

## Strategic Thinking on the Development of Agricultural Science and Technology Periodicals in China

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### Abstract

Agricultural science and technology periodicals are an important medium for the dissemination of agricultural science and technology and the promotion of agricultural technological innovation. The development of agricultural science and technology periodicals of China has been developed for a hundred years, and has made brilliant achievements. In today's world, Chinese agricultural science and technology periodicals should adhere to the coexistence of opportunities and challenges. It is required to adhere to the “two directions”, public interest principle, the differences of development and actively explore the following aspects: quality, content, editing, media, publishing, dissemination, management etc..

**Key words:** Agricultural science and technology periodicals; Opportunities and challenges; Development strategies and paths

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### INTRODUCTION

Agricultural science and technology periodicals serve a significant role in promoting the spread of agricultural science and technology and the development of agricultural technological innovation. After 100 years of arduous pioneer work and hard explorations, it has been developed more than 1,600 types of agricultural science and technology from the publication of Agricultural Journal up to now in China, accounting for 34% of the total number of national scientific and technical journals and 18% of the total number of Chinese journals. Especially since the reform and opening in 1970s, the development of Chinese agricultural science and technology journals has had a three stage jump forward trends, and the number of journals has increased largely in 1980s and the quality of them has developed steadily. Since the beginning of the new century it has put forward a strategy which can guide the development of agricultural science and technology journals to be elaborate. At present, a huge system of agricultural science and technology periodicals has formed in China, which has massive coverage and distinctive features. Agricultural periodicals has recorded and spread agricultural policy, agricultural science and technology, agricultural information, promoting the interaction and development in various aspects like reforms in agriculture, rural prosperity and increasing income of farmers. The manager, scientific researchers and technicians can also communicate and share achievements through these journals. Nowadays, Chinese agricultural science and technology periodicals should adhere to the coexistence of opportunities and challenges. It is required to adhere to the “B” direction, public interest principle, the differences of development and actively explore and innovate the following aspects:

quality, content, editing, media, publishing, dissemination, management etc..

## 1. OPPORTUNITIES FOR THE DEVELOPMENT OF AGRICULTURAL SCIENCE AND TECHNOLOGY PERIODICALS IN CHINA

### 1.1 Macroeconomic Continues to Develop

From the view of development of agricultural science and technology journals in China, the economy is one of the important factors that restrict the development of it. Since reform and opening in 1970s, Chinese economic development has maintained a rapid development. Besides, Chinese agricultural science and technology journals have developed prosperously. It is not accidental nor a coincidence that these two trends have been overlapped and integrated. Increasing income of Chinese national finance has funded the development of agricultural science and technology journals as much as possible. Meanwhile, the increasing income of agriculture has provided an economic foundation to improve the consumption of subscribing agricultural science and technology journals. In 2014, revenue of China total reached 140,349.74 yuan which contained 9,892 yuan of net income per ca pita in rural areas. At the same time, since the beginning of the new century, Chinese “three rural” investments have been increased all the time and the national finance totally invested 14,001.67 yuan (National Bureau of Statistics of China, 2014). It has been proved that the rapid economic development is an important factor to promote the development of agricultural science and technology in China. Although the global economic growth have been slumping and the economic level has been declining, having been all under the pressure, Chinese economy have been maintained a growth rate of 7% the first half of this year, and weather central or local government has issued a series of measures to protect economic growth and adjust the structure of economy. Macro economy develops continuously, which can provide a strong economic foundation for the development of agricultural science and technology journals in China.

### 1.2 High Thinking of the Development of Agricultural Science and Technology Development

Science and technology constitute the primary productive forces. The Communist Party of China and the State think highly of science and technology. China has implemented strategy of strengthening the country through science, technology and education and the strategy of strengthen the country through the talented, and has actively promoted the development of the national innovation. These two strategies have made full use of various

scientific and technological innovation achievements, and provided powerful engines for the economic and social development. In 2014, Chinese national finance invested 5,253.86 yuan in the field of science and technology meanwhile the field of research and development (R&D) funding costed 13,312 yuan which had the ratio of 2.09% to GDP and a part of 626 yuan on basic research. Chinese developers and technician reached 380 million during the whole year, ranking the first place in the world. The number of developers and technician stood at 49.2 during the whole year in every ten thousand people in deployment (Wan, 2015). In the same year, the number of papers from Chinese researchers that published in Science Citation Index (SCI) ranked the second place in the world, and the number of published papers with increasingly high qualities which had been quoted from 2004 to 2014 ranked the fourth place in the world. Agricultural science and technological innovation are an important part of Chinese science and technological innovation system. Agricultural science and technology development provides rich sources of papers, readers and media for agricultural science and technology journals and also provide more beneficial atmosphere and conditions for the development of agricultural science and technology.

### 1.3 Three Rural Issues Are Very Urgent

It has formed an economic structure of two dimensions for a long time in China, which has led to an unbalanced development of urban and rural areas. The “three rural issues” have become the most important part in the construction of a well-off society comprehensively. How could it be a well-off society or not? The key is farmers. Since the beginning of the new century, the Communist Party of China and the State think highly of the “three rural issues”. The content of No.1 protocol from Chinese central government has focused on the “three rural issues” since 2004. The Chinese central government canceled agricultural tax that had existed for 2600 years and then continued to substantially increase the investment of the three rural areas. Chinese national finance funded 14,001.67 yuan in agriculture, forestry and water area in 2014. Solving problems in the three rural issues is required to rely on policies, funding and human resource etc.. However, the most fundamental factor is technology. Only the agricultural science and technology are keeping innovating can provide more high-quality types of products, more sophisticated technology and more secure products. Agricultural science and technology periodicals are important platform and important support for the dissemination of agricultural science and technology. Agricultural science and technology development needs agricultural science and technology periodicals and the solutions of the problems in the “three rural issues” also do needs. The development of agricultural science and technology periodicals is supposed to adhere to service the “three rural issues” and focus on agricultural area.

## 2. THE DEVELOPMENT OF AGRICULTURAL SCIENCE AND TECHNOLOGY JOURNALS IN CHINA FACES RISKS AND CHALLENGES

### 2.1 Marketing Conflicts the Public Interests of Agricultural Science and Technology Periodicals

Marketing is an important means to implement the optimization of resources and elements and improve social efficiency and promote social progress. Since reform and opening in 1970s, socialist market economy has been developed substantially in China, which has made great efforts to greatly liberate and develop the productive forces and fully mobilized all kinds of enthusiasm of Chinese society. At the same time, it should be admitted that marketing also has its limitations. Excessive emphasizing on economic benefits makes a sharp contrast with public interests of agricultural science and technology periodicals. Most agricultural science and technology periodicals in China are attached to the research institutes, colleges and universities and so on which often distribute the basic units of them, showing the characteristics of scattered distribution, weak force and low ability of anti-risks etc.. There is not a professional agricultural science and technology journal group or a large publishing group to form powerful agricultural science and technology. At the same time, the main body of service of agricultural science and technology periodicals is in a weak position in the society. In the tide of marketing, the survival and the development of agricultural science and technology periodicals face challenges and also may deviate from the direction of these journals serving for the “three rural issues”. In short, marketing can bring much impact upon agricultural science and technology journals.

### 2.2 Informatization Conflicts the Periodicity of Agricultural Science and Technology Periodical

The wave of informatization has been sweeping the globe, triggering revolutionary changes in the world economic structure, productive mode and life style. With the rapid development of Internet technology, the increasingly rapid dissemination of information occurs. The Internet has become an important platform for the promulgation, dissemination and acquisition of information. According to statistics, there are 6.3 hundred million of Internet users including 5.27 hundred million of mobile users, 12 hundred million of mobile phone users, 5 hundred million of micro blog which is the same as micro channel users. Every day more than 200 of messages are transmitted. By 2015, the number of Internet users may reach 8.5 hundred million in China (Lu, 2014). There are monthly and bimonthly quarterly agricultural science and technology journals in majority but minor quarterly and trimonthly without weekly. Besides, the verification of agricultural science and technology journals also takes longer time,

of which the general journal should take three months. Chinese Agricultural Science need to take nearly one year to verify. Agricultural science and technology journals published cycle doesn't very match the speed of information dissemination. Information put forward a severe challenge on the development of agricultural science and technology journals.

