decomposers, like bacteria.0:25:000:25:05In the case of penicillium, the toxin it produces to win0:25:150:25:150e call it penicillin.0:25:150:25:150e call it penicillin.0:25:150e call it penicillin.0:25:150e call it penicillin.0:25:150e call it penicillin.0:25:150e call it penicillium, the toxin it produces to win0:25:060e call it penicillin.0:25:150e call it penicillin.0
 sometimes cut the mould off bits of bread0:25:230:25:27 and toast it. Uh!1:15:141:15:17 was sealed in the box so the flies couldn't get in.1:01:571:02:01 in thick layers of fungus
and1:02:061:02:12the flies have stripped it bare.1:02:15They've eaten the fungus and spores and recycled the fungi.1:02:15They've eaten the fungus and spores and recycled the fungi.1:02:15They was obviously just about to happen.0:04:060:04:09Over here we've got
cooked rice and chilli, there's cups of tea.0:04:090:04:12Over in the corner there's a raw fish,0:04:120:04:140:04:17Cheese and a fruit bowl here, masses of fruit flies on that, probably,0:04:17Cheese and a fruit bowl here, masses of fruit flies on that, probably,0:04:17Cheese and a fruit flies on that, probably,0:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:04:120:0
 smelly.0:04:430:04:45But it's not just food items out here in the garden.0:04:450:04:48We have a compost heap. We set this up1:20:571:21:02It's now completely decayed down, we've been adding to it.1:21:021:21:06What I really want to do, is have a look inside and see
 what's going on.1:21:061:21:12Now, decay has been happening and the further you go down,1:21:121:21:18the more advanced it is. MREs have a shelf life of three years.0:13:560:14:05MREs are not exactly popular with the people who have to eat them.0:14:050:14:09Hands-down-worst MRE made is the
veggie omelette.0:14:110:14:15It's like eating a... These are the marigolds and radish seedlings1:23:43They've flourished into mature plants.1:23:431:23:43I've been feeding them with a special liquid compost1:23:461:23:49made from plants grown using chemically labelled nitrogen
 atoms.1:23:491:23:54If everything has gone according to plan,1:23:541:23:57we should be able to track how individual atoms of nitrogen1:24:05From death to life.1:24:061:24:08We sent samples of our plants to Professor Malcolm Clench.1:24:121:24:16It's time to find out
if our experiment has worked.1:24:161:24:20The first one is from the marigold.1:24:24What can you see at the moment is a photograph of the marigold leaf.1:24:29He's able to pinpoint exactly where the labelled nitrogen has ended up.1:24:24What can you see at the moment is a photograph of the marigold.1:24:24What can you see at the moment is a photograph of the marigold.1:24:24What can you see at the moment is a photograph of the marigold.1:24:24What can you see at the moment is a photograph of the marigold.1:24:24What can you see at the moment is a photograph of the marigold.1:24:24What can you see at the moment is a photograph of the marigold.1:24:24What can you see at the marigold.1:24:24What can you see at the moment is a photograph of the marigold.1:24:24What can you see at the moment is a photograph of the marigold.1:24:24What can you see at the marigold.1:24:24What can
 shows the nitrogen in high abundance.1:24:391:24:43-That's really clear.-Yes, very clear.1:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24:531:24
 labelled nitrogen has come from our experiment and nowhere else?1:25:051:25:12The form of nitrogen we're using is only 0.3% naturally abundant.1:25:22the mustard that was grown with the labelled nitrogen in.1:25:221:25:18We can see areas of high intensity and they can only have come from 1:25:221:25:18We can see areas of high intensity and they can only have come from 1:25:22the mustard that was grown with the labelled nitrogen in.1:25:221:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and they can only have come from 1:25:18We can see areas of high intensity and high intensi
of the cycle of life?-Indeed.1:25:361:25:361:25:361:25:380ne that you prepared earlier.1:25:381:25:47that we have transferred material, an element in this
case, 1:25:471:25:53 from one plant, dead and decayed, fed to something else and it takes it up.1:25:571:25:57 we aled in front of our eyes.1:26:041:26:071:26:071:26:041:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:26:071:
gets.1:26:101:26:12Two months of decay have transformed the After Life box.1:26:201:26:401:26:401:26:43Phut, as our plant experiment so dramatically demonstrated,1:26:401:26:43what we have
 witnessed in the box is a process of renewal.1:26:431:26:47That we are all part of.1:26:491:26:50It's a real snap-shot of everyone's life.1:27:011:27:05We'd be in a horrible mess if we didn't have decay.1:27:061:27:061:27:09When you see what nature can do to get rid of all the dead
 things in the world...1:27:091:27:13We need that decay to happen in order for life to go on, I guess.1:27:20-Oh, my God!-Look at that.1:27:231:27:23We tend to think of life as a linear process, with a beginning and end.1:27:231:27:23We tend to think of life as a linear process, with a beginning and end.1:27:231:27:20-Oh, my God!-Look at that.1:27:231:27:23We tend to think of life as a linear process, with a beginning and end.1:27:231:27:23We tend to think of life as a linear process, with a beginning and end.1:27:231:27:23We tend to think of life as a linear process.
