2022年第29期总350期

农业与资源环境信息工程专题

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科技报告

1．先正达： 数字化农业以更少的成本实现更多的增长

中国农业科学院农业信息研究所
联系人：孔令博
联系电话： 010-82106786
邮箱：agri@ckcest.cn
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前沿资讯

1．Soil quality critical to help some U.S. crops weather heat stress from climate change(土壤质量对帮助部分美国作物抵御气候变化带来的热胁迫至关重要)

简介："At the same time that farmers are facing more extreme weather events caused by climate change they are dealing with the growing problem of soil degradation," says Debjani Sihi, first author of the study and assistant professor in Emory University's Department of Environmental Sciences. Sihi is a biogeochemist who studies environmental and sustainability issues at the nexus of soil, climate, health and policy. Globally, according to Sihi and her co-authors, 750 million people were undernourished in 2019 due to the effects of climate change, including a decline in food production, hikes in food prices and increased competition for land and water. And the problem of global food security is expected to intensify. World crop yields are projected to decrease by 25% overall within the next 25 years due to climate change, and yet global food production would need to double by 2050 to feed the projected growth in human population.

来源：ScienceDaily

发布日期:2022-07-12

全文链接:http://agri.ckcest.cn/file1/M00/03/37/CsgkOYclRqOAEu5ZAACM_HB6I3A519.pdf

2．G20: FAO says global threats to agrifood systems need complex approach(联合国粮农组织在G20集团会议上表示，应综合施策、应对农业粮食体系所面临的全球性威胁)

简介：The challenges undermining global food security call for a complex approach embracing investment, policy reforms and better use of resources, QU Dongyu, Director-General of the Food and Agriculture Organization of the United Nations (FAO) told a key meeting of the G20 today.“ Recent global events, from the COVID-19 pandemic to the climate crisis, multiple conflicts around the world and the war in Ukraine, have all heavily affected agrifood systems in multiple ways,” Qu told the G20 Sherpa meeting of senior government representatives. Qu cited the recently launched 2022 edition of the State of Food Security and Nutrition in the World (SOFI) Report, which confirms that world hunger has increased again in 2021, reflecting growing inequalities across and within countries. It says 828 million people suffered from hunger in 2021, an increase of 46 million from 2020, and 150 million from 2019 before the pandemic.

来源：FAO

发布日期:2022-07-10

全文链接:http://agri.ckcest.cn/file1/M00/03/37/CsgkOYcmKCSAD41jAAGlB7XeUfo199.pdf

3．Drone and satellite data in the world of seed breeding(全球种子育种领域的无人机和卫星数据)

简介：Remote sensing has a long track record of providing insightful information for agricultural purposes. For plant breeders, drones have become an indispensable tool to assess specific

characteristics of plants in experimental fields. But what if we take it one step further? Can satellites bring value to the world of seed breeding? Can we combine both satellite-based and drone-based services to link insights from experimental fields with insights from operational farmer fields regardless of the data source and at all stages of (and even before) the growing season? Discover how farm management systems like WatchITgrow can easily provide information on the performance of your variety on farmers' fields with a large variety of soil, climate and management practices.

来源：比利时法兰德斯清洁技术协会(VITO)

发布日期:2022-07-06

全文链接:http://agri.ckcest.cn/file1/M00/10/09/CsgkOGLPdV-APHEOAAVOWAlt-oo629.pdf

4．SMART research reveals promising uses of non-destructive sensors to aid food security and enhance sustainable agriculture(SMART的研究揭示了无损传感器促进粮食安全和农业可持续发展)

简介：植物病害对全世界的农业生产造成了重大经济损失。植物病害的早期检测对于促进粮食安全和可持续农业至关重要。在这方面，无损技术是实时监测植物健康状况最实用和可行的方法之一，非破坏性方法在测量中不需要样品制备和重复过程。在初期阶段预防植物病害有助于植物健康控制和优化作物产量，而无需依赖于农药的使用。农业智能传感器是智慧农业的关键核心技术之一。现代农业中，农业生产者需要实时、准确、全面地了解农田环境和农作物的生长状态，并对得到的农田信息数据做出相应分析、归纳和决策。新加坡-麻省理工学院研究与技术联盟(SMART)的破坏性和可持续农业精度技术(DiSTAP)跨学科研究组(IRG)的研究人员、新加坡材料研究与工程研究所(IMRE)的研究人员、以及新加坡国立大学(NUS)的研究人员共同发表了一篇综述，讨论了非破坏性植物健康监测方面的最新进展，以及为什么跟踪记录植物健康状况是一项可用来优化作物生长实践的可持续战略。本研究旨在为今后植物健康无损检测技术的发展提供参考。

来源：EurekAlert

发布日期:2022-06-30

全文链接:http://agri.ckcest.cn/file1/M00/03/37/CsgkOYcmHcqAKNVEAAGHKUjHiSM764.pdf

科技报告

1．SYNGENTA: Digitising agriculture to grow more with less(先正达： 数字化农业以更少的成本实现更多的增长)

简介：AgTech is a sector unlike any other. It involves the digitalisation of a lot of physical assets and typically spans over very vast, remote environments, which collectively have a huge role to play in the sustainability and climate agenda. At Syngenta, they thrive off innovation and offer solutions to fight climate change and tackle the challenge of feeding the world in a sustainable manner. As the Group Chief Information and Digital Officer (CIO and CDO) at Syngenta Group, Feroz Sheikh is guiding the organisation's entire digital transformation through technology.

来源：先正达公司

发布日期:2022-07-11

全文链接:http://agri.ckcest.cn/file1/M00/03/37/CsgkOYcmIiCAEiT-Au8S4XbU2GM207.pdf