Development of Agricultural Information Network in China and its Effect and Function on Chinese Agriculture

Zhang Lianhong¹, Xu Limin, Dai Aimei

Abstract

Along with quick development of Internet information techniques, rapid development in agricultural information network has been made in China, with the amount of agri-websites increasing from less than 200 in 1998 to more than 2600 up to now. The quick development of Chinese agriculture information network brings a deep influence on Chinese agriculture. The effect and function of Internet on Chinese agriculture with many examples is analyzed on 5 aspects as following: 1) Changing the traditional idea and the production pattern of Chinese farmers. 2) Promoting the circulation of agriculture by-products and increasing the farmers’ income. 3) Stirring up the farmers’ enthusiasm of studying to go up the Internet and increasing the farmers’ cultural level. 4) Promoting the popularization of modern agriculture information technique. 5) Quickening the step of realizing the modern agriculture informatization in China.

Key words: Internet; Agri-information Network; Agriculture; Farmer; Informatization; China

The development current situation of the Agri-information Network in China

Under pushing of world informatization wave, along with the quick development of Internet information technique, rapid development in agri-information network has been made in China since 1999, with the amount of agri-information websites increasing from less than 200 in 1998 to more than 2600 up to now. According to the statistics by the Information Center of Agriculture Department, about 1600 agri-websites keep the status of normal movement and among them the total amount of the websites from the areas of Peking city, Zhejiang, Jiangsu, Shandong, Guangdong province holds half of the total in China. “Chinese Agriculture Information Net” set up by Information Center of Agriculture Department and “Chinese Agricultural Sci-Tech Information Net” set up by Chinese Academy of Agricultural Sciences, etc. are the best authority agri-websites in China with high utilization rate. All the provinces, cities or autonomous regions have paid more attention to the agri-information network engineering development. For example, Liaoning province have started the “Agriculture Engineering on Internet” and support mainly by capital for first 1 ten thousand farmers. Anhui province started the engineering of “information into the country” in 2000 and obvious effect has been obtained already. 1790 villages and townships in this province have set up the agri-information service station. Henan government has invested more than 5000 thousand yuan to set up the agriculture information network, and now, 74 net

¹ Zhang Lianhong, Institute of Agricultural Economic Information, Henan cademy of Agricultural Science, Zhengzhou, 450002, E-mail: zhanglianhong@371.net
stations at city and county level have been set up in whole province. The agriculture enterprises represented by Peking Agriculture Soft Science Company join into the rank of agri-information network construction one after another and become the main force of setting up Chinese agri-information websites, with their website amounts occupying 37% of the whole nation, which have positively promoted the development of Chinese agri-information network. The agri-websites with the special features, represented by “Green Basket Net”, “Chinese Peanut Information Net”, etc. absorb many farmer users.

**Influence and Function of Internet on Chinese Agriculture**

**Changing the traditional idea and the production pattern of Chinese farmers**

Internet changes greatly the farmer’s traditional idea. In the past, the farmers used to follow the government’s plan for planting and breeding and lack the market information idea. Because the information was ineffective and planting and selling were in the blindness, the problems of selling food and pigs difficultly often occurred, resulting in the fluctuation of the agriculture by-products in China. Along with the emergence of agri-websites a lot of smart farmers go up the net and make use of the network information to guide them to plant, farm, breed and sell the agriculture by-products. For example, the farmer Liu Mingcai in Sangang of Haerbing city sold vegetables on the net, the Laizhou farmers in Shandong province sold shells on the net, Zhehe farmers sold flowers on the net and Zhongmu farmers sold garlics on the net, who all got obvious economic profits. The change of the traditional idea will bring a deep effect on development of Chinese agriculture.

Internet makes the farmers change their traditional production mode. More than 2000 farmer-houses in Jiangshan city in Zhejiang province have already gone up the net. Only for one year, they collected more than ten thousand pieces of information on the net. Under the guide of net information, they adjusted planting construction of 1247 ha and sold the agricultural product with the selling amount reaching more than 150 ten thousand yuan. Now, preparing planting based on net-information have become the vogue in local farmers.

