

## 《中国农业发展战略研究》专题快报

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中国工程科技知识中心农业分中心

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### 【动态资讯】

#### 1. Bayer will continue to support green and digital development of China's agriculture

**【AgroNews】** German company Bayer's agriculture division Bayer Crop Science in China and China's National Agricultural Technology Extension Service Center (NATESC) under the Ministry of Agriculture jointly launched the Action Plan for Enhancing Green Development Capability in Beijing on Wednesday. The plan, a large non-profit training project co-sponsored by Bayer and the NATESC, is an important topic under the framework of Sino-German agricultural cooperation. To respond to the needs of green and quality development in Chinese agriculture, it aims to build green development capacities among key players, such as local officials and technicians in agriculture, executives in new types of agribusinesses, serve organizations and lead in co-operatives. The project will be implemented for five years from 2019, covering all provincial regions. In an interview with China Daily Website on Tuesday, Jesus Madrazo, a member of Bayer's executive leadership team and head of Agricultural Affairs and Sustainability for the Crop Science division of Bayer, said the company, sensing tremendous opportunities in China, is constantly looking for opportunities to expand its operations in China.

链接:

<http://news.agropages.com/News/NewsDetail---29574.htm>

#### 2. Biodiversity crisis: Technological advances in agriculture are not a sufficient response

**【EurekAlert!】** Leipzig, Halle. Rapid population and economic growth are destroying biological diversity - especially in the tropics. This was reported by a research team led by the German Centre for Integrative Biodiversity Research (iDiv) and the Martin Luther

University Halle-Wittenberg (MLU) in Nature Ecology & Evolution. A constantly growing demand for agricultural products requires ever new cultivated areas. Even though technological advances are making agriculture ever more efficient, the growing number of people makes up for these successes. The study shows: an effective nature conservation policy needs concepts against population growth and for sustainable consumption. World population and the global economy are growing. People want consumer goods and food. As a result, more and more land is needed and nature is converted into fields and plantations: a threat to biodiversity and the ecosystem services that nature provides to humans. The usual response by policy makers to this sustainability challenge is to promote increases in agricultural and forestry efficiency through technological methods. But is this enough?

链接:

[https://www.eurekalert.org/pub\\_releases/2019-03/gcfi-bct030419.php](https://www.eurekalert.org/pub_releases/2019-03/gcfi-bct030419.php)

### **3. Researchers discover sustainable and natural alternative to man-made chemical pesticides**

**【EurekAlert!】**Repurposing a strain of beneficial bacteria could offer a safe, sustainable and natural alternative to man-made chemical pesticides, according to research from Cardiff University. Finding natural approaches to sustain agriculture and food production is a major global challenge. Synthetic chemical pesticides have traditionally been used to protect crops, but there are growing concerns around their toxicity and the threat they pose to ecosystems. Using genomic techniques, the team of researchers discovered that Burkholderia ambifariabacteria have the potential to be used as biopesticides that are both effective and safe. Biopesticides offer a natural means of protection and the group of bacteria called Burkholderia have been successfully used to protect crops against diseases. However, in the 1990s, Burkholderia bacteria were linked to serious lung infections in people with cystic fibrosis (CF), leading to concerns about their safety and eventual withdrawal of these biopesticides from the market.

链接:

[https://www.eurekalert.org/pub\\_releases/2019-03/cu-rds030119.php](https://www.eurekalert.org/pub_releases/2019-03/cu-rds030119.php)

### **4. A faster, more accurate way to monitor drought**

**【EurekAlert!】** DURHAM, N.C. -- More than 2 billion people worldwide are affected by water shortages, wildfires, crop losses, forest diebacks or other environmental or economic

woes brought on by drought. A new monitoring method developed at Duke University allows scientists to identify the onset of drought sooner -- meaning conservation or remediation measures might be put into place sooner to help limit the damage. "By combining surface and air temperature measurements from thousands of weather stations and satellite images, we can monitor current conditions across an entire region in near real time and identify the specific places where drought-induced thermal stress is occurring," said James S. Clark, Nicholas Professor of Environmental Sciences at Duke's Nicholas School of the Environment. Clark and his colleagues have created a free public website, called Drought Eye, where they post monthly maps pinpointing locations across the continental United States where drought conditions may be occurring, based on the latest thermal stress data.

