

《中国农业发展战略研究》专题快报

2019年第8期（总第24期）

中国工程科技知识中心农业分中心

中国农业科学院农业信息研究所

2019年4月20日

【动态资讯】

1. Minnesota to regulate nitrogen fertilizer application

【AgroNews】Minnesota is poised to regulate commercial nitrogen fertilizer for the first time ever next year. After over two years of debate, revisions, and political struggle, the Minnesota Department of Agriculture's (MDA) nitrogen fertilizer rule is on track to be approved this May and take effect on January 1, 2020. The nitrogen fertilizer rule has two parts. First, in areas of the state with vulnerable groundwater - including most of Southeast Minnesota - or where public wells are contaminated with nitrates, the rule would ban farmers from applying nitrogen fertilizer in the fall or when the ground is frozen. Second, the rule requires farmers in areas surrounding public wells - called drinking water supply management areas (DWSMAs) - to use nitrogen fertilizer best management practices (BMPs) if the nitrate pollution levels in those wells get close to the state health limit. That limit is 10 micrograms per liter, and the second part of the rule includes a system of progressive requirements that gets stricter as nitrate pollution in nearby wells worsens. When nitrate levels reach eight micrograms per liter and above, the MDA would order farmers to follow BMPs or other practices intended to reduce nitrogen pollution. Those orders could restrict farmers from applying more nitrogen than the University of Minnesota (U of M) guidelines recommend.

链接:

<http://news.agropages.com/News/NewsDetail---30126.htm>

2. 通河县推广高寒地区秸秆就地腐解技术

【中国农业新闻网】本报讯（记者刘伟林）近日，在黑龙江省通河县春季稻秸秆腐熟剂喷施现场会上，技术人员正将稀释好的腐熟剂喷洒到800亩未经过秸秆处理的水田上。

在接下来的20多天里，腐熟剂将把这些秸秆就地腐解，随着稻田泡地打浆作业，地里的残留秸秆将在腐熟剂的作用下完成低温转肥，被腐熟的秸秆将转化为有机肥。这项技术最大特点是秸秆腐熟不离田，大大降低了秸秆处理的成本，腐熟的秸秆还能转化为有机肥，增强地力。这种腐熟剂在春秋两季都可以施用，只要室外温度保持零度以上，腐熟剂便可发挥效力。当温度降到零度以下，腐熟剂就进入休眠状态，等到气温回升，它还可以继续腐熟秸秆。且腐熟剂适用绝大多数纤维素类农作物秸秆，如水稻、玉米、大豆、高粱等。目前这项技术已获得农业农村部及省质监部门的技术认证。经农业农村部微生物检验所检测，腐熟剂可以在20天左右将秸秆腐解，并不影响下茬作物作业活动。每吨秸秆转化成肥料后相当于120斤碳铵、100斤过磷酸钙、90斤硫酸钾，在还田的第一年即可实现每亩地节约肥料投入25元。秸秆还田后的第二年作物均增产5%，到第三年后，作物平均增产5%-10%。

链接:

http://www.farmer.com.cn/jjpd/nz/nzdt/201904/t20190416_1439787.htm

3. 绿色循环优质高效特色农业促进项目进展顺利 今年继续在山西、吉林等十省区开展试点

【中华人民共和国农业农村部】4月12日，农业农村部在北京举办2018-2019年绿色循环优质高效特色农业促进项目实施交流活动。今年，农业农村部和财政部继续选择山西、吉林等10个省区开展试点，在总结经验的基础上，完善项目实施路径，确保项目取得实效，探索一批特色产业高质量发展之路。会议指出，项目实施要把握几个要点：一是选准主导产业，根据本地资源条件，选择1-2个优质特色产业，相对集中连片、规模适中。二是打造全产业链，前端基地建设规模化、标准化、绿色化，中端重点发展初加工、精深加工和综合利用加工，后端形成产加销一体、农文旅结合、一二三产融合发展格局。三是培育经营主体，重点引入农业产业化龙头企业，同时注重培育合作社和家庭农场。四是创响特色品牌，按照“有标采标、无标创标、全程贯标”的要求，全程推进标准化生产、质量控制和可追溯制度，创响一批“乡字号”“土字号”特色农产品品牌。五是构建利益联结机制，通过契约型、分红型、股权型等形式，与农民建立紧密的利益关系，主动做给农民看，带着农民干，帮着农民赚。

