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[https://www.100test.com/kao\\_ti2020/565/2021\\_2022\\_\\_E8\\_81\\_8C\\_E7\\_A7\\_B0\\_E8\\_8B\\_B1\\_E8\\_c91\\_565634.htm](https://www.100test.com/kao_ti2020/565/2021_2022__E8_81_8C_E7_A7_B0_E8_8B_B1_E8_c91_565634.htm) Plant Gas 1. Scientists have been studying natural sources of methane(甲烷，沼气) for decades but hadn't regarded plants as a producer, notes Frank Keppler, a geochemist (地球化学家) at the Max Planck Institute for Nuclear Physics in Heidelberg, Germany. Now Keppler and his colleagues find that plants, from grasses to trees, may also be sources of the greenhouse gas. This is really surprising, because most scientists assumed that methane production requires an oxygen-free environment. 2. Previously, researchers had thought that it was impossible for plants to make significant amounts of the gas. They had assumed that microbes (微生物) need to be in environments without oxygen to produce methane. Methane is a greenhouse gas, like carbon dioxide. Gases such as methane and carbon dioxide trap heat in Earth's atmosphere and contribute to global warming. 3. In its experiments, Keppler's team used sealed chambers (室，房间；腔) that contained the same concentration of oxygen that Earth's atmosphere has. They measured the amounts of methane that were released by both living plants and dried plant material, such as fallen leaves. 4. With the dried plants, the researchers took measurement at temperatures ranging from 30 degrees Celsius to 70 degrees C. At 30 degrees C, they found, a gram of dried plant material released up to 3 nanograms (微克) of methane per hour. (One nanogram is a billionth of a gram.) With every 10-degree rise

in temperature, the amount of methane released each hour roughly doubled. 5. Living plants growing at their normal temperatures released as much as 370 nanograms of methane per gram of plant tissue per hour. Methane emissions ( 散发 , 发射 ) tripled ( 增加三倍 ; ) when living and dead plant was exposed to sunlight. 6. Because there was plenty of oxygen available, it ' s unlikely that the types of bacteria ( bacterium的复数 , 细菌 ) that normally make methane were involved. Experiments on plants that were grown in water rather than soil also resulted in methane emissions. That ' s another strong sign that the gas came from the plants and not soil microbes. 7. The new finding is an “ interesting observation, ” says Jennifer Y. King, a biogeochemist ( 生物地球化学家 ) at the University of Minnesota in St. Paul. Because some types of soil microbes consume methane, they may prevent plant-produced methane from reaching the atmosphere. Field tests will be needed to assess the plant ' s influence, she notes. 100Test 下载频道开通 , 各类考试题目直接下载。详细请访问 [www.100test.com](http://www.100test.com)