链接:

[https://www.eurekalert.org/pub\\_releases/2019-03/du-afm030419.php](https://www.eurekalert.org/pub_releases/2019-03/du-afm030419.php)

## 5. 用创新和数字化带给农业更多绿色

【中国农业网】拜耳收购孟山都后，成为全球最大的种子和农用化学品供应商，全球农化行业也呈现全新竞争格局。作为农业行业领军企业，拜耳的一举一动都备受业内关注。其在全球乃至中国农化市场是如何布局？在助力农业可持续发展方面做了哪些探索？今后又将在哪些领域重点发力？针对这些问题，记者日前专访了拜耳作物科学农业事务及可持续发展全球副总裁 Jesus Madrazo。实现农业绿色发展唯有创新。在谈到中国农业市场时，Jesus Madrazo表示，中国政府高度重视农业发展，而且中国农业也取得了令人瞩目的发展成绩，现在更多地把重点放在了品质的提升以及对环境更加友好上。拜耳认为，对于新技术和新的经营模式、数字化农业，国家也在大力支持产业的发展 and 升级。无论是对食品安全的需求，对绿色农业、环境保护的需求，都促使整个农业行业从业者更多地投入，改善、升级自己的产品和技术。Jesus Madrazo认为，要实现农业绿色发展这一目标，创新起着非常关键的作用，只有在创新上更好地投入，才能帮助农户用更加创新的技术实现更可持续发展的目标。

链接:

<http://www.agronet.com.cn/News/1277601.html>

## 6. 农业农村部部署村庄清洁行动春季战役

【中华人民共和国农业农村部】本网讯 3月1日，农业农村部在京召开“开展好村庄清洁行动春季战役视频会”。农业农村部副部长余欣荣在会上强调，各地要切实把握思想和行

动统一到党中央、国务院的决策部署上来，从树牢“四个意识”、坚决做到“两个维护”的政治高度，从实施乡村振兴战略、决胜全面小康、满足农民群众对美好生活向往的全局高度，深刻认识开展村庄清洁行动的重大意义，切实提高工作的自觉性和主动性，抓住植树节、清明节、劳动节等关键时间节点，扎扎实实组织开展好村庄清洁行动春季战役，为农村人居环境整治取得新成绩作出不懈努力，以干净、整洁、有序的村庄面貌喜迎中华人民共和国成立70周年。

**链接:**

[http://www.moa.gov.cn/xw/zwdt/201903/t20190301\\_6173072.htm](http://www.moa.gov.cn/xw/zwdt/201903/t20190301_6173072.htm)

## 7. 农业农村部与青海省共建绿色有机农畜产品示范省

**【中华人民共和国农业农村部】**本网讯 3月1日，农业农村部与青海省人民政府签署合作框架协议，共建青海绿色有机农畜产品示范省。农业农村部部长韩长赋，青海省委书记王建军、省长刘宁出席共建示范省座谈会并讲话。韩长赋指出，青海推动农牧业绿色高质量发展，符合习近平总书记对青海生态环境保护的要求。当前，农业生产要由增产导向转向提质导向，推动质量兴农、绿色兴农、品牌强农，使农业生产和资源环境更加和谐匹配。此次部省共建示范省，是实施乡村振兴战略、推进农业高质量发展的重要举措。农业农村部将按照合作协议确定的目标、内容和要求，在组织领导、技术人才政策支撑、项目资金投入、行动实施等方面加大支持力度，推动青海示范省建设，促进农业绿色发展。王建军表示，部省共建示范省是贯彻落实习近平总书记关于农业绿色发展指示要求的组成部分，也是青海推进食品安全生产的职责所系和推动绿色有机农畜产品生产的有益探索，青海将以此为契机，不断深化与农业农村部的合作，大力打造“生态青海、绿色农牧”品牌，为农牧业绿色发展贡献青海力量。刘宁介绍了青海扎实推进乡村振兴战略、推动农牧业提质增效、深化改革等工作情况。

**链接:**

[http://www.moa.gov.cn/xw/zwdt/201903/t20190301\\_6173096.htm](http://www.moa.gov.cn/xw/zwdt/201903/t20190301_6173096.htm)

## 8. 宁夏盐池县因地制宜高效节水效益好

**【中国农业新闻网】**本网讯 据宁夏回族自治区农业和水利部门新近完成的调研显示，2018年，盐池县实施的高效节水灌溉种植面积达到42.2万亩，达到了“四省一调一增”（省水、省肥、省工、省地、调结构、增效益）的效果，每年节水1200万方，节肥1850吨，解放劳动力4800个，省地6500亩，经济作物种植面积占比达到69%，增收1.339亿元。地处自治区中部干旱带盐池县，耕地面积133万亩，灌溉面积46.8万亩，水资源总量7300万立方米（其中扬黄水5100万方、地下水可利用量2200万方）。干旱缺水是制约该县经济社会发展的最大瓶颈。近年来，盐池县紧密结合县情水情，大力推进灌区高效

节水改造，截至2018年底，全县累计建成高效节水灌溉工程49处，发展高效节水灌溉面积42.2万亩，占全县灌溉总面积90%以上。高效节灌玉米的亩均产量增加超过16%，黄花菜产业2010年以来从无到有、从有到规模化发展，不断实现新突破，2018年种植面积达到8.1万亩，总产值达1.5亿元，草畜、枸杞、中药材等特色产业也呈现出蓬勃发展的良好势头。盐池县高效节水灌溉农业有力促进了农业增产、农民增收，为脱贫致富打下了坚实基础，取得了显著的经济、社会及生态环境效益。

链接:

[http://www.farmer.com.cn/jjpd/nz/nzdt/201902/t20190227\\_1435085.htm](http://www.farmer.com.cn/jjpd/nz/nzdt/201902/t20190227_1435085.htm)

## 9. 发展休闲农业 助力乡村振兴

【中华人民共和国农业农村部】本网讯 当前，乡村振兴的大幕已拉开，农村创新创业风生水起，休闲农业和乡村旅游蓬勃发展。近日，农业农村部乡村产业发展司负责人就促进休闲农业和乡村旅游发展接受了记者采访。乡村振兴是国家大战略，休闲农业和乡村旅游作为新产业新业态，对乡村振兴应起到哪些作用？乡村振兴，产业兴旺是基础。休闲农业和乡村旅游是乡村产业重要组成部分，它是横跨一二三产业、兼容生产生活生态、融通工农城乡的新产业新业态。在实施乡村振兴战略中，要大力发展休闲农业和乡村旅游，促进农业强、农村美、农民富、市民乐。其作用体现在：一是促进产业兴旺有“市值”。休闲农业和乡村旅游是农村一二三产业发展的天然融合体，产业链长、涉及面广、内涵丰富。发展休闲农业和乡村旅游发展，可以发掘农业的多种功能，夯实一产的基础，推动二产两头连，促进三产走高端，让乡村资源优势变为经济优势，让农民的钱包鼓起来。二是促进生态宜居有“颜值”。休闲农业和乡村旅游是绿水青山转化成金山银山的“金扁担”，可以让乡村的景观靓起来，同时能为市民提供各种服务，让人们享受“好山好水好风光”的视觉愉悦。三是促进乡风文明有“气质”。发展休闲农业和乡村旅游有利于结合当地文化符号、文化元素，通过休闲养生、农耕体验等活动，挖掘当地的民俗乡土文化、农耕饮食文化、图腾文化和民间工艺，将其激活、保护、传承和弘扬。四是促进治理有效有“基质”。休闲农业和乡村旅游以农民为主体、农村为场所，既有小农户和基层组织的自主经营，又有工商资本的参与带动，这一过程中，休闲农业和乡村旅游将先进的管理模式和理念引入农村，影响基层组织管理方式，促进自治、法治、德治“三治”体系的建立，有利于激发基层组织自我调整和创新活力。五是促进生活富裕有“品质”。休闲农业和乡村旅游能够大幅提升农产品附加值，增加农民收入，扩大就业容量，从而有效提升农村产业的劳动生产率、土地产出率、资源利用率，让农业“有干头、有赚头、有奔头、有念头”。

链接:

[http://www.moa.gov.cn/xw/zwdt/201902/t20190213\\_6171355.htm](http://www.moa.gov.cn/xw/zwdt/201902/t20190213_6171355.htm)

## 10. New study uses big data to analyze the international food trade

**【Columbia University in the City of New York】** As the world population swells, the inequitable distribution of food around the globe is prompting profound moral questions. Is the unequal distribution of food in rich and poor countries, for instance, merely a consequence of geography, with rich countries having more fertile lands? Or are food shortages in some countries a function of socio-economics and inequalities in international food trade? And since the United Nations' Universal Declaration of Human Rights states that everyone has a right to an adequate level of food, what can be done to ensure that food is distributed internationally in ways that mitigate world hunger and malnutrition? In a study published Feb. 27 in the journal BioScience, a team of environmental scientists seeks to answer these questions by analyzing the role of trade in distributing food internationally and to what extent this has benefited or hindered the human right to food.

链接:

<https://datascience.columbia.edu/postdoctoral-fellow-publishes-paper-food-inequality-in-justice-and-rights>

### 【文献速递】

#### 1. 农业绿色发展涉农资金整合研究

作者: 王瑞波; 高尚宾; 孙炜琳; 等

文献源: 中国农业资源与区划,2019

摘要: [目的]新时代,推动农业绿色发展的关键是建立健全涉农资金整合机制,加大涉农资金投入力度,提高涉农资金使用效率,建立完善以绿色生态为重点的农业投入制度。[方法]文章通过研究国内涉农资金整合现状和问题,分析发达国家涉农资金整合的经验及启示,推动我国建立以农业绿色发展为重点的涉农资金整合政策机制。[结果]我国涉农资金整合存在多头管理、方向不明、结构不优、效率不高等问题,加快涉农资金整合势在必行,成败取决于顶层设计,关键在于完善相关法律法规以及打破部门利益藩篱的瓶颈,落地在于“依法、照单、精准”施策。今后要围绕农业绿色发展,突出绿色生态导向,涉农资金整合要把政策目标由数量增长为主转到数量质量生态并重上来,增量资金重点向资源节约型、环境友好型和生态保护型农业倾斜。[讨论]建立健全涉农资金整合机制应当建立农业农村大部门制,完善相关法律法规,明确农业绿色生态作为涉农资金整合支持的主攻方向,实行精准补贴精准施策。

链接:

<http://agri.ckcest.cn/file1/M00/06/5E/Csgk0FzVLCAf8PLAAQDNi9OeRs524.pdf>

## 2. 中国农业绿色发展指数构建及区域比较研究

作者: 魏琦; 张斌; 金书秦

文献源: 农业经济问题,2019

摘要: 绿色是农业的本色,也是农业现代化的重要标志,推进农业绿色发展既是回归本色,也是发展观的变革。在系统阐释农业绿色发展概念实质的基础上,本文构建了包含资源节约、环境友好、生态保育和质量高效四个维度14个指标的中国农业绿色发展指数,并对近年来全国及各省份的农业绿色发展水平进行了初步评估。结果显示,2012年以来,全国农业绿色发展水平显著提升,面源污染防治取得明显进展,农业供给质量效益得到极大提高;各地区之间农业绿色发展水平差异较大,其中浙江综合得分最高;环境友好和质量高效两个维度的地区差异最大,增长潜力也更为明显。建议加强农业资源环境监测并及时公布基础数据,系统总结浙江等地在农业环境治理和质量效益提升方面的实践经验,完善政策举措,持续推进农业绿色发展。

链接:

[http://agri.ckcest.cn/file1/M00/06/5E/Csgk0FxzVP2ANn4\\_AAU5gOenYwY907.pdf](http://agri.ckcest.cn/file1/M00/06/5E/Csgk0FxzVP2ANn4_AAU5gOenYwY907.pdf)

## 3. Green economic development in Lao PDR: A sustainability window analysis of Green Growth Productivity and the Efficiency Gap

作者: J. Luukkanen; J. Kaivo-oja; N. Vah€ akari, et al.