链接:

http://www.moa.gov.cn/xw/zwdt/201904/t20190415_6179296.htm

4. Indian state turns to drones to modernise agriculture

【AgroNews】In order to increase agricultural production with the help of precision farming

technologies, the Indian state of Maharashtra turns to drones. The Maharashtra state government has been looking to work together with drone companies. A workshop was held in November 2018, where the process of drone mapping was studied for irrigation and agricultural use. Drone mapping to improve irrigation systems, with farmers suffering from drought, drone mapping can be used to improve irrigation systems and agricultural yields. Predict crop yield, The high-resolution multi-spectral images from drones, coupled with artificial intelligence and machine-learning, help to gain insight into plant health, soil conditions and can help to predict crop yield. Remote sensing data, The data collected by drones is combined with satellite-based remote sensing data. Soil-based sensor data can provide actionable insights to take timely action to prevent losses from crop disease, optimise irrigation and reduce the impact of climate change and unpredictable seasonal variations.

链接:

<http://news.agropages.com/News/NewsDetail---30057.htm>

5. Pre-crop values from satellite images to support diversification of agriculture

【 AgroNews 】 Pre-crop values for a high number of previous and following crop combinations originating from farmers' fields are, for the first time, available to support diversification of currently monotonous crop sequencing patterns in agriculture. The groundbreaking method utilizing satellite images was developed by Natural Resources Institute Finland (Luke) in collaboration with Finnish Geospatial Research Institute (FGI). Luke has developed together with FGI a dynamic method to derive Normalized Difference Vegetation Index (NDVI) values to estimate pre-crop values on a field parcel scale from open Copernicus Sentinel-2 data. "The method is based on estimation of NDVI-gap, which was originally developed for Luke's Land Use Optimization -tool available for each Finnish farmer on EconomyDoctor-portal", says Research Professor Pirjo Peltonen-Sainio. Pre-crop value is a measure that indicates the benefits of a previous crop for a subsequent crop in crop sequencing. Thereby, understanding on pre-crop values facilitates diversification of crop production. This again is a core measure for sustainable intensification of agricultural systems.

链接:

<http://news.agropages.com/News/NewsDetail---30054.htm>

6. Where will flooded fields best replenish groundwater?

【 Stanford's School of Earth, Energy & Environmental Sciences 】 Overpumping in California's Central Valley has depleted groundwater storage capacity and caused the land to sink. A new model based on remote sensing data could help zero in on where water managers can replenish aquifers by flooding fields. In California, the amount of water exiting aquifers under the state's most productive farming region far surpasses the amount of water trickling back in. That rampant overdraft has caused land across much of the region to sink like a squeezed out sponge, permanently depleting groundwater storage capacity and damaging infrastructure. New research from Stanford University suggests a way to map precisely where and how to use groundwater recharge to refill the aquifers and stop the sinking.

链接:

<https://earth.stanford.edu/news/where-will-flooded-fields-best-replenish-groundwater>

7. How much nature is lost due to higher yields?

【 Helmholtz Centre for Environmental Research - UFZ 】 The exploitation of farmland is being intensified with a focus to raising yields. The degree to which yields actually increase as a result and the extent of the simultaneous loss of biological diversity have to date been under-researched factors. An international team of scientists led by the UFZ has now evaluated data from worldwide research in which both yield and biodiversity were examined before and after intensification measures. The findings of this meta-analysis have now been published in the journal *Global Change Biology*. Around 80 percent of land area in Europe is used for settlement, agriculture and forestry. In order to increase yields even further than current levels, exploitation is being intensified. Areas are being consolidated in order to cultivate them more efficiently using larger machines. Pesticides and fertilisers are increasingly being used and a larger number of animals being kept on grazing land. "Such measures increase yield but, overall, they also have negative impacts on biodiversity," says UFZ biologist Dr. Michael Beckmann. "This is because even agricultural areas offer fauna and flora a valuable habitat - which is something that is frequently not sufficiently taken into consideration." In addition, previous studies have mostly examined the effects of intensified land use only from one perspective: either with regard to the increase in yield or the loss of biodiversity. "We unfortunately still know far too little about the relationship between the two and what price nature ultimately has to pay for increases in yield," says Beckmann. In

the recent study, the team of scientists aimed to address this knowledge gap.