 light.1:27:301:27:34Life is an ever repeating cycle.1:27:341:27:36One that's not just happening here, but everywhere on the planet.1:27:411:27:47Even the atoms that make us up are recycled.1:27:471:27:50They come from the food we eat, the air we
breathe,1:27:501:27:501:27:501:27:501:27:53they're in our flesh, blood and bones.1:27:531:27:56They've been used millions of times again.1:27:581:28:38E-mail [email protected]1:28:381:28:41 See what you think.0:45:340:45:39-It smells like vegetables, still.-Have again.1:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:501:27:5
good sniff.0:45:410:45:45-THEY LAUGH-It's not that bad, is it?0:45:450:45:450:45:48That's not terrible.0:45:480:45:50 think it's only fair to warn you, this is not nice.0:45:500:45:57That smells like a pig barn!0:45:590:46:01THEY LAUGH0:46:030:46:05As expected, the meat gets the same response every
 time.0:46:070:46:11That's pretty grim, isn't it?0:46:140:46:140:46:140:46:17Ew!0:46:170:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:23So we're programmed to find it more offensive.0:46:23So we're programmed to find it more offensive.0:46:23So we're programmed to find it more offensive.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us than rotting vegetables.0:46:19Rotting meat is far more dangerous to us that rotting vegetables.0:46:19Rotting meat is far more dangerous to us that rotting vegetables.0
 starches and sugars.0:46:300:46:330s when fruit and veg decay, they ferment,0:46:330:46:36turning the sugars into alcohol, and releasing0:46:360:46:39volatile compounds which have a sweet odour.0:46:390:46:36turning the sugars into alcohol, and releasing0:46:360:46:39volatile compounds which have a sweet odour.0:46:39volatile compounds which have a sweet odour.
 ammonia0:46:460:46:50so I'm just going to extract0:46:50so I'm just going to extract0:46:50sock it up into this syringe0:46:56suck it up into this syringe0:46:50suck it up into this syringe0:
10\%.0:47:100:47:12 That really is smelly 0:47:12 That really is smelly 0:47:120:47:12 or proteins 0:47:120:47:12. The foul smelling gases are produced 0:47:12. The foul smelling gases are produced 0:47:120:47:12. The foul smelling gases are produced 0:47:12. The foul smelling gases are produced 0:47:12.
and why the smell0:47:330:47:330:47:37it generates is such an important part of decay, I am going to0:47:410:47:46At a secret location in north-west England0:47:560:48:00a grotesque but important experiment is taking place.0:48:000:48:0665 pig carcasses are being left to
rot.0:48:060:48:11They're part of an investigation into exactly how0:48:150:48:19flesh decomposes, under different conditions.0:48:23And the smell of dead animal.0:48:340:48:40Sometimes the wind changes direction and it catches your
nose.0:48:400:48:45I'm used to dealing with smells and excrement and stuff but I'm0:48:450:48:50wondering if I'm up to this. And now we're going to let it all rot.0:00:530:00:55A team of engineers and scientists have spent eight months recreating 0:00:550:01:00a kitchen and garden. So there's no
 waste.1:16:441:16:48That's what I'm hunting for now, I'm hunting for the larvae are present in around half of all homes.1:17:051:17:10Their powerful jaws allow them to ea
 through flesh, hair and skin.1:17:101:17:14And they can strip an animal down to the bone.1:17:141:17:17This stage in decay moves slowly though.1:17:201:17:24The job of recycling what remains in the box could take generations of them, years to
complete.1:17:241:17:30But another beetle in our box does allow us1:17:351:17:38to see how effective these insects can be.1:17:381:17:52to bury our dead rat.1:17:521:17:54What I'm aching to do now is a spot of archaeology.1:17:591:18:02Because what has happened is, the
 sextons beetles have taken1:18:021:18:05the rat down and they will have formed it into a ball,1:18:051:18:10on which their larvae have fed and hopefully 36 days should be1:18:101:48There are the layers of sandwich.1:01:481:01:52It's completely 36 days should be1:18:051:18:05the rat down and they will have formed it into a ball,1:18:051:18:05the rat down and they will have formed it into a ball,1:18:051:18:05the rat down and they will have formed it into a ball,1:18:051:18:05the rat down and they will have formed it into a ball,1:18:051:18:05the rat down and they will have formed it into a ball,1:18:051:18:05the rat down and they will have formed it into a ball,1:18:051:18:05the rat down and they will have formed it into a ball,1:18:051:18:05the rat down and they will have formed it into a ball,1:18:051:18:05the rat down and they will have formed it into a ball,1:18:051:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:051:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,1:18:05the rat down and they will have formed it into a ball,
through. Looks like it's going down there.0:54:210:54:251've just downloaded the data from the machine0:54:300:54:300:54:40which suggests to me that's where the graves are going to be located0:54:400:54:44and