文献源: Journal of Cleaner Production,2019

摘要: A novel 'Sustainability Window' (SuWi) approach is applied for simultaneous analysis of the pillars of sustainable development; social, environmental and economic, of Lao PDR. This new method employs a variety of indicators for a comprehensive and holistic analysis of sustainable development and green inclusive economy. The analysis is grounded in the assumption that economic development is required for social development, but that simultaneously development needs to be guarded or limited to protect the environment that underpins it. As all three dimensions of sustainable development are interlinked, a comprehensive analysis requires an analytical approach that is simultaneous. The analyses provide information on minimum levels of economic development that are needed to fulfill social sustainability criteria, in tandem with the maximum economic development that avoids breaching environmental sustainability criteria. If actual economic growth lies between these minima and maxima, we can interpret that development is more sustainable with respect to the relationships embodied by the selected social and environmental indicators. The main source of data is the database of the Sustainable Society Index (SSI) developed by the Sustainable Society Foundation (SSF). The indicators used by SSI have

been chosen for the Sustainability Window analysis as they can be used to assess both 'weak' and 'strong' interpretations of sustainability. Weak sustainability is defined operationally as no increase in the environmental or carbon emissions intensity of the economy, while strong sustainability is defined as no increase in absolute emissions. Further, a novel Environmental Efficiency Gap analysis has been included in the Sustainability Window. This provides information about the necessary improvement in GDP production efficiency with respect to environmental emissions. Sustainability Window combined with Environmental Efficiency Gap analysis, provides critical knowledge for planners and decision makers. It provides strategic indications of how to aim for social and environmental sustainability through economic investment and growth targets. These new methods can be used in trans-disciplinary research of sustainable development and can also assist in national and regional comparisons. In the case of Lao PDR, the analysis needs to be broadened for more fundamental understanding of the gaps and weaknesses. SuWi can be used to assess the sustainable development needed to address the Sustainable Development Goals by 2030. The SuWi does not provide direct policy recommendations as such, but helps to inform decision makers about the direction of development pathways towards these key goals

链接:

[http://agri.ckcest.cn/file1/M00/06/5F/Csgk0FxzicWAUhedAAm0iL-gw\\_k952.pdf](http://agri.ckcest.cn/file1/M00/06/5F/Csgk0FxzicWAUhedAAm0iL-gw_k952.pdf)

#### 4. 乡村振兴战略背景下农地规模经营与农业绿色发展

作者: 李文华; 熊兴

文献源: 资源开发与市场,2019

摘要: 基于1999—2016年我国省域面板数据,运用非径向、非角度SBM模型和GML生产率指数方法对我国农业绿色全要素生产率进行测算,并将其作为衡量农业绿色发展的重要指标;构建Tobit回归模型,从全国和地区层面分析农地经营规模对农业绿色发展的影响。结果表明:(1)自1999年以来,我国省域农业绿色全要素生产率呈现增长趋势,且增长源泉来自技术进步;地区间农业绿色全要素生产率差异明显,呈现东部、中部、西部依次递减趋势。(2)农地经营规模对不同地区的农业绿色发展具有不同的作用结果,农地经营规模提高了东部地区农业绿色发展,降低了中部地区农业绿色发展,对全国和西部地区无显著影响。据此提出,各地区应根据自身不同经济发展水平、自然环境、资源条件等内容采取不同形式的农地规模经营类型,促进农业绿色发展。

链接:

[http://agri.ckcest.cn/file1/M00/06/5E/Csgk0FzVUaAK6BnABIHnmu\\_dmc056.pdf](http://agri.ckcest.cn/file1/M00/06/5E/Csgk0FzVUaAK6BnABIHnmu_dmc056.pdf)



## 5. Virtual water trade and water footprint accounting of Saffron production in Iran

作者: Ommolbanin Bazrafshan; Hadi Ramezani Etedali; Zahra Gerkani Nezhad Moshizi, et al.

