Analysis of energy storage and agricultural and animal husbandry profits

Does large-scale livestock husbandry have better economic performance than specialized farms?
Our results indicate that large-scale livestock husbandry shows better economic performancebut worse environmental consequences than the backyard and specialized farms. In other words,the larger production scale causes better economic benefits and worse environmental consequences.

Does feed cost affect the economic profit of pig husbandry?
The cost of feed accounts for greater than 80% of the total cost for the SF,TF and HTF but 60.1% for the BF. Clearly,the feed cost is the primary factor to affect the economic profit of pig husbandry. The main difference derives from the commercial feeds and soybean meal.

Does large-scale livestock husbandry improve pig production?
In this study,the LCA,EME and ECA methods provide three different but complementary standpoints to compare pig production with different models. Our results indicate that large-scale livestock husbandry shows better economic performancebut worse environmental consequences than the backyard and specialized farms.

What is energy assessment of agricultural production system?
Energetic assessment of agricultural production system can embrace different forms of energy accountthat follow the first and,in some cases,the second law of thermodynamics. Ten approaches are identified and are presented according to the energy accounting: (i) energy,(ii) exergy,and (iii) emergy.

What role does energy play in farm systems?
A review Energy holds a key role in farm systems. Cultivationis based on the conversion of solar energy into biomass of interest. Fossil energy allows mechanized and high-yield agricultural production system,but has a strong impact on climate change,and its supply is compromised in the next decades.

What is the role of energy in agricultural production system?
Energetic assessment of the agricultural production system. A review Energy holds a key role in farm systems. Cultivationis based on the conversion of solar energy into biomass of interest.

The data of rate of scale farming and net profit over 31 provinces in pig industry mainly from China Animal Husbandry and Veterinary Yearbook. Feed day, cost, net profit, epidemic medical investment of different pig farms is from the database of the Ministry of Agriculture and Rural Affairs of the People"s Republic of China.

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We identified ten energetic assessments of agricultural production systems that are performed to account

energetic flows: (i) conventional energy analysis, (ii) pluri-energy ...

Agri-food systems (AFS) have been central in the debate on sustainable development. Despite this growing interest in AFS, comprehensive analyses of the scholarly literature are hard to find. Therefore, the present ...

In order to improve the effect of animal husbandry economic analysis, this article studies the animal husbandry economy based on system dynamics and studies how to define total factor ...

Nevertheless, there are options to decrease agricultural emissions by developing cleaner production technologies including optimized fertilization and conservation tillage (Chen et al., 2020) order to take advantage of these measures and to promote the development of sustainable agriculture, using the concept of "carbon footprint" to study total GHG emissions in ...

Livestock husbandry in China is rapidly changing in structure from traditional backyard rearing toward large-scale and intensive production. In this study, a joint use of life cycle assessment, emergy evaluation and economic analysis provides different but complementary ...

processing machinery, animal husbandry equipment, irrigation and drainage pumps, and plant protection machinery. By the end of 2005, total power reached 685 million kW, including 1.4 million medium- and large-size tractors15.4 million small-size tractors, and about a half million combine harvesters. China has seen remarkable

However, few measures have so far considered farm size when it comes to agricultural development and sustainability. In fact, smallholder farms globally occupy up to 40% of agricultural areas (Lesiv et al., 2018).Smallholder farms typically are less than 2 ha, although the definition of smallholder used in national censuses varies considerably (Rigg et al., 2016).

In developing countries, there are various examples of apps offered by public organizations. The popular Kisan government portal or Kisan Suvidha (mkisan.gov) in India supports mobile apps for agriculture, horticulture, animal husbandry, and other agricultural fields. Kisan Suvidha is a mobile app developed to the farmers collectively by ...

Therefore, farm management systems, based on the integration of key components of agriculture such as crops, livestock and aquaculture, is the most advanced paradigm of sustainable agriculture.

The control variables influencing agricultural energy efficiency were introduced according to the characteristics of Chinese agriculture. (1) The agricultural industry structure was expressed as the proportion of non-cultivation output value to total agricultural, forestry, animal husbandry, and fishery output value in each province and city ...

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For key nitrogen output nodes of internal metabolism, such as energy-consuming sectors like node 27 (Electricity, Heat, Gas, and Water Production and Supply) and 29 (Transportation, Storage, and Postal Services), it is necessary to optimize the energy structure. According to the "Beijing Carbon Peaking Implementation Plan," efforts should be ...

