中国工程科技知识中心
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# 《互联网农产品质量》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。

**本刊主编：**杨雅萍　　**本期编辑：**陈晓娜　辛颖
**电子邮箱：**geockcest@igsnrr.ac.cn　　**电话：**64888145
**通信地址：**100088　北京 8068 信箱，北京市西城区冰窖口胡同 2 号

## 【动态信息】

**1. 标题：首届农产品质量安全高峰论坛聚焦“互联网+”农产品质量安全管理**

【人民网】8 月 23 日，首届农产品质量安全高峰论坛在浙江省宁波市举行。来自国内农业大数据、电商、品牌建设、追溯管理及信息化监管领域的专家、学者们齐聚一堂，共同探讨如何推进“互联网+现代农业”发展，运用现代信息技术手段改造提升传统农业，创新变革农产品质量安全管理模式。

链接：**http://country.people.com.cn/n1/2019/0828/c419842-31322065.html**

**2. 标题：市场监管总局等 14 个部门联合开展 2019 年全国“质量月”活动**

【人民网】2019 年 9 月，市场监管总局联合中央宣传部、国家发展改革委、科技部、工业和信息化部、生态环境部、住房城乡建设部、交通运输部、农业农村部、商务部、文化和旅游部、国家卫生健康委、人民银行、国务院国资委等共 14 个部门，以“共创中国质量 建设质量强国”为主题，共同部署开展 2019 年全国“质量月”活动。

链接：**http://industry.people.com.cn/n1/2019/0902/c413883-31331781.html**

**3. 标题：一个草原上“农业国家队”的转型之路——内蒙古呼伦贝尔农垦集团高质量发展纪实**

【人民网】在呼伦贝尔农垦广袤的土地上，近年来，这个大草原上的农业国家队以绿色为导向，以科技为支撑，向特色产业要竞争力，向三产融合要效益，趟出了一条转型发展的新路子，释放出新时期农垦高质量发展的澎湃活力。

链接：**http://country.people.com.cn/n1/2019/0820/c419842-31306587.html**

## 【文献速递】

### 1. 利用甘蔗糖厂现有条件建设安装二维码防伪溯源体系的工程实践

作者：谭劲松，罗成武，陈勇，叶兵，吴恒锋，凌国士，陈书勤

文献源：轻工科技，2019

摘要：本文通过对某糖厂二维码防伪溯源体系建设安装工程实践的浅析表明,制糖企业完全可以利用现有包装车间的建筑和场地条件,采取“因地制宜、因势利导、因企施策、改造升级”的建设原则以适宜的成本和较短的时间上马二维码防伪溯源体系,在保障蔗糖制品的安全和广大消费者的基本权益方面具有积极的现实意义。

### 2. 关于农产品质量安全追溯管理平台推广应用的几点建议

作者：袁歆贻

文献源：农业科技与信息，2019

摘要：农产品质量安全追溯管理平台是保障农产品质量安全的一项工程,也是信息化时代强化农产品质量安全监管的有效手段。本文对农产品质量安全追溯管理平台推广应用提出了几点建议,以供参考。

### 3. 现代农业发展的现状及对策——以甘肃省张掖市甘州区为例

作者：刘玉环，庞静，闫盆吉，徐娅梅，龚志萍，焦杨

文献源：农业科技管理，2019

摘要：发展现代农业是促进农民增收的重要途径和乡村振兴的重要支撑,是满足农民小康生活需求的重要保证。文章阐述了张掖市甘州区现代农业发展的现状,分析了其现代农业发展中存在的问题,提出了围绕"谁来种地"的焦点,激发经营主体活力;坚持合作发展方向,推动农业规模生产;按照绿色安全标准,发展优势品牌农业;坚持科技兴农导向,提升科技驱动能力等促进甘州区现代农业可持续发展的对策。

### 4. From DNA barcoding to personalized nutrition: the evolution of food traceability

作者：Andrea Galimberti,Maurizio Casiraghi,Ilaria Bruni,Lorenzo Guzzetti,Pierluigi Cortis,Nadia Maria Berterame,Massimo Labra