文献源: Agricultural Water Management,2019

摘要: The virtual water concept has a considerable potential to help improve the productivity of limited fresh water resources especially in the agriculture sector. Iran is the biggest producer and exporter of Saffron in the world. This research explores the average magnitude and share of water footprint components, including the green, blue, grey and white water footprints over the period of 2008--2014 in the provincial and national levels. The average water footprint of the Saffron production in Iran was  $4659 \text{ m}^3 \text{ kg}^{-1}$ . The share of green, blue, white, and grey water footprints are estimated as 12, 42, 40, and 6 percent, respectively. The total water footprint of Saffron production was around  $1541 \text{ MCM yr}^{-1}$  that the share of exported virtual water was  $1354.6 \text{ MCM yr}^{-1}$ . The average economic water footprint of Saffron production is  $3.1 \text{ m}^3$  per \$. Lorestan, East Azerbaijan and Isfahan have the lowest economical water footprint while Chaharmahal and Bakhtiari, Semnan and Fars have the highest values. The results of this research provide valuable information for managers and policy makers to extend the cultivation area in regions with low economical water footprint and also the regions with rain-fed cropping and sufficient precipitation. In contrast, increasing yield and water use efficiency in regions with high economical water footprint is very necessary.

链接:

<http://agri.ckcest.cn/file1/M00/06/5F/Csgk0Fxzij2AEGDGABYdiyl7mV4334.pdf>

## 6. 农业绿色发展评价指标体系的构建与应用

作者: 张乃明; 张丽; 赵宏; 等

文献源: 生态经济,2019

摘要: 绿色发展已经上升为国家战略,要推动我国农业实现绿色发展,首先就需要构建农业绿色发展的评价指标体系。文章在深入调查研究和文献查阅的基础上,综合考虑资源节约、环境友好、乡村发展、产品安全四个方面,提出10项量化指标作为区域农业绿色发展的评价指标体系,提出了指标权重的确定方法和各指标的打分标准,并以云南省保山市所辖5个县(市、区)2014年数据为基础,对评价指标体系进行验证与应用。评价结果显示,保山市所辖的5个县(市、区)中腾冲市农业绿色发展状况良好,隆阳区、昌宁县和龙陵县农业绿色发展状况中等,施甸县农业绿色发展状况较差,评价结果总体与保山市的实际情况相符。

链接:

<http://agri.ckcest.cn/file1/M00/06/5F/Csgk0FzXSqARS62ABaehdTWDLE959.pdf>

## 7. 欧盟农业绿色发展机制及对中国的启示

作者：高海秀; 王明利

文献源：农业展望,2019

摘要：欧盟共同农业政策是世界范围内促进农业实现绿色发展较为成功的典范,其交叉遵守机制、绿色直接支付以及农村发展方案共同构成了有力的抓手机制。借鉴欧盟经验并结合中国农业绿色发展政策机制的实际情况,提出中国农业绿色发展的机制设计要加入对农业生产者产生直接激励和约束作用的政策措施,以及适当增加对农业绿色发展行为的财政补贴力度和种类,并要注重发挥政策协同效应。

链接:

<http://agri.ckcest.cn/file1/M00/06/5F/Csgk0FxzXWuAJ5uyAAPjf5pV1SY109.pdf>

## 8. The impact of green economy measures on rural employment: Green jobs in farms

作者：Ilkay Unay-Gailhard; Stefan Bojnec

文献源：Journal of Cleaner Production,2019

摘要：In the circular economy concept, besides protecting the environment, green policy measures provide essential economic benefits through resource security, economic stability, and the creation of green jobs. This study centres its attention on the labour use aspect of the circular economy and aims to examine the potential for green economy measures to create green jobs in the agriculture sector. As a methodological approach, we combine “top-down” and “bottom-up” analyses of the green economy experience of Slovenia, where agri-environmental measures (AEM) play an essential role in the Slovenian rural development programme (2007--2014), with the highest amount of subsidies per unit of output among the 10 new European Union Member States. The results show that an AEM adoption of green policy measures by very large dairy and field crop farms significantly increases total labour use: while for field crop farms this increase is in hired labour, for dairy farms this increase is in family labour. While hired and family labour perform as substitutes for very large dairy farms, they perform as complements for very large field crop farms. The present study suggests further steps towards identifying the green economy measures that are needed to create green jobs in the agriculture sector for rural youth.

