



13th Global Congress on Manufacturing and Management, GCMM 2016

Land Synergy Management under the Mode of Forage Cultivation and Raising Livestock

Chun Yang^a, Shifeng Yu^a, Wenkuan Chen^{a*}

^aCollege of Management, Sichuan Agricultural University, Chengdu 611130, China

Abstract

Under the background of over-exploitation of land resources, the study builds an evaluation model of coupling coordination degree based on order parameter, and determines the comprehensive status of land synergetic system under the mode of forage cultivation and raising livestock in Sichuan. It concludes that the land use pattern is conformed to the requirement of resource endowment and the efficiency of forage cultivation and raising livestock model is better than the dual structure of traditional "grain-pig", the land synergy of forage cultivation and raising livestock mode is still in the low-level stage. It is necessary to adjust the forage-livestock industry structure, promote the benign operation of the land system.

© 2017 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the organizing committee of the 13th Global Congress on Manufacturing and Management

Keywords: forage cultivation and raising livestock (forage-livestock), land synergy, synergetic management

1. Introduction

With the rapid development of economy, the breadth and depth of the development and utilization of land resources are expanding constantly. People in the excessive pursuit of economic interests, at the same time, excessive or disorderly development of land resources lead to idle and waste land resources, the land structure of using is unreasonable, the ecological environment quality declines. In 2016, the Central Document No. 1 requires, according to the resources endowment designs modern agricultural production structure, expands the grain-feeding reform pilot, speed up the construction of modern forage industry system, adjusts the layout of regional farming, develops herbivorous animal husbandry, promotes integration of farming and feeding, cycle development of agriculture and animal husbandry. In most areas of Sichuan, it is long rainy and sunless, relatively lack of sun light. Therefore, planting grain does not have a comparative advantage. It should vigorously promote the development of forage cultivation and raising livestock ecological agriculture model, enhance resource allocation efficiency.

The concept of synergy was first proposed by the management scientist Igor Ansoff. He believes that synergy

* Corresponding author. Tel.: +86 28 86290889; fax: +86 28 86290893.
E-mail address: wkc9889@163.com

refers to the overall effect is greater than the effect of the sum of independent components, intuitive performance: "1+1" is much greater than "2" [1]. Kiel Douglas L argues that management should be avoided through control and should establish new non-linear, synergy dynamic management philosophy[2]. The benefits of forage-livestock model in the soil erosion area are obvious[3]. Grassland farming is also a new type of agricultural system that can balance the ecological and production, grain and feed, and increase the efficiency of grassland agriculture. It is the right way to build modern agriculture [4].

At present, the concept of synergetic management has penetrated into various fields, and related research is also abundant. It is common to analyse the harmonious and coupling degree of the subsystems and the synergy degree of the systems by means of the coupling harmonious model [5, 6]. It is common about combining synergy theory with system theory to study, and some of them are based on the complex system perspective, using the synergy theory to construct the synergetic management analysis framework of land use system [7]. There are scholars will put synergy regulations into the rural construction, researching control content and control methods and effects [8, 9].

This paper provides new idea about how to adjust the agricultural industrial structure from the land endowment based on the previous research results, to produce the best benefit of the land resources system, to adjust agricultural industry structure and research land resources synergy management.

2. Current Situation and Benefit Analysis on Forage Cultivation and Raising Livestock

2.1. The Pattern of Forage Cultivation and Raising Livestock

With the advance of specialization and scale, in the feeding stage, operational practice and operational mechanism have appeared some new models, such as order farming model, foster care model, "six points of unity" approach, which can achieve the all-win of company, cooperatives and farmer.

Forage, One is the use of grass hills and grass slopes and wild grass under-forest, which are mainly free-range farmers forage resources. Second, the use of abundant crop stalks, improve the adequate forage protection for the farming area. The third is the artificial cultivation of forage crops, mainly including alfalfa, ryegrass, sorghum hybrid sudan grass, forage maize, white clover, all of those mainly promote in the large-scale industrialization of farming enterprises and large-scale specialized cooperatives.

2.2. Economic Benefits of Forage Cultivation and Raising Livestock

Table1. The comparison of income per family under different planting and raising models unit: yuan

Year	Grain	Grain—Pig	Grass—Beef Cattle	Grass—Mutton Sheep	Grass—Dairy Cow
2010	6682	12065	28706	30634	43172
2011	7665	18357	37265	42026	64704
2012	8362	21942	53278	76833	92095
2013	8173	23178	69435	113260	125714
2014	8171	25246	88974	147859	162256

Date sources: the data of forage-livestock model derived from field investigation in Da'an District, Zigong City, and the rest date derived from 2010-2014 "National Agricultural Product Cost Income Data Compilation"

The subject of implementation in planting and breeding mode is different, for instance, farmers, specialized cooperative organizations, agricultural enterprises are existed. Under different subjects have different benefits. In this research, investigated and surveyed the situation of forage cultivation and raising livestock in Da'an District, Zigong City. Take peasant household as the main body, about 2-3 per household labor force, land area and labor both without increasing the number of standards, comparing Sichuan rural areas of forage-livestock field survey results, obtain household income in different areas of different forage cultivation and raising livestock model.

From table 1, we can see "Grain-Pig" of the economic income of the annual growth rate about 5% in the survey area. The "Grain-Pig" structure of economic income is higher than single grain crops, but the growth rate is not fast

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات