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《农业信息化专题》专题快报

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《中国工程院战略咨询项目信息参考》是中国工程科技知识中心提供的一项信息推送服务，该服务组织专业团队，基于中国工程科技知识中心地理资源与生态专业分中心在工程科技领域积累的数据资源，面向战略咨询研究项目需求提供信息的搜集、整理、加工、推送服务。

该信息参考面向院士专家开放订阅，每两周一期，欢迎订阅。

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【动态信息】

1. 标题：智造农业、数联乡村 首届智慧农业博览会构筑国际化交流平台

【央视网】由农业农村部主办的首届智慧农业博览会昨天（4 月 25 日）在山东潍坊开幕，本届博览会主题为“智造农业 数联乡村”。

首届智慧农业博览会聚焦全球农业领域“高精尖特新”服务和技术，设立了包括智慧农业展区、数字乡村展区、粮食减损技术展区等六大展区，展示我国智慧农业发展成就和世界智慧农业前沿技术。

中联智慧农业数字农业研究院数字化主管 孙亚洲：我们主要聚焦大田作物特别是水稻，提供智慧农业整体解决方案，可以帮助他们节肥减药，实现降本增效。

链接：http://www.agri.cn/V20/ZX/nyyw/202304/t20230427_7978358.htm

2. 标题：提高农业统计精确度

【经济日报】近日，听基层干部讲起两件小事：在同一地级市，同一头牛，从甲县卖到乙县，牛没变，但上报到市级统计中，便成了两头；春耕时节，某一乡镇接到种植目标任务，小麦、玉米、马铃薯、中药材等作物分别不低于若干亩，总数一加，比全乡耕地面积都多。

小事听着有趣，却发人深思，越想越觉得并非小事。因为，养牛的地方太多了，种庄稼更是农村日常。如此统计，在更大范围内，有多少头牛被重复计数了？又有多少耕地的实际作物面积被目标“撑大”了？在脱贫地区，规模养殖和特色种植是农民增收的重要渠道，区域内产业发展的数据更是有关部门加强扶持措施的重要依据。一头牛、一亩地的数据不精确，累积后会影响区域内的产业规划和精准施策。

链接：http://www.agri.cn/V20/SC/jjps/202305/t20230504_7979568.htm

3. 标题：为加快建设农业强国而努力奋斗

【人民日报】在去年底召开的中央农村工作会议上，习近平总书记着眼全面建成社会主义现代化强国的全局大局，系统阐释了建设农业强国、加快推进农业农村

现代化、全面推进乡村振兴的一系列重大理论和实践问题，明确了当前和今后一个时期“三农”工作的目标任务、战略重点和主攻方向。今年中央一号文件提出：“要立足国情农情，体现中国特色，建设供给保障强、科技装备强、经营体系强、产业韧性强、竞争能力强的农业强国。”我们要把思想和行动统一到习近平总书记重要讲话精神和党中央关于“三农”工作的决策部署上来，把加快建设农业强国摆上建设社会主义现代化强国的重要位置，科学谋划和推进“三农”工作，始终把“三农”工作牢牢抓住、紧紧抓好，全面推进乡村振兴，为加快建设农业强国而努力奋斗。

链接：

http://www.agri.cn/V20/SC/jjps/202305/t20230504_7979573.htm

【文献速递】

1. 标题：双碳”目标背景下现代农业的困境与出路

作者： 张瑶

文献源：南方农机，2023

摘要：在“双碳”战略目标提出后，需要明确碳减排发展目标，考虑“双碳”战略实施对农业发展产生的影响，在农业发展过程中，需要制定完善的发展部署和发展决策。农业发展需要遵循“双碳”原则，明确农业生产绿色导向，促进“双碳”理念的稳定落实。笔者针对“双碳”目标背景下现代农业的困境和出路进行了研究，综合农业发展现状，提出了“双碳”目标下现代农业发展新路径。结果表明，我国农业排放未达标，要实现碳中和，必须主动转变农业发展机制，健全发展规划和发展决策，农业发展必须坚持“双碳”方针，实现低碳发展目标。

2. 标题：“互联网+”在农业技术推广中的作用与发展前景研究

作者： 赵恒杰，董建恩，徐勇

文献源：中国果菜，2023

摘要：我国是农业大国,果蔬产量巨大。农业技术推广是一个长期性的过程,不仅需要有效的方法,更需要良好的渠道,...

3. 标题：农业机械化对现代农业的影响

作者： 蒲宏林

文献源：南方农机，2023

摘要：农业机械在现代农业生产中扮演着关键的角色，为现代农业的发展提供重要动力。笔者概述了农业机械化的特征以及评价指标，从现代农业的角度出发，总结了农业机械化对现代农业产生的影响，即推动农业产业结构调整和农业可持续发展、提升农业效益，并提出了加强农业机械化的推广措施。结果表明，相关部门在大力推广农业机械化的同时，应当结合当地农业实际情况，拟定高效可行的机械化推广方案，与当地农业发展模式相融合，真正发挥农业机械化的作用，为农业现代化发展贡献更多的农机力量。

4. 标题：Climate change-induced aridity is affecting agriculture in Northeast Italy

作者：Eugenio Straffelini, Paolo Tarolli

文献源：Agricultural Systems，2023

摘要：CONTEXT

The Mediterranean basin and specifically Northeast Italy are recognised as climate change hotspots. The latter is a key socio-economic area in Europe among the most agriculturally productive. However, increasingly frequent drought periods (typical of drier climates) are threatening agriculture. An extreme event occurred in the summer of 2022. It dramatically affected northern Italy, through high temperatures, water shortages and indirect processes (such as saltwater intrusion in the Po River Delta).