**promoting the circulation of agriculture by-products and increasing the farmers’ income**

Internet, overstepping the national boundary and leading to whichever corner on the home and abroad with its feeder, make Chinese common farmers to buy and sell the agricultural products by using net-information, thus, the sale’s middle link can enormously be reduced. Xingbei town, Zhengfeng county, Guizhou province published pepper sale information on “Guizhou Rural Synthesis Economic Net” only for one month and stroke a bargain of 4 ton peppers with the price of 3.2 ten thousand yuan per ton with a factory businessman. The farmers in Mudanjian city of Heilongjiang province sold the fruits and vegetables to Russia through the Internet, with annual amount of 44 ten thousand ton.

The unsalable products can be changed into the popular products through Internet. The Puerarice powder is the special product in Shuikou town of Chongqing city, with the production of 15 ton in whole year. But the farmers’ enthusiasm for planting
Puerarice powder was greatly affected, as Puerarice powder was difficult to be sold in before. When the Sci-Committee in this County published the information on the Internet many users from more than 10 provinces asked to buy the Puerarice powder, thus inspiring the ardor of planting Puerarice powder. Internet provides great market space for Chinese agricultural development. For example, Sanmenxia is the main growing-apple area in Henan province, but sometimes there had also a difficult situation for selling apple. Accordingly, Sanmenxia city set up “Good quality fruit Information Net”, which connected all the wholesale markets in China. Since the net was started, 6000 pieces of information have been published and more than 38700 ton apples have been sold directly on the net, some apples were exported.

_Stirring up the farmers’ studying enthusiasm to go up the internet and increasing the farmers’ cultural level_

Internet makes the farmers find business opportunities as well as stirring up the farmers’ studying enthusiasm to go up the net. Through joining into every kind of training classes, the farmers not only learned techniques of downloading the information, but also learned how to carry the information of own products up the net. Some farmers also learned doing web techniques, thus, the farmers’ knowledge quality has been increased greatly. Wang Lizong, a leader of Xishan breeding farm of Haining city, Zhejiang province, after studying and grasping the computer and network knowledge, set up his own website with trademark Hetianhong as name of website. All the selling of products from the breeding farm would be finished through this net. Only for more than one year, the bargain volume on products reached 130 ten thousand yuan, among them the export volume was more than 80 ten thousand yuan.

_Promoting the popularization of modern agriculture information technique_

The modern agricultural intelligence information technique, by making use of the intelligence technique, multi-media with the computer technique, and gathering the knowledge and experience of various agriculture experts, agriculture models with every kind of information, can concretely guide the farmers to plant and breed, apply fertilizer rationally, control diseases and insect pests, cultivate and regulate with synthesized measures. Through the Internet, the farmers can get the expert guidance without going out of home, increase the production profits and really get the goodness of planting field scientifically, thus, speeding up the process of modern agriculture informatization in China. Now, there are more than 20 agricultural expert systems of intelligentization and 4 application demonstration areas in China. Beijing Agriculture Intelligence Network Center has already realized the computer connection with 54 villages in 8 counties in Peking city and the farmers who go up the net can get the consulting service of information include the wheat, corn expert management, agriculture synthesized techniques and synthesized information. For example, “wheat management computer expert decision system ”, made by Peking Academy of Agriculture and forestry Sciences, make use of the artificial intelligence technique, network technique to guide the field production, and can increase the wheat yield by 10% 15%, lower the production cost by 5% 7%, increase the profits by 15% 20%. Since the system has been running on the network for two
years, the total expand area reached about 29 ten thousand ha with the total and economic profits of 2038 ten thousand yuan.

Quickening the step of Chinese modern agriculture informatization

Development of agri-information network makes a great change of Chinese countryside, leads the farmers into the network era and quickens the step of realizing the modern agriculture informatization in China. Shuilong village of Yuhuan county, Zhejiang province, a village of less 300 farmer-households, has 35 enterprises with the year’s production value of million yuan. Now, in this village 95 farmer-households are making business through the Internet, 21 enterprises have established their own webpages on the net and 5 enterprises have registered web name at the international top level. The village also owns advanced connection net equipment module, fast-unimpeded access up to Internet and the information network of “three nets in one” combining the sound, data and diagram, which have become the first demonstrating village with high informatization in Zhejiang province.

All these mentioned above show that Internet already settles in villages in China quietly and leads large farmers to go forward into the agri-informatization era.