链接:

<http://agri.ckcest.cn/file1/M00/06/5F/Csgk0FxiUiAAf9aAAZGiVhmCpC526.pdf>

## **9. Efficient-equitable-ecological evaluation of regional water resource coordination considering both visible and virtual water**

作者: Zongmin Li; Qi Zhang; Huchang Liao

文献源: Omega,2019

摘要: Efficient-equitable-ecological (3E) regional water resource coordination that includes virtual water is critical for long-term sustainability. This paper develops a methodology for a comprehensive 3E evaluation of regional water resource coordination, in which both visible and virtual water are considered in the indicator system. Experts' opinions towards indicator importance are expressed by hesitant fuzzy numbers. By using hesitant fuzzy linguistic judgments, the flexibility of expressions is increased. A minimized divergence and hesitant degree model is established to calculate the experts' weights. Then to determine indicators' weights, a weighted average operator is used. To aggregate the final evaluation results, a TOPSIS method is adopted. The presented methodology is applied to the water resource coordination evaluation in the Northwestern District of China. Based on the evaluation results, some suggestions are proposed to enhance the water resource coordination in the study area. Finally, to illustrate the effectiveness of the proposed methodology, the method is compared with the equal weights method.

链接:

[http://agri.ckcest.cn/file1/M00/06/5F/Csgk0FxzjB6AAINuABfZEV\\_AW3U730.pdf](http://agri.ckcest.cn/file1/M00/06/5F/Csgk0FxzjB6AAINuABfZEV_AW3U730.pdf)

## **10. Virtual land, water, and carbon flow in the inter-province trade of staple crops in China**

作者: Shaohua Wu; Peiqi Ben; Dongxiang Chen, et al

文献源: Resources, Conservation & Recycling,2019

摘要: In the context of a growing world population and limited resources, trade plays an indispensable role in maintaining a constant food supply, and when commodities exchange occurs, it connects entire ecosystems and societies. In this study we used Chinese inter-province trade in staple crops to investigate the interaction of resource consumption and carbon emission systems. The trade in staple crops was simulated using an optimization model, we found that in the trade pattern the virtual land resources flowed from land-rich to land-poor provinces, but the situation was reversed for the redistribution of water resources. The trade pattern showed that total land resource use increased but water resource use decreased throughout compared with local production of traded commodities,

based on the production efficiency of export and import provinces. The total carbon dioxide emissions from staple crops production in the inter-provincial trade was  $254 \times 10^8$  kg carbon dioxide equivalents (CEs), and the average unit CE emissions was higher for export provinces than importing provinces. We combined the net staple crops trade, resource abundance, and unit CE emissions within provinces to define eight classes describing resource and environment management in specific areas, and to guide improvements in crop production and trade.

链接:

[http://agri.ckcest.cn/file1/M00/06/5F/Csgk0FzxhnaAJ1ciABtM-W-w\\_Ug741.pdf](http://agri.ckcest.cn/file1/M00/06/5F/Csgk0FzxhnaAJ1ciABtM-W-w_Ug741.pdf)

### 【研究报告】

#### 1. Farming statistics - Crop areas in England (sourced from Basic Payment Scheme data and the June Survey of Agriculture) 2015-2018 - experimental statistics publication

发布源: GOV.UK

发布时间: 2019-02-06

摘要: This release presents the crop areas that have been claimed and paid under the Basic Payment Scheme (BPS) from 2015-2018 at country level. This data is classed as an administrative data source for further analyses. The official crop areas from the Defra June Survey of Agriculture have also been shown for 2015-2018 for comparison.

链接:

<http://agri.ckcest.cn/file1/M00/06/5F/Csgk0Fx96euAUWmDAAXk4rY72xE745.pdf>

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