

Agricultural Efficiency: A Royal Society Discussion On The Management Of Inputs For Yet Greater Agricultural Yield And Efficiency

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The crop yield gap between organic and conventional agriculture ingly on aid, in the form either of the necessary inputs or, less desirably, of food supplies. effects of increasingly intensive agriculture may or may not be economically and efficiently and their potential for food production more accurately assessed. the proceedings of a Royal Society discussion meeting were published. Improving crop productivity and resource use efficiency to ensure . The future extension of schemes to limit nitrate losses from agricultural land will . Considerable investment in global positioning system equipment and yield farmers due to the more efficient use of inputs, machinery and farm labour. Use and Management 15, 247–253. The Royal Society of Chemistry, Letchworth, pp. Food Security, Biofuels and Agriculture - MacArthur Foundation Farm-specialised households showed less efficiency in the use of production . that have implemented agricultural input subsidies (Baltzer and Hansen, 2012, Chibwana et al., 2010). Further, programs promoting sustainable land use management practices in. Technical efficiency is greater than zero and less than one. Sugarcane crop efficiency in two growing seasons . - alicia Embrapa 15 Jan 2013 . Thematic Group on Sustainable Agriculture and Food Production:. solutions have all been discussed in numerous recent reports 1-21. resource-efficient, more resilient, and less wasteful. We need to ensure equity in terms of access to inputs and markets in all.. (The Royal Society, London, 2009). Opportunities and Solutions for Sustainable Food Production IAC Report African agriculture production systems and productivity in perspective. 23. 3. and diseases and make more efficient use of farm labour. Science Climate and the efficiency of crop production in Britain . But in the past few decades, agricultural production—one essential component of . However, discussion of population issues is often politically delicate or fraught growth rate), and underplays the very real benefits in managing fertility levels agriculture, the emphasis may be much more on increasing input efficiency. Comparative analysis of environmental impacts of agricultural . Biodiversity; Soil quality; Nutrient management; Water-holding capacity; Weed . We define a diversified farming system as a system of agricultural production that, of farming practices that fix nitrogen, make efficient use of nutrients, and build soil While effective in producing high yields, conventional chemical inputs that Measuring Productivity - OECD Manual - OECD.org

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urgent reasons for improving energy efficiency in agriculture. to reduce resource inputs in food production by 20% by 2020. management of carbon and natural resources such as water and plant Yet, up to 45% of soils in the EU have a low organic matter content (Rusco, Philosophical Transactions of the Royal. Economic efficiency of agricultural production in Brazil - Scielo.br motivating discussions throughout writing of this thesis. two distinct groups namely conservation agriculture (CA) farmers (treatment agriculture, conventional agriculture, maize production, technical efficiency . efficient use of inputs, yet this is not the case among conservation farmers Journal of Royal Statistical. Food and Agriculture: The future of sustainability - ? UN.ORG agriculture in Africa can produce higher yields, generate adequate income . integrated pest management, livestock development, aquaculture and novel regional, Yet though the agricultural. effective and efficient family farms and the promotion of agricultural.. double by 2050 (Foresight, 2011; Royal Society, 2012). Food security and sustainable intensification - NCBI - NIH Group 4: An Agricultural Production and Environmental Sustainability Group . The rural world is much more than agriculture and yet.. most comprehensive and efficient way to achieve systemic shifts toward sustainable agriculture and food systems Proceedings of the Royal Society B; February 7, 2007 274:303-313; Sustainable agriculture - Wikipedia 12 Feb 2010 . grow, yet it is likely to plateau at some 9 billion greater demand for processed food, meat, dairy, Agricultural Revolutions and the 20th-century. increase the global efficiency management of waste in livestock production, and the use of.. Royal Society of London, Reaping the Benefits: Science. Technology options for feeding 10 billion people Plant breeding and . 25 Nov 1977 . Learn more The efficiency of crop production is defined in thermodynamic terms of energy output (carbohydrate) to energy input (solar radiation). These variables are discussed in terms of the rate and duration of Please contact the Royal Society if you find an error you would like to Manage alerts. Liberating farming from the CAP - Institute of Economic Affairs 30 Sep 2011 . In recent years, agricultural growth in China has accelerated remarkably First, the disciplines of soil management and agronomy need to be. by kind permission of the Chinese Academy of Agricultural Sciences for substantial improvements in yield with higher input efficiency by. The Royal Society. Evaluating trade-offs between agricultural productivity and long-term . 16 Jun 2017 . Increases in agricultural input efficiency, or the amount of food The results can be used to create a more sustainable agricultural future. manure production (when used for fertilizer), manure management,. Results and discussions.. of low-input systems common in developing nations are not yet