链接:

https://www.ufz.de/index.php?en=36336&webc_pm=18/2019

8. 国际食品法典农药残留委员会第51届年会在澳门召开

【中华人民共和国农业农村部】本网讯 4月8日,国际食品法典农药残留委员会(CCPR)第51届年会在澳门开幕,这是我国自2006年担任CCPR主席国以来主办的第13次会议。农业农村部副部长张桃林、澳门特别行政区经济财政司司长梁维特、世界卫生组织代表Soren Madsen先生出席开幕式并致辞,开幕式由CCPR主席乔雄梧主持。张桃林表示,近年来,中国政府修订农药管理规制,完善技术标准,强化农药管理,取得了明显成效。一是产品结构不断优化,高毒农药比例下降至1%;二是科学使用水平不断提高,农药使用量连续4年负增长;三是标准体系日趋完善,国家农药残留标准总数突破7000项。中国政府将继续坚持新发展理念,深化农业供给侧结构性改革,满足消费者日益增长的对优质绿色农产品的需求。

链接:

http://www.moa.gov.cn/xw/zwdt/201904/t20190409_6178444.htm

9. 农业农村部副部长余欣荣在农业绿色发展研讨会上强调 加快推动农业绿色发展 促进乡村振兴战略实施

【中华人民共和国农业农村部】本网讯 4月3日,农业绿色发展研讨会在北京召开。农业农村部副部长余欣荣在会上强调,要深入学习领会习近平总书记关于推进农业绿色发展是农业发展观的一场深刻革命的重要论述,对标2020年必须完成的目标任务,进一步提高思想认识,理清发展思路,明确工作重点,强化支撑保障,更好地推动农业绿色发展,促进乡村振兴战略实施。会议强调,要聚焦农业绿色发展2020年必须完成的硬任务,加大工作力度,加快补齐短板。切实加强组织领导,把绿色发展作为农业农村工作的重要理念和原则。认真总结第一批40个国家农业绿色发展先行区建设经验和模式,研究启动第二批先行区的认定工作,推动出台农业绿色发展的相关支持政策。要加强农业绿色发展监测和考核,尽快研究提出农业绿色发展指数,建立农业绿色发展监测体系,更多地用定量分析的办法对农业绿色发展开展评价。要加强理论研究和科技攻关,尽快出台一批农业绿色发展理论成果和关键技术。

链接:

http://www.moa.gov.cn/xw/zwdt/201904/t20190404_6178064.htm

10. 土壤医生”破解农田“营养过剩”难题

【中国农业新闻网】近年来，我国大棚蔬菜生产发展极为迅速，逐渐成为农业增效、农民增收的重要渠道。但随着大棚种植年限的增加，蔬菜种植普遍从“高产高效”变成“低产低效”，不少瓜农为了促进生产，加大肥料的使用量，却陷入“越不长越施肥，越施肥越不长”的生态怪圈。大棚生产“营养过剩”问题又称为土壤次生盐渍化，是指由于不合理的耕作灌溉而引起的盐分积累在土壤表层的现象。实验表明，每亩农田残留的化肥养分只要达到200公斤，就可以使表层5厘米土壤中肥料离子的浓度达0.5%，部分植物生长就会受到影响，因为农作物喜欢的肥料离子总浓度仅在0.1%~0.3%之间。实验证明，利用接种微生物的秸秆、米糠等含碳有机物料进行生态控盐的效果十分显著，不仅可以有效降低土壤硝酸盐含量，还能有效利用土壤盐分，降低肥料使用量，可从根本上解决设施蔬菜土壤次生盐渍化问题，在对作物秸秆回收高效再利用的同时，让“秸秆回田”变得更有价值。

链接:

http://www.farmer.com.cn/jjpd/nz/fl/201903/t20190322_1438588.htm

【文献速递】

1. Detecting vegetation stress as a soil contamination proxy: a review of optical proximal and remote sensing techniques

作者: A. Gholizadeh; V. Kopačková

文献源: International Journal of Environmental Science and Technology ,2019

摘要: Soil contamination is a worldwide crisis, which diminishes food and agricultural production. Alterations in the soil environment due to soil contamination cause biophysical and biochemical changes in vegetation. Due to dynamic nature of these changes, early monitoring can permit for preventive interferences before intense and sometimes inevitable vegetation and soil problems occur. As plants are rooted in soil substrate, vegetation changes can be used as bio-indicators of soil conditions. Traditionally, vegetation changes have been usually determined by visual analysis or detected after major destructive sampling during the growth period. As the characteristics of vegetation influence its spectral properties, effective remote and non-contact detection methods offer an alternative and near real-time way for detecting plant changes, even prior to visual symptoms and negative effects appearance. The aim of the current study is to review the potential of optical proximal and remote sensing techniques at different platforms for indirect assessment of plant-soil interactions via monitoring vegetation anomalies related to soil contamination. It is strongly felt that this rapidly progressing technological direction will permit extending the

