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https://www.100test.com/kao_ti2020/645/2021_2022_2010_E5_B9_B4_E8_81_8C_c91_645092.htm div id="mnb" class="llak"> Plant Gas Scientists have been studying natural sources of methane for decades but hadn't regarded plants as a producer, notes Frank Keppler, a geochemist at the Max Planck Institute for Nuclear Physics in Heidelberg, Germany¹. 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. Previously, researchers had thought that it was impossible for plants to make significant amounts of the gas. They had assumed that, microbes² 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. In its experiments, Keppler's team used sealed chambers 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. 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 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. Living plants growing at their normal temperatures released as much as 370 nanograms of methane per gram of plant tissue per hour. Methane emissions tripled when living and dead plant was exposed to sunlight. Because there was plenty of oxygen available, it's unlikely that the types of bacteria 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. The new finding is an

“interesting observation,” says Jennifer Y. King, a biogeochemist 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.

词汇: 百考试题论坛
methane/5meWein/n. 甲烷, 沼气 emission/i5miFEIn/n. 散发, 发射
geochemist n. 地球化学家 triple/5tripl/v. 增加三倍. adj. 三倍的
Celsius n. & adj. 摄氏(的) bacteria/bAk5tiEriE/n. (bacterium 的复数) 细菌
microbe/5maIkREJb/n. 微生物 nanogram n. 微克
biogeochemist n. 生物地球化学家 chamber/5tFeimbE(r)/n. 室, 房间.

腔 注释: 1. the Max Planck Institute for Nuclear Physics in Heidelberg, Germany: 马克思普朗克核物理研究所, 位于德国海德堡。海德堡系德国西南部城市, 在巴登-符腾堡州的内卡河畔。海德堡大学是德国历史最悠久的大学。 2. microbe: 细菌, 意义同bacterium(bacteria的单数形式)。但microbe不用作专门术语。 3. St. Paul: 圣保罗, 美国明尼苏达州首府。

练习: 来源: www.examda.com 1. What was scientists

understanding of methane? A It was produced from plants. B It was not a greenhouse gas. C It was produced in oxygen-free environments. D It traps more heat than any other greenhouse gas. 2. To test whether plants are a source of methane, the scientists created A an oxygen-free environment. B an environment with the same concentration of oxygen as the Earth has. C a carbon dioxide-free environment. D an environment filled with the greenhouse gas. 3. Which statement is true of the methane emissions of plants in the experiment? A The lower the temperature, the higher the amount of methane emissions. B Living plants release less methane than dried plants at the same temperature. C When exposed to sunlight, plants stop releasing methane. D The higher the temperature, the greater the amount of methane emissions. 4. Which of the following about methane is Not mentioned in the passage? A Plants growing in soil release methane. B Plants growing in water release methane. C Soil microbes consume methane. D Microbes in plants produce methane. 5. What is the beneficial point of some microbes consuming plant-produced methane? A Methane becomes less poisonous. B Methane is turned into a fertilizer. C Less methane reaches the atmosphere. D Air becomes cleaner. 相关推荐：把职称英语页面加入收藏 2009年职称英语考试试题及答案 点评专题 编辑推荐：为帮助广大学员有效备考，我们特推出了职称英语2010年网络辅导课程，相信会让大家有耳目一新的视听感受。现在报名职称英语辅导，赠送2009年精品课程及考试E币。点击查看详情》 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