文献源：Current Opinion in Food Science，2019

摘要：A genuine nutritional product is pivotal for getting proper health benefits and preventing pathologies. However, with the increase in global trading of raw and processed food products, reliable authentication is essential for correct labelling to ensure consumer safety. The use of DNA-based tools has become a prospective solution in the near future to solve this problem. Currently, technologies exploiting DNA polymorphism between species are able to characterize the food composition of pure (DNA barcoding) or multi-species (DNA metabarcoding) food items, and the application of this technology has started entering into food regulations. Here, we provide a brief overview of the history, success, and forthcoming applications of such approaches, while also considering the influence of food on human microbiota and the emerging trends toward the adoption of a ‘personalized nutrition’.

**5. Effects of fertilizers and pesticides on the mineral elements used for the geographical origin traceability of rice**

作者：LiliQian,Caidong Zhang,Feng Zuo,Lina Zheng,Dan Li,Aiwu Zhang,Dongjie Zhang

文献源：Journal of Food Composition and Analysis,2019

摘要：The application of fertilizers and pesticides significantly affects the contents of some mineral elements in rice. Excluding these mineral elements can improve the accuracy of traceability models of rice. With Longjing 31 (a rice variety) as the study object, we carried out field experiments with different dosage levels of fertilizers and pesticides in Jansanjiang, China. The mineral elements in rice were determined by inductively coupled plasma mass spectrometry (ICP-MS). The effects of different dosage levels of fertilizers and pesticides on the mineral elements in rice were compared through single factor analysis of variance. The elements significantly influenced by fertilizers were Fe, Co, Ni, Se, Rh, Eu, Pr, Tl and Pt. The elements significantly affected

by pesticides were Al, Co, and Ni. These elements should be excluded in geographical origin tracing. The predictions of the geographic origin made by Fisher discrimination after excluding the above elements gave an overall correct classification rate of 98.9% and a cross-validation rate of 97.8%. Therefore, it is necessary to exclude mineral elements significantly affected by fertilizers and pesticides in the geographical origin traceability of rice.

**6. Future challenges on the use of blockchain for food traceability analysis**

作者：Juan F.Galvez,J.C.Mejuto,J.Simal-Gandara

文献源：TrAC Trends in Analytical Chemistry，2018

摘要：The steady increase in food falsification, which has caused large economic losses and eroded consumers' trust, has become a pressing issue for producers, researchers, governments, consumers and other stakeholders. Tracking and authenticating the food supply chain to understand provenance is critical with a view to identifying and addressing sources of contamination in the food supply chain worldwide. One way of solving traceability issues and ensuring transparency is by using blockchain technology to store data from chemical analysis in chronological order so that they are impossible to manipulate afterwards. This review examines the potential of blockchain technology for assuring traceability and authenticity in the food supply chain. It can be considered a true innovation and relevant approach to assure the quality of the third step of the analytical processes: data acquisition and management.

**7. A traceability chain algorithm for artificial neural networks using T–S fuzzy cognitive maps in blockchain**

作者：Rui-Yang Chen

文献源：Future Generation Computer Systems，2018

摘要：Blockchain acts on a big data analytics because transaction data belongs to streaming data and high-dimensional data from distributed computing network. Accordingly, such operation produces irrelevant data problem and further poorly

optimized traceability in blockchain. So, we claim that the artificial intelligence of blockchain mining algorithm like traceability chain algorithm runs faster than consensus algorithm because of inference mechanism. Our main goal is to reach traceability decision not consensus decision as fast as possible. Thus, this article proposes a novelty approach called Takagi–Sugeno Fuzzy cognitive maps ANN as traceability chain algorithm. The numerical example of the proposed algorithm in blockchain mining is evaluated and optimized decisions experiment is analyzed. Objective functions for optimized decision computation is described as participant nodes constraint method. Thus contribution succeeds in meeting the reduction mining efforts for the traceability chain being processed. Our findings also provide a preliminary indication of deep learning applied big blockchain transactions data.

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**电子邮箱：**geockcest@igsnrr.ac.cn　　**电话：**64888145
**通信地址：**100088　北京 8068 信箱，北京市西城区冰窖口胡同 2 号