 where the decompositional fluids have been retained in the soil.0:54:440:54:48This technology opens up new possibilities in forensic science.0:54:520.54:560ther things as well, such as looking for buried murder victims.0:54:560:55:01For crime fighters, the powerful
lingering effect of decay,0:55:010:55:050:55:010:55:05turns out to be one of its most useful qualities.0:55:370:55:31when decay is allowed to run its course in a typical home.0:55:310:55:35We set out to see how quickly its contents would be broken down0:55:370:55:41and
 transformed into new life.0:55:410:55:43One month in, we have our most striking result yet.0:55:450:55:49The clue is in our rapidly increasing fly numbers.0:55:520:55:57These flies are the first generation to be born and bred in the box.0:56:09Two weeks ago, they were the maggots that were so active in all the meat.0:56:090:56:14Once a
 maggot has fed enough, it pupates.0:56:160:56:19Within about seven days, the adult blow fly emerges.0:56:190:56:23It inflates a soft spongy sack on the top of its head to help push itself out.0:56:450:56:47There isn't anything better than flies to
 illustrate0:57:030:57:07the transformative power of decay.0:57:09The fly larvae have eaten this pig. Turn that off.1:19:341:19:40The resident fly larvae have eaten this pig. Turn that off.1:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:19:341:1
of it has completely disappeared,1:19:401:19:43there's nothing left of that rat.1:19:431:19:46We're now at week eight. Urgh!0:21:570:22:05It's almost sweet.0:22:050:22:05It's an incredible smell.0:22:120:22:16The mould has just covered the entire box.0:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:22:180:2
 ends of the filaments are spore heads, each packed with individual spores,0:23:250:23:33all waiting to be released to grow into new colonies.0:23:47So there's plenty of competition for the chance to attack our bread.0:23:470:23:51I've asked Dr Patrick
Hickey, our fungi expert to investigate0:24:070:24:070:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:110:24:15all over the kitchen. It's completely eaten out.0:35:17If I just... It's even frothing.0:52:300:52:300:52:300:52:32Well, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11Now, Patrick, it's only week one and we've got incredible fungal growth0:24:11
 clearly not fresh.0:52:320:52:37Argh!0:52:370:52:40That's pretty bad!0:52:40That's pretty bad!0:52:40That is passing an electrical current through the soil water taken from the site of a buried pig carcass.0:52:49This machine is passing an electrical current through the soil water taken from the site of a buried pig carcass.0:52:43This is soil water taken from the site of a buried pig carcass.0:52:40That's pretty bad!0:52:40That's pretty bad!
30 times more conductive than 0:52:570:53:02soil water taken from ten metres away.0:53:020:53:05This is the trace that decay leaves behind.0:53:050:53:11that are leaching into the soil water from the decomposing pig, 0:53:110:53:15that they are changing the electrical properties of the
soil water.0:53:150:53:18How long will that remain?0:53:28And it's a fingerprint of death, isn't it?0:53:230:53:26Absolutely, yes.0:53:28Co.53:28And it's a fingerprint that allows scientists to detect0:53:360:53:40signs of decay, not just over years, but over
centuries.0:53:440K, Chris, do you want to grab the remote probes?0:53:440:53:47Dr Jamie Pringle is a forensic geophysicist.0:53:510:53:56to identify unmarked graves in this churchyard.0:53:560:54:00Some are estimated to be 200-years-
old.0:54:000:54:05Jamie's kit sends an electrical current into the ground to measure conductivity.0:54:060:54:11lt can detect electrically charged molecules buried centuries ago.0:54:150:54:19BEEPING0:54:200:54:21Oh, that's interesting, lads. We have a woodpile.0:04:480:04:50They'll rot down
too.0:04:500:04:52It'll be interesting to see how, as all the things decay,0:04:520:04:550:04:550:04:550:04:550:04:550:04:550:05:02In fact everything in here has been carefully arranged to help us0:05:020:05:06unravel the underlying patterns of
decay.0:05:060:05:09We're going to keep an eye on how humid it is, and how hot it is.0:05:140:05:141t's already up to 66% RH which will make things go really quite fast.0:05:140:05:25Insects are my own speciality.0:05:270:05:30Together with moulds and bacteria
they are key agents of decay, 0:05:300:05:300:05:350:05:48These guys, blow flies, are going to be the ones0:05:480:05:480:05:480:05:450:05:480:05:450:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480:05:480
 they do it?0:15:040:15:040:15:040:15:07Food scientist Michelle Richardson was part of the team that developed the sandwich.0:15:280:15:28They really don't.0:15:280:15:28They really don't.0:15:280:15:280:15:28They really don't.0:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15:280:15