use of the techniques to geology, soil science and precision agriculture and an overall broad range of applications.

链接:

http://agri.ckcest.cn/file1/M00/06/69/Csgk0Fy1M6uAcleKAA0BW7EU_qg221.pdf

2. 中国农产品贸易 40 年回顾与展望

作者: 李晓依; 张小瑜

文献源: 农业展望,2019

摘要: 改革开放40年来,中国农产品对外贸易取得了令人瞩目的成就。通过回顾中国农产品贸易的发展历程,分析农产品贸易规模、产品结构和市场结构等变化趋势及动因,对农产品贸易发展前景提出展望。未来国际贸易保护主义抬头,贸易环境更趋复杂;传统优势农产品竞争力减弱,进口将持续增长;市场进一步开放,多元化趋势将愈加明显。

链接:

<http://agri.ckcest.cn/file1/M00/06/69/Csgk0Fy1Nj6AZPn0AAAtfyt75Ee8406.pdf>

3. 京津冀生态环境管控分区与差别化准入研析

作者: 李倩; 汪自书; 刘毅, 等.

文献源: 环境影响评价,2019

摘要: 京津冀地区是国家推动区域协同发展和建设世界级城市群的战略指向区,也是全国重要的人居安全功能保障区和生态修复环境改善示范区,推动区域环境质量改善的任务艰巨。生态环境综合分区在系统评估区域生态环境禀赋和承载状况的基础上,实现区域分区差异化环境管理,是推动区域国土空间环境管理的重要手段。以京津冀地区为例,在综合承载力评估的基础上,从生态保护空间、环境控制分区和人居安全管控分区三个维度,通过综合叠图和空间分析等手段,划定了京津冀地区生态环境综合管控分区,包括52个一级分区和443个二级分区,并提出了不同分区的差异化环境准入要求。

链接:

<http://agri.ckcest.cn/file1/M00/06/69/Csgk0Fy1Nx2AClvpAAaatXhqXx4781.pdf>

4. Going green vs going smart for sustainable development: Quo vadis?

作者: Paola Gazzola; Ainhua Gonzalez Del Campo; Vincent Onyango

文献源: Journal of Cleaner Production,2019

摘要: To date, sustainable development has been the most important discourse informing planning, a powerful rhetoric for solving environmental problems that shows confidence in

human ingenuity and technological advancements. However, recent advances in information and communication technologies, are prompting the development of smart(er) approaches to (sustainable) development, which might be signifying a departure from the more traditional, or perhaps earlier, greener narratives under pinning sustainable development. Within this context and informed by analysis of the literature, this paper aims to reflect on the extent to which ideas of going green and going smart are converging or diverging from the path towards sustainable development. This is done using convergence theory and Bennet's typology (1991) of similarities as an analytical framework. The findings suggest that the convergence of greening and smart ideas for sustainable development might be better achieved if smart-centric approaches to policy- and planning are subsumed in the overarching vision of environmental quality and resilience, with green approaches to urban development setting the path and driving decisions towards a sustainable future.

链接:

<http://agri.ckcest.cn/file1/M00/06/69/Csgk0Fy1KeeAOkwMAAnKVGQZaZs400.pdf>

5. 农业增长与环境污染的动态分析——基于 2006—2015 年面板数据的验证

作者: 高如梦; 杜江; 李晓涛

文献源: 中国农业资源与区划, 2019

摘要: [目的]近年来,我国农业面源污染形势严峻,已经成为现代农业发展的瓶颈。文章主要分析农业面源污染与经济增长的关系,寻求解决农业面源污染问题的有效方法,在一定程度上为我国农业可持续发展和环境治理提出相关政策建议。[方法]选取2006—2015年全国31个省(省份、自治区)的面板数据,以农药、化肥、塑料薄膜流失量作为农业污染排放的主要指标,建立简约式模型考察农业环境的库茨涅茨曲线特征。[结果](1)农业环境库茨涅茨曲线在我国基本得到支持。化肥流失量、农药流失量、塑料薄膜残留量与农业总产值间均存在显著的倒U型曲线关系,除了山东、河南部分年份达到了农药、塑料薄膜污染方程的拐点之外,其余所有省份农业总产值均低于拐点值。(2)在方程中加入控制变量不影响模型的显著性,只是改变了转折点的出现。(3)城镇化水平的提高会减少农药、化肥的使用量但却增加了塑料薄膜的使用量。农业机械化拥有量系数不显著,农业技术进步环境效应并未得到充分发挥。[结论]十三五时期我国农业整体污染程度还会进一步加深,要想真正达到农业产出增长与环境相互协调的目的,必须同时从农业污染和农业要素投入两个方面着手。

链接:

<http://agri.ckcest.cn/file1/M00/06/69/Csgk0Fy1NcSAO8vxAASjexXb8a0711.pdf>

6. 基于“生态保护红线、环境质量底线和资源利用上线”的区域环境管控体系构建思路——以珠三角地区为例

作者: 石海佳; 许乃中; 张玉环, 等.

文献源: 环境影响评价,2019

摘要: 如何将“生态保护红线、环境质量底线、资源利用上线和环境准入负面清单”与相关政府部门已有的生态文明制度和目标体系有效衔接,并将其应用到多层次行政单元组成的区域和流域,是当前战略环境评价实践应用领域亟待发展的重要方向。研究以珠三角地区为例,基于区域工业化、城镇化发展水平和资源环境压力,将珠三角21个地级市划分为6种环境管控单元类型,包括特大型中心城市、城市群重点城市、亚区域中心城市、发展热点城市、沿海经济带城市和生态屏障功能城市,结合各级政府中长期规划体系和污染防治行动计划等近期环境保护重点工作中的分区管控相关思路和要求,提出了针对区域总体和6种环境管控单元类型对应的生态保护红线比例、环境质量底线、生态风险管控、资源利用上线以及相应的产业退出和准入建议。研究重点强化了优化发展区的发展规模管控要求,探讨了土地更新过程的产业退出负面清单要求。

链接:

<http://agri.ckcest.cn/file1/M00/06/69/Csgk0Fy1N4yAUaelABED9D-LuZ8862.pdf>

7. 中国农产品贸易特征与发展趋势

作者: 韩晨雪; 陈珏颖; 刘合光

文献源: 农业展望,2019

摘要: 近年来,中国农产品进出口发展不平衡,贸易逆差持续扩大,贸易总规模自2014年后开始下降。中国农产品出口以有比较优势的劳动密集型高价值农产品为主,出口市场结构集中度较高,进口市场则比较分散。未来,国内农产品需求缺口短时间内无法弥补,农产品价格或将继续走强;中国贸易结构和特征优势短时间内不变,进出口结构将呈分散化发展。

链接:

<http://agri.ckcest.cn/file1/M00/06/69/Csgk0Fy1NrSAYo4KACIJXzAB0NE176.pdf>

8. Iranian agriculture advisors' perception and intention toward biofuel: Green way toward energy security, rural development and climate change mitigation

作者: Jafar Yaghoubi; Masoud Yazdanpanah; Nadejda Komendantova

文献源: Renewable Energy,2019

摘要: Agricultural professionals play an important role in informing and educating farmers about biofuel through teaching or extension work. One of the questions commonly asked is

if they are knowledgeable and possess positive attitude towards renewable energy sources. The aim of this article is to investigate Agricultural professionals' attitude and willingness towards biofuel using a random sample of professionals (n=180) in a survey conducted in Zanjan province in Iran. Structural equation modeling showed that “Outcome efficacy”, “problem perception” and “perceived benefits” can significantly predict just about 38% variance of Agricultural professionals' personal norm. In turn, personal norm can predict 35% variance of Agricultural professionals' willingness. The findings yield public policy recommendations for stimulating biofuel extension and deployment among Agricultural professionals

链接:

<http://agri.ckcest.cn/file1/M00/06/69/Csgk0Fy1LFKARpIXAAaQSipl3eI451.pdf>

9. Green growth and structural change in Chinese agricultural sector during 1997–2014

作者: Zhiyang Shen; Tomas Baležentis; Xueli Chen, et al.