OBJECTIVE

The objective is to map and quantify the agricultural areas in Northeast Italy at risk of climate zone shift due to human-induced climate change, providing a comprehensive overview of the main threatened agricultural systems and supporting the use of projections through historical data analysis.

METHODS

We compared the distribution of current (1980 > 2016) and future (2071 > 2100; RCP8.5 scenario) climate zones for 8 main agricultural systems in 14 key provinces in Northeast Italy. Further analyses were performed on historical data to support future

climate projections and to analyse agricultural drought during extreme events: (1) a multi-temporal Aridity Index (AI) to investigate aridification dynamics; (2) a focus on the 2022 event (drought and temperature extremes, a situation that is likely to occur more often in the future), combining a Vegetation Health Index (VHI) with a zonal investigation of high Land Surface Temperature (LST); (3) a climate focus for the Po River Delta cultural landscape.

RESULTS AND CONCLUSIONS

The results show that the climate in Northeast Italy is evolving towards drier conditions, posing a challenge to agriculture. The Adriatic coast could become an Arid zone, a finding in line with historical observations. Rice fields will be most at risk (76% of their surface could become Arid in the future), as well as the irrigated lands that are essential for food security (around 20% expected in the Arid zone). Worthy is what is foreseen for crops on slopes (often not irrigated), which may experience drier summers (60% of the surface).

SIGNIFICANCE

We identified the areas at risk of climate change at the farm scale in Northeast Italy, mapping where the threatened fields are located, what their extent is, and which agricultural systems are currently implemented. Such information would facilitate early action, guiding large-scale planning towards more resilient agriculture. Findings could promote sustainable water management plans, open the debate on which crops are worth growing based on future climate, and inspire more localised studies in the design of mitigation measures.

5. 标题：Towards a sustainable agriculture: Achievements and challenges of Sustainable Development Goal Indicator 2.4.1

作者：Suyu Liu

文献源：Global Food Security，2023

摘要：This short perspective reviews the development of Sustainable Development Goal (SDG) Indicator 2.4.1. The progress of developing SDG Indicator 2.4.1, such as defining the concept of sustainable agriculture and selecting sub-indicators, reflect the

achievements towards sustainable agriculture and the contribution of existing studies. However, the challenges and limitations of developing SDG Indicator 2.4.1 reflect the some difficulties to achieve sustainable agriculture. This short perspective calls for future interdisciplinary and multi-dimensional research on sustainable agriculture.

6. 标题：Comparing the effect of climate change on agricultural competitiveness in developing and developed countries

作者：Agus Dwi Nugroho，made Yoga Prasada，Zoltan Lakner

文献源：Journal of Cleaner Production，2023

摘要：Climate change and agriculture are inextricably linked and influence one another. Many studies have been conducted on the topic, but none have focused on developing and developed countries. This study aims to investigate the relationship between climate change and agricultural competitiveness in developing and developed countries. This study examined data from 71 developing countries and 24 developed countries from 1990 to 2020 used the three-stage least squares method. This study found that agricultural competitiveness raises temperatures in developing countries while decreasing temperatures in developed countries. The temperature change has the same effect in developing and developed countries, namely reducing the agricultural competitiveness. However, agricultural competitiveness in developed countries is more sensitive to temperature changes. Other explanatory variables have varying effects on temperature and agricultural competitiveness. We propose the use of technology in agricultural business management, as well as each country's commitment to increase agricultural competitiveness while manage rise in temperatures. Every country must also make efforts to maintain currency stability, be prudent in dealing with economic openness, increase agricultural labor productivity, and improve agricultural business actors' education.

【科技报告】

1. 对数字乡村研究的一次系统梳理——评《数字乡村建设通论》

摘要：数字乡村建设，是乡村建设行动的重要内容，是宜居宜业和美乡村的内在要求，是建设农业强国和数字中国的必然之举，其重要性不言而喻。但关于数字乡村建设的理论研究，总体而言是不充分的。从这个角度讲，《数字乡村建设通论》称得上是一本数字乡村研究领域更为全面的著述。通读全书后，我最强烈的感受是：该书不同于此前绝大部分研究成果，没有拘泥于数字乡村建设的一个环节或某个领域，也没有止步于对案例的集纳评析，而是以全局视角，从数字乡村的发展趋势、政策体系、建设思路、支撑技术、应用场景等不同维度深入地诠释了数字乡村的内涵和外延，对数字乡村建设实践有很强的引领性和指导性。

链接：

http://www.agri.cn/V20/ZX/nyyw/202304/t20230426_7978204.htm

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