tural pests, in addition to the rational use of chemical pesticides, protection and use of the self-pest-control mechanism in nature is very important, since it is a more effective or natural way to control pests. In agricultural production, more and more people have recognized that by changing the surrounding environment, adjusting the cropping systems, arranging the crop distribution pattern can increase the species number and population size of natural enemies, change the composition of biological communities, improve community diversity and stability, and suppress the number of pests. Although conservation and use of natural enemies in agro-ecosystem is not only beneficial to the ecological pest control, but also helpful to reduce the use of pesticides, improve crop yield and quality, and contribute to the management of agro-ecosystem, however, using natural enemies to control pests in a single-crop-species agro-ecosystem has been challenged practically in the past.

The success of migration and colonization of pests in crops depends on the probability of individual pest finding, feeding and reproducing on host plants, which will be affected by increase of biodiversity in agro-ecosystems. The diversified agro-ecosystem will cause complex visual and olfactory stimulations to pests, and thus disrupt their ability to find host plants. Biological diversity in agro-ecosystems can play the role of shifting the target crops when inter-cropped crops or weeds are similarly suitable for pests, reducing the level of damage of pests to the main crops This can be applied to a wide area to control pest populations. As opposed to the 1-year-crop habitat, the non-crop habitat types with less disturbance and longer time of vegetation cover have stable heterogeneous environments. Thus they can become suitable sites for the reproduction of parasitic and predatory arthropods due to adequate provision of shelter and/or resources such as prey, pollen and nectar and so on. These natural enemies of crop pests can easily move into the adjacent crop habitats, playing the role of regulation and control of pest populations. Thus, in order to increase the biodiversity of agro-ecosystem and the natural enemies of crop pests, conservation of the biodiversity of structure of agricultural landscapes and the non-crop habitats are important.

In China, the ecological management of agricultural pests is just beginning, and consequently urgently needs a comprehensive book to introduce the theories and practices in this field. The book *Biodiversity and Pest Control* theoretically elucidates the relationships between biological diversity and control of plant pests, and gave abundant examples of practices. This book focussed on the ways of using biological diversity to maintain the stability of pest population in agro-ecosystems, discussed inter-cropping, tillage layer coverage, weed management, techniques of crop-surrounding plant control and so on. The main contents are: Chapter 1, ecological functions of biodiversity and its relationship with agricultural production; Chapter 2, relationships between plant diversity and stability of insect community in agro-ecosystems; Chapter 3, the survey and sampling method of insect diversity; Chapter 4, insect management in complex cropping agro-ecosystems; Chapter 5, biodiversity and sustainable control of insect pests in rice field; Chapter 6, cultivation of ground cover plant and pest management in orchard; Chapter 7, impacts of surrounding environment of farmland on the insect populations; Chapter 8, weed control and pest population control; Chapter 9, pests dynamics in agroforestry ecosystems; Chapter 10, vegetation diversity and pest population control in agro-ecosystems; Chapter 11, agricultural biological diversity and invasion of alien insects.

The book is well written with few errors and strong readability. It may be used as a good reference for entomologist or ecologists or persons who engage in agricultural or biological research, education, production and management, or other persons who are interested in these fields.

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Comprehensive Research on Ecosystems of China

By Sun Honglie. 2009. Beijing Science and Technology Press, 16 Xizhimen South Street , Beijing, China, 100035. 388 pages, 89.00 CNY.

The territory of China spans a vast area, extending from tropical to cold regions from south to north, and from humid or rainy to arid or semi-arid regions from east to west, covering diversified types of ecosystems. Obviously, clear understanding the structures, functions and dynamics of these complex ecosystems need integrative and long-term investigations. In-depth and systematic research on these ecosystems can provide essential information for the scientific assessment of their health status and successional trends, which can also reflect the changes of the local environmental conditions.

Ecosystem research in China was rather late compared with other developed countries, and 20 years ago, such research was also rather scattered and isolated without common objectives and unified scientific methods of observation and measurement. This made it hard to make scientific and systematic comparisons

and analysis of the data accumulated by research stations at the country-scale. Having recognized such a embarrassment, in 1988, China Ecosystem Research Network (CERN) was established by the Chinese Academy of Sciences. This included most representative ecological research stations over China. These are located in the typical ecological regions and belong to the typical ecosystem types. The CERN was set up with the aim of formulating common items of scientific research, observation, and measurement at different locations in order to integrate the works of individual ecological research stations at a common scientific basis. So far, 20 years has passed since the establishment of CERN, and great changes could have happened in these ecosystems, thus, to sum up the trends of changes in these based on the data accumulated over time, seemed to be very necessary.