文献源: China Economic Review,2019

摘要: Green growth has become a new direction for Chinese economic development in the 21st century. Indeed, sustainable agricultural development is particularly important in China due to limits on resources and the presence of the largest population in the world. In this paper, we propose a novel decomposition of the overall inefficiency into three components of technical, mix, and scale effects at aggregate level by allowing for desirable and undesirable outputs in a non-parametric framework. We empirically investigate economic and environmental performance associated with resource misallocation (represented by input/output mix) in Chinese agricultural sector across the 31 provinces over the period 1997-2014. Our results show that average overall inefficiency in Chinese agricultural sector is 9.13% during the sample period, which suggests there exists a 7.94% possible improvement for gross output value and 1.19% potential reduction for carbon emission. Moreover, we find inefficiency is mainly due to the mix effect that requires an improvement in reallocation of inputs and this may be related to the ongoing supply side structural reforms in China. We also present a dual model of by-production technology for shadow price analysis and report upward trended carbon abatement costs in Chinese agriculture.

链接:

<http://agri.ckcest.cn/file1/M00/06/69/Csgk0Fy1LWOO5IAAtAF0WzsO0434.pdf>

10. How effective is greening policy in reducing GHG emissions from agriculture? Evidence from Italy

作者: Roberto Solazzo; Michele Donati; Licia Tomasi, et al.

文献源: Science of the Total Environment, 2019

摘要: Agriculture contributes significantly to greenhouse gas (GHG) emissions, accounting for more than 10% of total CO₂ emissions in the EU-28 area. The Common Agricultural Policy (CAP) plays an important role in promoting environmentally and climate friendly practices and needs to respond to the new environmental challenges by better integrating its objectives with other EU policies. In this respect, the recent CAP reform 2014-2020 made a further step, making a large part of direct payments conditional on new agricultural practices beneficial for the climate and the environment, i.e. "greening". In this study we estimate the potential environmental benefits from greening in terms of GHG emissions in four regions of Northern Italy, one of the major European agricultural areas in terms of emissions. The emissions were quantified and broken down into the three main GHGs (carbon dioxide, methane and nitrous oxide) per production process. This information was subsequently used in a Positive Mathematical Programming (PMP) farm-based model on more than 3,000 farms, to estimate the effects of greening on regional land use and its contribution in reducing the total emissions. The new agri-environmental constraints produce a modest abatement of total emissions of greenhouse gases (-1.5%) in the analyzed area. The model estimates a reduction in CO₂ emissions of about 2%. Emissions from nitrous oxide show a decrease of 2.1% and the reduction in the methane is about 0.4% compared to the observed scenario. The process of "lightening" that affected the greening during the CAP negotiation has inevitably resulted in missing an opportunity to introduce a significant positive change of behaviour into agriculture, in line with the expectations and needs of society for EU agriculture as a provider of public goods.

链接:

<http://agri.ckcest.cn/file1/M00/06/69/Csgk0Fy1NMuAfJhVACULouqXWA003.pdf>

【行业报告】

1. FY2014 Annual Report National Program 212 – Climate Change, Soils, and Air Emissions

发布源: United States Department of Agriculture

发布时间: 2018-01-30

摘要: National Program (NP) 212, Climate Change, Soils and Emissions conducts research to improve the quality of atmosphere and soil resources that both affect and are affected by

agriculture, to understand the effects of climate change on agriculture, and to prepare agriculture for adaptation to climate change. Agricultural systems function within the soil-atmosphere continuum. Mass and energy exchange processes occur within this continuum and agriculture can significantly affect the processes. Emissions from agriculture to the atmosphere affect air quality and increase atmospheric greenhouse gas (GHG) concentrations. While GHG emissions result from the natural cycling of carbon (C) and nitrogen (N), these emissions also contribute to climate change. A changing climate impacts agriculture, range and pasture systems, and soils through alterations in precipitation and temperature patterns, and increased atmospheric carbon dioxide (CO₂) concentration. The impacts of climate change create challenges to agriculture and its soil resources, and also offer new opportunities for agricultural production and enhancement of soil quality.

链接:

<http://agri.ckcest.cn/file1/M00/06/69/Csgk0Fy1YLKARTI3AAFBUwKqf4240.pdf>

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