粮食和食物安全专题

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1．Modelling world agriculture as a learning machine? From mainstream models to Agribiom 1.0（将世界农业构建为学习型机器？从主流模型到 Agribiom 1.0)

简介：Models of world agriculture and food systems are used widely to predict future scenarios of land and resource uses. Starting with a brief history of world agriculture models since the 1960s, which shows their hybrid character as well as their limitations in representing real world diversity and options, this article then presents an alternative modelling experience. We argue that models are tools of evidence, hence "truth machines", but also tools of government, with a multi-faceted political dimension. For instance, the virtual realities that conventional models build incorporate value judgements about the future that remain invisible and difficult to challenge. For ease of computation and comparison, they standardise functional forms and parameters, eliding observable diversity and blacklisting sociotechnical policy options such as those based on agroecology and biological synergies. They are designed for prediction and prescription rather than for supporting public debate, which is also a (comfortable) political stance. In contrast, the Agrimonde experience a foresight initiative based on the Agribiom model shows that a model of world agriculture can be constructed as a "learning machine" that leaves room for a variety of scientific and stakeholder knowledge as well as public debate. This model and its partners unveiled some virtual realities, processes and actors that were invisible in mainstream models, and asserted a vision of sustainable agri-food systems by 2050. Agribiom and Agrimonde improved knowledge, policy-making and democracy. Overall, they highlighted the need for epistemic plurality and for engaging seriously in the production of models as learning machines.

来源：Land Use Policy

发布日期：2019-03-06

全文链接：

http://agri.ckcest.cn/file1/M00/06/64/Csgk0FycdfyANkdmABN3yxezVwI774.pdf

2．The land sparing – land sharing controversy: Tracing the politics of knowledge（土地集约与土地分享的论战-政策回顾）

简介：Feeding 9 billion people by 2050 on one hand, and preserving biodiversity on the other hand, are two shared policy goals at the global level. Yet while these goals are clear, they are to some extent in conflict, because agriculture is a major cause of biodiversity loss, and the path to achieve both of them is at the heart of a public controversy around 'productive' land use and biodiversity conservation. Over the years, the scientific, policy, civil society and agri-business communities have been engaged in producing evidence that can support a land sparing policy (separating intensive agricultural production from biodiversity conservation) or a land sharing policy (integrating the two in larger and more extensive landscapes). This paper contributes to this debate by analyzing land sparing and land sharing (LSS) as a socio-technical controversy. Through the analysis of large and small

corpora of scientific, policy, corporate social responsibility and sustainability standards documents we explore the ethical underpinnings and social networks that support the opposing sides of this controversy. We explore these linkages in order to explain how the concept of land sparing achieved dominance in the scientific literature and how the concept has been taken up in international policy, business and civil society circles. We examine the convergences and divergences in alliances between actors in this controversy in order to map how specific actors have promoted the concept of land sparing as the best way to used land for biodiversity and food production.

来源：Land Use Policy

发布日期：2019-03-06

全文链接：

http://agri.ckcest.cn/file1/M00/06/64/Csgk0FyccsKAU3_8AGRnJVhVFMU664.pdf

3．Environmentally friendly breeding, spatial heterogeneity and effective carbon offset design in beef cattle（肉牛的环境友好型饲养、空间异质性和有效的碳补偿设计）

简介：This paper presents an assessment of emerging livestock-based greenhouse gas (GHG) mitigation schemes that link the uptake of environmentally beneficial breeding practices to carbon offset schemes. Using the example of genomic selection for feed efficiency by cattle producers in Alberta Canada, we explored the potential effect of spatial heterogeneity on producer incentive to participate in these schemes. We model three representative cow-calf operations in three agroecological zones and incorporate region specific breeding, economic and environmental factors. Our results show that environmental and economic outcomes differ spatially, and that the additional revenue from the existing offset scheme is inadequate to incentivize producers in specific regions. The priority for policy makers is to implement a differential payment scheme that accounts for specific sources of spatial heterogeneity in environmental and economic tradeoffs.

来源：Food Policy

发布日期：2019-02-26

全文链接：

http://agri.ckcest.cn/file1/M00/06/64/Csgk0FycbaSAcx2AABUtsmMjwec578.pdf

4 .What Have We Learned from the Land Sparing-sharing Model?（从土地集约分享模型中能学到什么）

简介：The land sparing-sharing model provides a powerful heuristic and analytical framework for understanding the potential of agricultural landscapes to support wild species. However, its conceptual and analytical strengths and limitations remain widely contested or misunderstood. Here, I review what inferences can and cannot be derived from the framework, and discuss eight specific points of contention and confusion. The land sparing-sharing framework is underpinned by an ethic that seeks to minimise harm to non-human species. It is used to quantify how good farmland is for different species, in relation to appropriate reference land uses, and at what opportunity cost. The results of

empirical studies that have used the model indicate that most species will have larger populations if food is produced on as small an area as possible, while sparing as large an area of native vegetation as possible. The potential benefits of land sharing or intermediate strategies for wild species are more limited. I review disagreements about the scope of analysis (food production cf. food security), the value of high-yield farmland for wildlife, the (ir)relevance of the Borlaug hypothesis, scale and heterogeneity, fostering human connections to nature, the prospects for land sparing in heavily-modified landscapes, the role of land sparing in improving connectivity, and the political implications of the model. Interpreted alongside insights from social, political and economic studies, the model can help us to understand how decisions about land-use will affect the persistence of wild species populations into the future.

来源：Sustainability

发布日期：2018-05

全文链接：

http://agri.ckcest.cn/file1/M00/06/64/Csgk0FyccbWAP1LjALNeoLOvw9I701.pdf

行业报告

1.Malaysia Grain and Feed Annual-2019（2019年马来西亚谷物供求年报）

简介：Post expects MY 2019/20 corn imports to reach 4.15 million metric tons (MT), up four percent from the previous year, due to steadily growing demand for poultry feed. MY 2019/20 wheat imports are expected to increase only slightly from the previous year due to mostly flat consumption rates. Imports of rice in MY 2019/20 are forecast at 1.12 million MT, up roughly 70,000 MT from the previous year, based on the consumption needs of a growing population.

来源：USDA

发布日期：2019-03-20

全文链接：

http://agri.ckcest.cn/file1/M00/06/64/Csgk0FycaYWADNQOAAX_FSx5fuo460.pdf