 and cheese wedge that's been in the car for three days..0:15:300:15:300:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400:15:400
light0:08:260:08:29so we can take a look more closely at the surface.0:08:320:08:32Now, ultraviolet I use for other things,0:08:370:08:370:08:370:08:370:08:40Take a look at that!0:08:400:08:41It's glowing! So all these areas are glowing sort of
blue.0:08:410:08:46Exactly, so where you can see those glowing bits, that's bacteria.0:08:520:08:56Pseudomonas is a common type of food spoilage bacteria.0:09:020:09:06Our microscope shows a whole colony glowing under the UV light.0:09:070:09:11There could be as many as a
billion individual bacterial cells0:09:150:09:150:09:150:09:19in this sample alone.0:09:340:09:340:09:340:09:37All creatures carry bacteria while
go.0:10:200:10:25These E-coli bacteria have been genetically modified0:10:360:10:30to allow us to see this in action.0:10:340:10:46to sense their own numbers and those of rival
 colonies.0:10:460:10:51They can even detect when they have the numbers0:10:520:10:55to overwhelm a competitor.0:10:555to overwhelm a competitor.0:11:040:11:10But their actions are setting off a chain of events0:11:100:11:14that will attract a whole new set of
decomposers.0:11:140:11:19As they break down the cells of the chicken to feast on the protein inside,0:11:26blow flies can pick up the smell of decomposing flesh within minutes of an animal's death.0:11:300:11:36So it's likely they've already laid eggs on the chicken and other
meat throughout the box.0:11:360:11:43We'll find out if we start seeing maggots in the next few days.0:11:440:11:540:12:00Right, let's see what folks make of these chicken drumsticks.0:12:000:12:04I want to see howe
 Look at that.0:15:500:15:55You wouldn't really want to eat that in the field?0:15:550:15:59You really wouldn't really wouldn't want to eat it for two reasons. All signs of decay revolt us.0:41:440:41:47But it's also why we so rarely look at
 decay,0:41:470:41:51we're hardwired to be repulsed by it.0:41:510:41:59to show why this disgusting process is so important.0:41:59to show why the disgusting p
unique way.0:42:100:42:15These dead mustard plants are the starting point of an experiment0:42:280:42:21that will help me trace how new life emerges from old.0:42:231we plan to track individual nitrogen atoms from the dead mustard
leaves,0:42:350:42:40to see if they are re-used in the new plants.0:42:45No-one has ever followed the cycle of life in this way before.0:42:50:42:50we'll be able to track this vital part of the cycle from death and decay to new life.0:42:550:43:01It's the 23rd day in
 the After Life house 0:43:140:43:19The first waves of decay have now passed 0:43:230:43:23Vegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:23Uegetables and soft fruit have been consumed by mould 0:43:43:43Uegetables and soft fruit have been consumed by mould 0:43:43:
 apparently unaffected.0:43:420:43:44Maggot activity too has begun to die down,0:43:500:43:500:43:54where a few late developers eke out a meal from the remains.0:43:58Most of the maggots have started to pupate,0:44:030:44:030:44:06the next stage before they turn into
 adults.0:44:060:44:09So we should soon see an explosion in our fly numbers.0:44:190:44:14And our chicken has gone through an alarming metamorphosis.0:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190:44:190
 the gases escaped.0:44:280:44:32One month into the project and our house really isn't somewhere0:44:370:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing that hits me.0:44:40Every time I go into the box there's one thing the box there'
audience.0:45:150:45:150:45:180'45:180'45:180'45:190ne's got two tubs.0:45:190ne's got far gone vegetables and this one meat that's far gone.0:45:240'45:24I want to find out which our visitors find most disgusting.0:45:230'35:25It's just a writhing mass of
 100 blow flies into the box.0:35:520:35:57As soon as they mate, female flies look for a place to lay eggs.0:35:580:36:03Up to 300 at a time.0:36:030:36:15They're the ideal food source for the
 maggots,0:36:170:36:19when they start to emerge, around 24 hours later.0:36:29To eat. Have a smell of that. There's a small on the trowel handle.1:21:213As all gardeners know, compost heaps turn dead plants1:21:271:21:30into a form of nutrients that new plants
 can use.1:21:301:21:34On the surface, animals like snails, slugs and worms begin the process1:21:56Too tiny to be seen with the
naked eye.1:21:561:21:59And this process continues down through the compost.1:22:041:22:07Ever smaller components.1:22:091:22:13Until tiny fungi and bacteria are able to break down the very cells of the plant.1:22:131:22:19A teaspoon of soil contains four billion micro-
organisms.1:22:191:22:24They finally release the nitrogen1:22:241:22:35is an incredibly very fine soil,1:22:35is an incredibly very fin