Context:. Recently, a regional Review Meeting for the Animal Husbandry and Dairy sector highlighted that the livestock sector is consistently growing at a high Compound Annual Growth Rate (CAGR) of 7.67% during ...

The control variables influencing agricultural energy efficiency were introduced according to the characteristics of Chinese agriculture. (1) The agricultural industry structure ...

In the short-run, agricultural growth will not increase energy consumption. This article analyzed the causal link between the growth in agricultural output value and total ...

Farm size plays an important role in agricultural economic systems. Real-world evidence suggests that suitable farm size is the key to sustainable agriculture in most countries and that the growth of farm size in the early stages of development is central to rapid economic growth, poverty reduction, and rural development (Timmer, 2014).This has been true for the ...

Energy, Ecology and Environment - By linking agricultural and livestock products, integrated crop-livestock systems produce economic and environmental benefits. Using ...

With the implementation of the rural revitalization strategy and the promotion of agricultural and rural modernization, the subsidies enjoyed by agricultural enterprises in China are increasing. As a result, the effectiveness of government subsidies for the technological innovation of agricultural enterprises has attracted more and more attention. Based on the perspectives ...

Livestock production is a crucial component of the global food system, providing essential nutrients and supporting livelihoods. This comprehensive review examines the current trends and ...

The productive land forces and animal husbandry are reducing in agro-pasture ecotone (APE) areas due to the excessive population density, vulnerable ecological environment, and complex household economy structure; consequently, land degradation in these regions can be significant [1] the agro-pasture ecotone, sustainable agriculture development has been ...

At the stage of decelerating ascent (2010-2013), the proportion of the added value of agriculture, forestry, fishery, and animal husbandry in the added value of agriculture (c6), pesticide usage ...

The model equation is set as formula (6): (9) e = ? C % ? Y % = C t - C 0 C 0 Y t - Y 0 Y 0 where e is the

decoupling index, C t and C 0 represent the carbon emissions of AAH in Henan province from the beginning to the end of the year, namely environmental pressure, Y 0 represents the gross agricultural and animal husbandry production ...

Here, we define agrivoltaic (AV) systems as the co-location of ground-mounted solar energy development and one or more of the following agricultural activities: crop cultivation ("AV-cropping"), animal husbandry ("AV ...

This document discusses integrated farming systems (IFS), which combine various agricultural enterprises like cropping, animal husbandry, fisheries, and forestry together. IFS aim to maximize production and income ...

The spatiotemporal variation analysis of virtual water for agriculture and livestock husbandry: A study for Jilin Province in China ... land utilization and energy et al. in recent years. The analysis results of Thiel index are shown in Table 1. In agriculture, it can be found that sunflower shows the biggest both inter-regional and intra ...

Date Name Of Committee Agenda 2025-04-25 : Agriculture, Animal Husbandry and Food Processing Evidence of the representatives of the Ministry of Fisheries, Animal Husbandry and Dairying (Department of Animal Husbandry and ...

Agriculture and animal husbandry have a large amount of controllable power resources and natural negative carbon attributes. On this basis, by integrating comprehensive measures such ...

Agriculture is now in the early stages of another revolution, with data and connection at the centre. Artificial intelligence, analytics, linked sensors, and other developing technologies might boost yields, enhance water and input efficiency, and promote sustainability and resilience in agriculture and animal husbandry.

They highlighted the significant and negative impact that agricultural energy consumption had on agricultural carbon emissions. Fei and Lin (2016) used the data envelopment analysis (DEA) method to measure the AEE of China"s agricultural sector based on East, Central, and West China. The findings indicated that the agricultural output and ...

Few opportunities exist for all farm type clusters to increase annual dietary energy yield and profit per hectare simultaneously, relative to their ... Feed accounted for most of the animal husbandry costs, especially evident in LG-M clusters due to their higher livestock density (Fig. S2b). ... Multi-scale analysis of agricultural development ...

Various accounts within the empirical literature of agricultural science treat animal welfare as a sub-part of the concept of sustainability. Due to the limited scope of this article, I can only focus on a few but still revealing

publications by the UK Department for Environment, Food and Rural Affairs (DEFRA), the United States Sustainable Agriculture Network (SAN) as well ...

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