### 2.3 Urbanization Conflicts the Audience of Agricultural Science and Technology Periodical Audience Conflict

Urbanization is an important symbol and powerful engine of the development and progress of economic society. Chinese urbanization rate has exceeded 50%. It can be learned from the actual situation of employment that there are about 2 hundred million of framing population which is not engaged in agricultural production. A rural force has formed called the “386199”, among which a serious phenomenon called the “Hollowness”. The number of the youth is too lack to undertake agricultural production. The less farming labor force there is, the weaker power agriculture has. Some agricultural science and technology journals are severely shocked which aim at the forefront of agriculture production and the issue of farmers. Readers from the grassroots units of agriculture are becoming less and less. For example, the publishing of popular agricultural science and technology journals like the fruits from the South of China and the China fruit news is becoming more and more difficult.

## 3. STRATEGIC THINKING ON THE DEVELOPMENT OF AGRICULTURAL SCIENCE AND TECHNOLOGY PERIODICALS IN CHINA

### 3.1 Adhere to the “Two Direction”

Persevering in serving the peasantry and serving the agriculture are the directions of agricultural science and technology periodicals. Regardless of whether academic journals, popular science journals or information based journals, they must serve for increasing peasants' incomes and serve the agricultural transformation and upgrading. Agricultural science and technology should be deeply rooted in the farmers and deeply rooted in agriculture. Agricultural science and technology are very important for the development of agriculture and for increasing peasants' incomes. Only grasping the needs of agriculture and farmers well can we find the value of agricultural science and technology journals. Agricultural science and technology are not entertainment but required to deeply root in order to ensure the efforts of it. The forefront of agriculture is the touchstone of verifying agricultural science and technology. Agricultural science and technology journals basically reflect the fundamental

principle of focusing on the agricultural area. Agricultural science and technology periodicals won't lose the soil to live and the main targets of serving with the support of agriculture.

### **3.2 Adhere to the Principle of Public Interests**

Persevere in serving the public interests is the essential value of agricultural science and technology periodicals. The "two directions" decide that the agricultural science and technology periodicals must adhere to the principle of public interests. Chinese agricultural is still in a stage of underdevelopment and the level of agricultural science and technology is still not high. It is required to persevere in nurturing agriculture with industry, promoting the development of rural areas with the help of urban areas, urban areas interacting with rural areas and agriculture interacting agriculture with industry interaction. Farmers are still in the stage of poverty to some degree. There are a large number of scattered farmers with limited abilities and lacking consciousness of investing agriculture science and technology. Exploiting the platform of agricultural science and technology periodicals for disseminating the knowledge of agricultural science, popularizing excellent types of agricultural products, communicating the achievements of agricultural science and technology and promoting the innovation of agricultural science and technology requires increasing the investment of governments, enterprises and various organizations to ensure the implementation of principle of public interests of agricultural science and technology journals.

### **3.3 Adhere to Differential Development**

There are a large number and various types of agricultural science and technology journals in China. Every kind of agricultural science and technology journals has developed under specific historical conditions and realistic environment, which has distinctive characteristics ideas of the journal. Agricultural science and technology journals can be divided into the types of academic, popular science, news and so on. Academic journals mainly publish high level academic papers or research reports, which are influenced by academic evaluation system and show a positive trend of development. Popular science journals mainly publish agricultural practical technologies, which are in a difficult situation to develop. The journals of news mainly publish dynamic information of agricultural science and technology, which mostly are hosted by governments and can maintain the current status. For instance, The Agricultural Markets running a route of marketing obviously gets much benefit. The current science and technology journals pay more attention to the total frequency of core of the citation, the core factors and the rate of the core of other citations to exam the level of them, which is not beneficial for services to farmers and agriculture and does not take the economic and social benefits from agricultural science and technology

periodicals into consideration. Therefore, the agricultural science and technology journals must adhere to the self-confidence of value and concepts, and adhere to the route of distinctive development and the route of differential development.