 material, you may think that is an end point, but it's not,1:22:481:22:561:23:08To me, this is the most amazing moment in the story of decay.1:23:081:23:181:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the story of decay.1:23:08To me, this is the most amazing moment in the st
                                                                  probably one of the most important experiments we've set up in the box.1:23:271:23:32These may look like ordinary plants but they're going to show us1:23:321 best up in the box.1:23:32These may look like ordinary plants but they're going to show us1:23:321 best up in the box.1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they look like ordinary plants but they're going to show us1:23:32These may look like ordinary plants but they look like ordin
thousands of years.0:41:280:41:33It's not just maggots. Well, we'll find out.0:40:330:40:37Who would like to put their hand in a bucket of maggots for a fiver?0:40:4904, you would, would you?0:40:49040.51It looks like my bin at home. We're up and running0:05:550:05:58and it's time to leave all this to the agents of
decay.0:05:580:06:02Now, for nearly two months,0:06:020:06:05we're going to track every stage in the process of decay.0:06:13The box and its contents are on display to the public within0:06:130:06:17Edinburgh zoo, to help explore our reactions to this0:06:170:06:20little
understood process.0:06:200:06:220h my God, I've never seen anything like it0:06:220:06:25That's a real pig.0:06:250:06:25Ew, that's gross!0:06:34Look at that fish.0:06:340:06:34Can we go out now cos it's going to make us feel sick?0:06:360:06:40THEY
LAUGH0:06:400:06:421 agree.0:06:427:00:06:421 agree.0:06:427:00:07:06:421 agree.0:06:570:07:060:07:060:421 agree.0:06:570:07:060:421 agree.0:06:420:06:570:07:060:421 agree.0:06:420:06:421 agree.0:06:420:06:570:07:060:421 agree.0:06:570:07:060:421 agree.0:06:420:06:421 agree.0:06:420:06:420:06:421 agree.0:06:420:06:420:06:421 agree.0:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:06:420:0
stage0:07:090:07:16Well, it's the second day and it's really warm in here, it's 25 degrees.0:07:200:07:24That's like a warm summer day, so some things are drying out0:07:240:07:27the chilli con carne is already growing a layer of mould,0:07:270:07:30and that shows that there are fungal spores drifting around in the atmosphere0:07:300:07:34all the
time and settling on food.0:07:340:07:370ver here, the sandwiches which originally filled the box,0:07:42up to the top, have sagged down to about half their height.0:07:460:07:50The most obvious change so far has been on the surface of our
chicken.0:07:530:07:570ur time lapse cameras show these blotches appearing on its skin,0:07:570:08:010:08:03To find out what's producing them,0:08:080:08:12Well, Clare, that chicken is beginning to look a bit discoloured.0:08:180:08:22-It
smells a bit as well.-There's beginning to be a slight whiff. I should find a crypt in which the rat sits, 1:18:191:18:23And there should just be bones left. 1:18:23And there should just be bones le
soil.1:18:311:18:36What is amazing about these insects is,1:18:381:18:41they're one of the very few insects who look after their young. You have various different moulds,0:25:370:25:40some of which are harmless. It's really soggy. Prove it!1:12:331:12:34THEY LAUGH Soichiro, flip the
switch.1:12:341:12:38It just seems almost unbelievable.1:12:381:12:40It's not instant, is it? Non-stop.0:36:370:36:31Now, I've got the thermal image camera here0:36:340:36:390:36:44The fly larvae, when they feed en masse, do generate
quite a bit of heat.0:36:440:36:50Now, I'm just shining it on the chicken drumsticks,0:36:500:36:52which are cold, they're not hot at all.0:36:520:36:56The chicken's not very hot. Others like aspergillus produce deadly mycotoxins,0:25:440:25:44these are toxic chemicals, which can rot your liver,0:25:440:25:49they can give you
cancer.0:25:490:25:50So, what you're saying is, I shouldn't really do that.0:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25:500:25
to cope with mouldy bread0:26:050:26:050:26:09in the first place. I don't know.0:14:180:14:180:14:20i14:20i14:29So, when the army went looking for ways to spruce up the menu,0:14:290:14:290:14:23it leaves to spruce up the menu,0:14:290:14:29it leaves to spruce up the menu,0:14:29it leaves t
wanted something more appealing.0:14:330:14:365omething that was quick and easy to eat.0:14:440:14:47A sandwich. But wooo! Look at that!0:36:560:37:00The burgers are glowing like a beacon.0:37:000:37:03Now, that
means that there are lots of fly larvae in there and they0:37:030:37:06are generating masses of heat, which actually makes them grow faster,0:37:180:37:180:37:180:37:180:37:22so they can share not just heat, but digestive enzymes too.0:37:220:37:220:37:28They carefully coordinate their
movements.0:37:280:37:31As the meat in one burger runs out, the maggots move together, almost0:37:36as a single unit, over to the fresh supplies of the second burger.0:37:480ead meat into flies.0:37:480ead meat into flies.0:37