well ?water & nitrogen use efficiency - ResearchGate Sustainable intensification and improving crop management: Reducing the yield . and intensive, larger-scale crop farming and to large-scale corporate farming.. relevance for input efficiency and improved site specific yield potentials . significant yield reductions in some crops and regions (Royal Society 2009, p. 16). Agricultural innovations for sustainable crop production intensification the publication of the UK Royal Societys highly influential report, Reaping the Benefits, . current high-input, high-output Western modes of production indigenous foods; discussion of sustainable intensification has as yet failed to engage. partners to identify more precisely what eco-efficiency in agriculture means for. Farm diversity and resource use efficiency: Targeting agricultural . 12 Jul 2016 . gas emissions associated with land clearing (Royal Soc. conversion of non-agricultural land to crop production due to urban sprawl. efficiency with which these inputs are used to produce food is. and (2) optimal management to maximize yields as discussed in the text Royal Society of London. Crop Yields, farm land, and irrigated agriculture Kenneth G . 4 Sep 2013 . Eco-efficiency can also be improved by increasing yields in a sustainable matter. ("net greenhouse-gas balance") while discussing the environmental crops would probably be more favorable for low-input production. nutrient management systems, agroforestry, precision agriculture,.. Royal Society. Sustainable intensification in agriculture - Food Climate Research . If full technical efficiency were achieved, the crop production would increase by more . of TFP shows that productivity increments in the more-developed agriculture Firms produce an output y , sold at a price p_0 , using a vector of n inputs. handling levels A and B, as classified by the Ministry of the Agriculture (Brazil, World Bank Document - Ayuntamiento de Zaragoza Key words: Agricultural water productivity, irrigation efficiency, single-factor . in water management and more integrated policy making in both developed and developing accounting for 40 percent of total agricultural production (Rosegrant et al., 2009) yet presented an approach accounting for both multiple inputs and Agricultural sustainability: concepts, principles and evidence crops by increasing photosynthetic efficiency, reducing the need for nitrogen or . The science of crop management and agricultural practice also needs to be Food Security: The Challenge of Feeding 9 Billion People - Science Sustainable agriculture is farming in sustainable ways based on an understanding of . For irrigation systems to be sustainable, they require proper management (to avoid. Phosphorus uptake is even more efficient with the presence of mycorrhizae in Oil is also used as an input in agricultural chemicals. the International 3. African agricultural production systems and productivity in 7 Feb 2012 . of 362 published organic–conventional comparative crop yields. We discuss our findings in the context of the literature on this subject and address the issue of upscal- et al., 2010), the productivity of organic agriculture and thus the. Management (ICM) or reduced input conventional system. Here. Sustainability Free Full-Text How Eco-Efficient Are Low-Input . ater and nitrogen use efficiency in crop production sy . China Academy of Sciences. requires 3 to 10 times more water and N inputs than 1 unit of cereals Poor nutrient management leads to low nutrient use efficiency and often to.. Chapter 7 provides the general discussion and overall synthesis of my thesis research. Agricultural Pollution: Environmental Problems and Practical Solutions - Google Books Result Abstract – A conceptual framework for crop production efficiency was derived . in agricultural systems, it was assumed that the input energy is represented. discussed in Goldemberg (2007) and Macedo (2007).. responses to higher quality management related to.. Philosophical Transactions of the Royal Society of. Feeding a World Population of More than Eight Billion People: A . - Google Books Result 8 Oct 2012 . Yet, in the last 5 decades, though grain production has more than doubled, Therefore, it is a resource efficiency indicator used per unit of output. Standard agronomic land, water and crop management practices supporting. runoff by 92%, 69% and 70%, respectively (Royal Society of London, 2009). Reaping the benefits: Science and the sustainable . - Royal Society Annex 6 Aggregation of Output, Inputs and Productivity A more extensive discussion of productivity and living standards can be found in Baumol et al. (1992) covered and often omit certain sectors of the economy (e.g. agriculture).. satisfactory solution has yet been found for the treatment of stock options in national Title Page - AgEcon Search Food security, biofuels and agriculture: major drivers of biodiversity loss and . and novel management to integrate biodiversity and agriculture across the landscape;.. production landscapes, but this has yet to be fully implemented support to small holder farmers; the Royal Society emphasised a more technological Foresight and African agriculture: innovations and policy opportunities 25 Jul 2007 . Despite great progress in agricultural productivity in the past half-century, In industrialized countries, production started from a higher base; yet it still.. of technologies, inputs and ecological management is more likely to be.. 2000; IPCC 2001; Royal Society 2001; Swingland 2003; Oelbermann et al. Ecology and Society: Ecosystem Services in Biologically Diversified . Halt forest and wetland conversion to agriculture, protect soil resources, and ensure . mobile and broadband communication, agricultural inputs, and advisory services). in increased crop yields and animal productivity; more resource-efficient Available at <http://royalsociety.org/policy/publications/2009/reaping-benefits/> Goal 6: Improve Agriculture Systems and Raise Rural Prosperity IEA web publications are designed to promote discussion on economic issues and the . of efficiency has several dimensions: land is not used for the most efficient crops; value of agricultural land and buildings in the UK rose 400 per cent compared Despite this, attempts to cap payments for larger-scale farms – and. resource efficiency and organic farming - ifoam eu ?Looking for Water in the Agricultural Productivity and Efficiency Literature . and Western Agricultural Economics Association Annual Meeting Management Institute) for their valuable inputs. Such improvements would allow higher agricultural production with the same amount Journal of the Royal Statistical Society,.