## **4. THE PRACTICAL ROUTE OF THE DEVELOPMENT OF AGRICULTURAL SCIENCE AND TECHNOLOGY PERIODICALS IN CHINA**

### **4.1 Products With High Quality**

The products with high quality are a major strategy of the development of Chinese journals. Agricultural science and technology periodicals should adhere to the route of products with high quality, and effectively improve the qualities of themselves. The number of Chinese agricultural science and technology journals is adequate. There are some disparities in influential factors between China and foreign countries. The readabilities of the journals which provide services for agricultural forefront are not so strong. The contents of the journals should be further improved and perfected. It is required to strengthen the cultivation and construction of the authors of journals and attract high level academic papers to publish in the agricultural science and technology journals in China and curb the outflow of high level papers. Besides, it is also supposed to effectively learn the needs of agriculture and cognitive characteristics of farmers to improve the readability and appeal of the contents of journals. It is required to focus on improving the quality of journals.

### **4.2 The Specialization of Contents**

The specialization of contents is an important way to implement and guarantee the products with high quality. Chinese agricultural science and technology journals are mainly divided into 9 types. Meanwhile agricultural science and technology also involve a number of disciplines. Every science and technology journal is required to implement the professional level of its contents. It is supposed to ensure accurate, scientific and specialized contents which are consistent with professional knowledge and the requirements of science and technology journals.

### **4.3 The Standardization of Editing**

Editing is also a science. The editing of journals has a common standard system. The editing of agricultural science and technology journals is required to obey the standard. It is required to edit journals according to the common standard in the aspects of measurements, the use of numbers, the use of terms, the standard of references and the use of icons. Obtain the approval of the whole profession and readers by standard editing.

#### 4.4 Digital Media

The rapid development of information technology and digital technology has greatly improved the speed of the dissemination of scientific and technological information. Agricultural science and technology journals must keep pace with the age and make full use of modern information technology and digital technology to strive to build the digital platforms of agricultural science and technology communication. Persevering in the integration of journals and websites to fully integrate the paper media with digital media. Digital media should be based on mass data and sufficient information and establish the digital platforms of agricultural science and technology information. Paper media are required to become the highly concentrated essence of the information given on the digital platforms of agricultural science and technology periodical.

#### 4.5 Publishing Industrialization

Industrialization is the integration of production, circulation and sales. Chinese agricultural science and technology periodicals should take the initiative to meet the requirements of the socialist market economy and the development of agricultural science and technology periodicals. It is required to change concepts, reform systems and adjust and optimize the publishing work. Meanwhile, it also supposed to focus on strengthening the merger and the formation of similar journals and create a powerful systems of journals to form a group effect. It is needed to improve the ability of publishing of journals.

#### 4.6 International Communication

Agricultural science and technology journals must adhere to the strategy called the “going out”. It is required to

have technological achievements and technological journals which influence people’s lives and the whole world to construct a powerful country with developed agriculture and advanced agricultural science and technology. Chinese high-level research achievements mainly publish in foreign science and technology journals. Chinese agricultural science and technology journals must be spread over the world to take the initiative to adapt to the characteristics of the international science and technology journals, which can obtain the approval and the influences on the whole world.

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### CONCLUSION

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There are many opportunities and challenges from the development of Chinese science and technology periodicals, but opportunities outweigh challenges. Chinese science and technology periodicals must adhere to its law of development, take the initiative to adapt to the requirements of economic and social development, develop the ideas of publications, improve the quality of the development of journals and provide the service of the development of agricultural science and technology.

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