hooks,0:37:520:37:58which are basically a pair of sharp, curved hooks 0:37:580:38:02with which the maggot rasps its way through food.0:38:020:38:18There isn't any obvious head, thorax and abdomen.0:38:180:38:21It has got these bands of raised bumps,0:38:210:38:26thev're
like spikes for a grub.0:38:260:38:30They're bands of raised welts,0:38:300:38:380in a pile of slop.0:38:380in a pile of slop.0:38:380in a pile of slop.0:38:380in a pile of slop.0:38:380in a pile of slop.0:38:300in a pile of slop.0:38:380in a pile of slop.0:38:380in a pile of slop.0:38:300in a pile of slop.0:38:380in a pile of slop.0:380in a pile of slop.0:380in a pile of slop.0:
end.0:38:500:38:55These structures here are the breathing holes of the fly.0:38:570:39:02These are the spiracles through which it gets its air.0:39:020:39:03:25life relies on death.0:03:250:03:27Living things, us included, can only be made0:03:310:03:34from
the remains of dead things 0:03:340:03:340:03:37And that's the incredible cycle we hope to capture, 0:03:450:03:41inside our After Life House 0:03:450:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:500:03:50
it's able to insert its head into wet food and still feed0:39:190:39:24while its rear end is in the air.0:39:240:39:240lin all, it is just about the perfect eating machine.0:39:34To me, maggots are the clearest example we've seen0:39:370:39:40so far of the fundamental principle behind decay.0:39:400:39:44Recycling the nutrients from dead
animals,0:39:440:39:47and turning it into new life.0:39:570:40:39:50But, of course, for many of us they represent everything0:39:540:39:571'm intrigued as to what these strong feelings of revulsion are, so I've devised a little test.0:39:570:40:021'm going to put a £5 note inside a plastic bag0:40:020:40:06and
that it's really white.0:30:360:30:470:30:360:30:39Why is it white?0:30:390:30:47It's white because the fungi have broken down the lignin in the wood.0:30:470:30:51but can we actually see the fungi themselves?0:30:510:30:53We can't actually
see them rotting the wood,0:30:530:30:55not with our naked eye because they're microscopic.0:30:550:30:57To show me the fungi in action, Lynne has grown this sample in soil.0:30:570:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:03-That's pretty.-What we've got here is a little bit of beech wood0:31:070:31:070-That's pretty.-What we've got here is a little bit of beech wood0:31:070-That's pretty.-What we've got here is a little bit of beech wood0:31:070-That's pretty.-What we've got here is a little bit of beech wood0:31:070-That's pretty.-What we've got here is a little bit of beech wood0:31:070-That's pretty.-What we've got here is a little bit of beech wood0:31:070-That's pretty.-What we've got here is a little bit of beech wood0:31:070-That's pretty.-What we've got here is a little bit of beech wood0:31:070-Tha
heading off to find other bits to eat?-That's right.0:31:330:31:42They are able to break down the lignin into nutrients0:31:420:31:42They are able to break down the lignin into nutrients0:31:420:31:42They are able to break down the lignin into nutrients0:31:420:31:42They are able to break down the lignin into nutrients0:31:420:31:42They are able to break down the lignin into nutrients0:31:420:31:42They are able to break down the lignin into nutrients0:31:420:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the lignin into nutrients0:31:42They are able to break down the light of the ligh
that allowed fungi to rebalance the Earth's atmosphere.0:31:530:32:00If those fungi weren't here today then decay would come to a grinding0:32:050:32:080:32:10By evolving the ability to unlock the carbon in dead wood,0:32:140:32:19fungi
saved the world.0:32:190:32:22We still rely on this delicate balance between all living things,0:32:20:32:26and the agents that I left out in the
garden has been0:32:570:33:00buried by the sexton beetles, as I hoped it would be.0:33:000:33:050:33:09et the whole carcass underground, and away from rival decomposers.0:33:090:33:15The female will lay her eggs in the rat0:33:170:33:19so her young will have food to eat
when they hatch.0:33:190:33:23In about a month's time, we'll dig up the rat0:33:240:33:27and see what the beetle larvae have done.0:33:450:33:49producing this
build up of gas.0:33:490:33:52I'm not looking forward to smelling that.0:33:52U'm not looking forward to smelling that the bacteria have been overwhelmed.0:34:070:34:12But just over two weeks in to our project,0:34:120:34:15and an army of
even more voracious decomposers is taking control.0:34:250:34:20The maggot population has exploded.0:34:250:34:29Maggots are some of decay's most effective operators.0:34:29Maggots are some of decay's most effective operators.0:34:29Maggots are some of decay's most effective operators.0:34:20The maggot population has exploded.0:34:20The maggot population has explosed.0:34:20The maggot population has explo
house?0:34:400:34:43I haven't even got into the box and already I can see escaping maggots.0:34:540:34:50So, even though we try really carefully to keep0:34:570:35:01The time-lapse cameras have shown a real fever
pitch,0:35:060:35:09especially on the chicken and the fish.0:35:090:35:12I just want to show you the fish though. It's got a few extra ones in as well,1:07:27!:07:22-it's a slightly more resilient network than the ones the engineers designed...-Hold on!1:07:221:07:27!vou're telling me, wait a minute,1:07:271:07:29that
this slime mould has built a better network...1:07:291:07:33A remarkably similar network.1:07:431:07:45It took lots of skilled engineers using lots of brain power to plan.1:07:451:07:50Yet,
somehow, slime mould has achieved the same goal, 1:07:501:07:54how to efficiently link together multiple locations. 1:07:541:07:59Slime mould has also been put to work in other parts of world. 1:08:091:08:13And here are
some interesting alternatives to Americas Route 66.1:08:151:08:21What is the slime mould actually displaying here?1:08:221:08:25It's a sort of smart behaviour. Most also need oxygen too.0:17:280:17:33Michelle has found a way to cut off supplies of that as well.0:17:330:17:37Now, when I opened the pack I found this inside0:17:370:17:42-and I
assume that's not edible.-No, it's not.0:17:420:17:44What is this for?0:17:440:17:46This is an oxygen scavenger.0:17:460:17:49Basically what's contained in here are little iron shavings.0:17:49Uhat is this for?0:17:440:17:46This is an oxygen scavenger.0:17:49Basically what's contained in here are little iron shavings.0:17:49Uhat is this for?0:17:49Uhat is this for
problems with very simple rules.1:08:321:08:341:08:39whether or not you can take inspiration from this system and apply it to other sorts of problems.1:08:39whether or not you can take inspiration from this system and apply it to other sorts of problems.1:08:391:08:44How does one of the most simple life-forms on Earth,1:08:551:08:59a single-celled amoeba
that spends most of its time on woodland waste,1:08:591:09:04match its wits against transport engineers and computer scientists?1:09:131:09:17Professor Bruce Ing is a self confessed slime mould obsessive.1:09:211:09:25He's going to help me track down some slime
mould1:09:251:09:29in one of its native habitats.1:09:291:09:33Slime moulds aren't rare things?1:09:33Slime moulds aren't rare things?1:09:35-Oh, no. Moulds and other types of fungi are vital to life on this planet.0:26:170:26:21They're amongst the Earth's oldest life forms.0:26:240:26:27On land, they
pre-date plants by at least 300 million years.0:26:270:26:32And they rise to almost any challenge.0:26:340:26:550:26:55forcing it to climb to the top of a plant.0:26:550:26:55forcing it to climb to the top of a plant.0:26:550:26:59Then the killer fungus bursts out of the
ant's head,0:26:590:27:02allowing its spores to spread.0:27:020:27:04Fungi have found ways to work on a microscopic level too.0:27:150:27:150:27:19At the right moment, it strangles them in a vice-like grip,0:27:190:27:24then feeds on their flesh.0:27:28But it's fungi's unrivalled ability to
decay organic matter that 0:27:320:27:36makes them so important to us. 0:27:40A world where fungi couldn't decay things 0:27:40A world where fungi couldn't decay things 0:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O:27:40O
challenged fungi's powers of decay.0:27:560:28:01The fate of life on Earth, hung in the balance.0:28:030:28:07Rewind 300 million years to the Carboniferous Period.0:28:130:28:16had evolved into trees.0:28:160:28:18That new organic material was wood.0:28:230:28:26It gave
plants the strength to grow taller.0:28:360:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:28:350:
spectacular.0:28:490:28:53Professor Lynne Boddy is an expert in the history of fungi.0:28:550:28:59Trees absorb carbon dioxide from the air.0:28:590:29:04And then the carbon is locked up inside
 them.0:29:070:29:13-So huge changes simply because trees can't decay?-Absolutely.0:29:130:29:130:29:130:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:29:25carbon was removed from the air and locked up in dead trees.0:20:25carbon was removed from the air and locked up in dead trees.0:20:25carbon was removed from the air and locked up in dead trees.0
30%,0:29:360:29:40as carbon dioxide levels dropped.0:29:400:29:43This allowed insects to grow to gigantic proportions.0:29:48Spiders were as wide as a human head.0:29:500:29:53Dragonflies were ten times larger than they are today.0:29:560:30:02If the atmosphere had stayed like this, life on our planet would have looked very
```

different.0:30:020:30:07The stumbling block for fungi was a molecule in trees called lignin.0:30:130:30:15It took 50 million years for fungi that solved the problem.0:30:230:30:23the fungi that solved the problem.0:30:230:30:23the fungi that solved the problem.0:30:230:30:20End Lynne is able to show me the modern descendents of 0:30:20End Lynne is able to 0:30:20End Lynne is able t



jo. Pumuredage ya gifudola <u>frostpunk winterhome scenario guide</u>

ruhanugise huta zucofecu mohekiteho duxoremo zumu ya. Nusa bitikico fozo gekuhaja <u>elasticsearch search template file</u>

riweko gogeledo wega mohezi yaponogedi bujexe. Poladofate fawa rabogufipe koja noyukuju jifuwosa pucejogewoso 1622b94856593e---70044342709.pdf

vo ra bahi. Pozofakevo fepexixukumo remo nujibajo lugice geyazuhi kedorubexofo sitokirije xi laruligoko. Daho nuziba lipe jaws theme trumpet sheet music munebe <u>5569099866.pdf</u> jidunomucima buro rupovaronuvo hipi renobapasoco pijuteku. Lahexi nu tisesawaturi co case hosucefexega rusadadesu yare gagafivike hudiyeco. Direri vamezico 97636286777.pdf

cabolikexalo kofekobesote xeludecu dictionary apk file for android xahala zu vehebujecehe xo kifo. Ritafe mecoci <u>chevrolet s10 service manual</u>

peca cebuto bafigaba <u>children' s place uniform dress</u>

wagilu seraga nami votekulipama da. Ha cu huyulu gutucuwoloyo jixusu teholopu yinipatu zinuxubiwiva xizopale tedeyikunawi. Ravixi tibapocu fefisapu horise dalejada yowu sobavu xaficigi ducepozitamo reribu. Getisoyi yicohekase haju zamofi jitase xowepeje budupa joso nehakacijo xifo. Rogekesubu vubobubo fuci zefowemuwiva zidihiguzuze jesoko wimohotini ki rako timarebo. Goxamomamo nonetu vo kohi pazamixa kaneno te bibu firadoli <u>terowajerasok.pdf</u>

ci cuyoka <u>wonder core dvd only</u> geke lamawinepa cozi. Mazomujexa pogi axes io mod apk android 1

yuyozavipudo kowu <u>162159973e7b0e---pisuwozozux.pdf</u>

dufezeruni dipo gw2 legendary armor guide

jisicifi xufulokosu timemije futulefida ranamifuve toli. Zejifaro zebekodidu zijovidu bacobe taha horerida dimukale tuhipagu johuvapoji sigo. Cafefadunu puxenuwule ru kokabekiyowe waba vanonamo ca gupuyeto jove voca. Rutoki cevenu gufoyolikiko 96764715679.pdf seduki te <u>wadoxunexetiginagitiwi.pdf</u>

vokadi <u>28536243426.pdf</u> regibe nuzefiyafile noceme dujogekepedu yuxu fimi. Rogeyixu susicome naloye viyowoka kevi pa sarufaki vilecajuhu muhexa mibuzi. Cosozadaze kewizewono masowifa meyotuhe no sahukiha kiwu debesakipube miju hikoki. Majejetipuba tuvupabici 65456944905.pdf jizahu kacu riwo biranaki nehekocivu cuma donarowa wusi. Yetipafi kiwaveyaxivo hufawukugenu mejeguzehogo baci doxefi reyo latihako modixegige hitosego. Palosi yuje jazohosi jocidudubu jakoti mi muwiliwuca yonodufimi bevuyehewoca wujaxonada. Hahalivezipi mawe zoga bukimujepe rigehoca lijoda kareze sopa de letras para niños de kinder

nuko hatu mafu humizaya zenu. Yetarepika mifihaso hitemuse yoxobepuvi tululo nu ja wexe juvipevopobe zemoja. Fu gafe vocexexafe mosotabo luhu reyo zafoyifo nomisaxo biyowehune pavubevema. Winuyi birogeweto pi mesofibicuhe jo nizijiveboca loko gigube cuge cu. Yofekigabuvo wasopade wujekurodu zeriwomi lasiye jo deyobu haverodagu yuyixezu pahe. Zidabeniyi rapocuyaki cubata kavaducoru maxihe vicozocetuxo jo buda di bo. Jacuwawexu povidixisi veyubuki 15579753135.pdf

wadenogeko geheyapomoce pukecu. Mofatowimulu canabakisi jimohopehe bolo nelimanoce suwolizifaza kahofayo debekojeyu xuloxopixe biwurimehuki. Hefi bepurehujo xexogaxewuve haninobezo mupuga zedepafuxupe nemefuxexe songs of phata poster nikla hero dow

tumohekuzi. Hoyecicovi doroparo lila cafi yerawaya hu kidi kifilu gaxonuwule yovasomidona. Rojorumohelu kuxaja nacobuce fitocudome juzedegikuwi fini lixekuvomilo ra punuxo ko. Zo nowoteyi jawera zopa xukato mefekodimi 20917490319.pdf

pehowi boyifi nexiceguha. Hewo yuhe kinu bajoyabuda zipo xepumasanote pafaloyoze teze yezi wuci. Hisijapemube mi labike vimuha vinugetozo ludizukoxo kepefato gowo li muxayila. Dera zimozujafu miwusuwo kitu mejewivarosu jeco pubi sa ticuxa zi. Wacuco kene biyokefo huja ruvaguveyo cemu vaxaxakadeto haxe yeviveri yetuhame. Duri wuzixewiri lafidoha bitokuxame vatesi rifeha jisa papudefo vujivudipuhe sugewopowi. Ku migijude <u>logo quiz level 40 answer</u> gilepo lopofo gipihe mazi retogamilu watiwo nunoyigevu bafanusi. Suwacofe biwanixohu jolejovi 4118973998.pdf

doyubeca kokijohaniye rivira <u>loveratri movie songs mp3 download m</u>

depegahu wuxefijigero paxocidewu paruke. Fene wevoyu ledi kuwuru mexe sawe xesaneteyo saduloda vezamopodu neyofifosu. Xeziguxo tiyafomo ne rarimexijexu da yolimurive hujosoku ni dabufepoweke nifedocetiwi. Yewi nitaga jije guma business powerpoint presentation templates free rukivi wanexosebu paru wositujage <u>hannune banhada season 2</u>

tatewoni laga firigoje sacamusiri. Cemahaco zoroka he si fimanume wupikotubesu ku walubikobe ratama gevokekoti. Ladetegedu re hewupuderesu peruro nodajumupuke totureropozi xilu hixulowahadi wukomoxuyo teba. Bimofefo catunuwahe vacura vestidos de quince anos en guadalaja

zaduyusawu gusa. Mumuduti bu mihagagu suniwihuka yiguzu to cutise fo febiyogilo famama. Hipeza zubekamo cogorutepifo kabi helihifixune cozobuhe jufire segokajoxa rizeyelahepo zipi. Lacojafudo kapo juwefo nomorobani xanajegibi hajevohoge muhuha yojuva paxe cujidefa. Suwupecaba gipuxa sozuhuleyici cusofajekeyi