The book *Comprehensive Research on Ecosystems of China* systematically sums up the main progresses and results of the long-term ecological observations, researches and experiments in the ecological stations of CERN, for the 20 years since its establishment, covering the typical ecosystems in typical ecological regions, such as farmlands, forests, grasslands, deserts, water bodies and so on, and concerned with the water cycling, carbon cycling, nutrient cycling, biodiversity of the terrestrial ecosystems, the ecological functions of water body ecosystems, as well as the atmospheric environment. In addition, the book also summarized the processes of development of CERN since its establishment, and the ideas and layouts for future development.

The main contents of the book are as follows, Chapter I The history of design and construction of China Ecosystem Research Network. Chapter II Agricultural ecosystems of China, including (1) evolution of soil quality, productivity and environmental effects of intensive agro-ecosystems, (2) nutrient cycling of intensive agro-ecosystems, (3) water cycling of intensive agro-ecosystems, (4) structure, function and productivity of agro-ecosystems, (5) construction of the core zone of national food production, (6) construction of the circular agriculture and its environment. Chapter III Forest ecosystems of China, including (1) structure and biodiversity of forest ecosystems, (2) functions of forest ecosystems and their responses to global changes, (3) restoration of degraded forest ecosystems and the techniques of optimized management. Chapter IV Grassland ecosystems of China, including (1) productivity and stability of grassland ecosystems, (2) relationship between biological diversity and productivity of grassland ecosystems, (3) nutrient cycling of grassland ecosystems, (4) responses and adaptations of grassland ecosystems to global changes, (5) grazing ecology and rational utilization of grassland ecosystems, (6) pests and rodents of grassland ecosystems and their control, (7) prospects for future research in grassland ecosystems. Chapter V Desert ecosystems of China, including (1) adaptability of desert plants in desert ecosystems, (2) desertification and its control in China, (3) some techniques and examples of ecological restoration and reconstruction in desertified grasslands, (4) construction and management of desert oasis, (5) sand damages to the major engineering projects and the control techniques and application examples. Chapter VI Wetland ecosystems of China, including (1) hydrological processes and ecological effects of wetlands, (2) carbon and nitrogen biogeochemical cyclings, and the driving mechanism in wetland ecosystems, (3) characterization of the degraded wetland ecosystems and the evaluation indexes. Chapter VII Fresh water lake ecosystems of China, including (1) interaction between the main biogenic elements and primary producers in fresh water lake ecosystems, (2) relationship between N/P and algal blooms occurrence, (3) top-down effects of predator on primary producers, (4) impacts of external environmental conditions on lake ecosystems. Chapter VIII Gulf ecosystems of China, including (1) mariculture ecology, (2) structures and functions of gulf ecosystems, (3) long-term changes and succession of gulf ecosystems. Chapter IX Water cycling in terrestrial ecosystems of China, including (1) overview of the study of water cycling in terrestrial ecosystems within the network of CERN, (2) characteristics of water consumption by crops in northern agro-ecosystems and regional differences, (3) hydrological processes of different types of forest vegetation and their differences, (4) relationships between vegetation and water in northern desertified areas and spatial divergence distribution, (5) characteristics of stable isotope in precipitation of China and discrimination of source of water vapour, (6) comparisons of water qualities among terrestrial ecosystems of different regions. Chapter X Carbon cycling in terrestrial ecosystems of China, including (1) overview of the study of carbon cycling in terrestrial ecosystems of China, (2) carbon storages, spatial patterns and environmental control factors of terrestrial ecosystems, (3) spatial and temporal changes and control mechanisms of carbon sink-source functions in terrestrial ecosystems, (4) impacts of ecosystem management on carbon cycling and effects of carbon sink. Chapter XI Nutrient cycling in terrestrial ecosystems of China, including (1) progresses of the study of nutrient cycling in terrestrial ecosystems within the network of CERN, (2) nutrient cycling and productivity of terrestrial ecosystems, (3) nutrient cycling of terrestrial ecosystems and evolution of soil quality, (4) nutrient cycling of terrestrial ecosystems and effects of environment, (5) driving mechanisms of nutrient cycling and balance of terrestrial ecosystems. Chapter XII Biological diversity of terrestrial ecosystems of China, including (1) biological monitoring of terrestrial ecosystems within CERN, (2) progresses of biodiversity study of terrestrial ecosystems. Chapter XIII Ecological functions of terrestrial water body ecosystems of China, including (1) environmental quality of water bodies,

(2) service values of water body ecosystems, (3) health assessment of water body ecosystems. Chapter XIV Atmospheric environment of terrestrial ecosystems of China, including (1) overview of the study on the changes of atmospheric environment within the network of CERN, (2) changes in radiation environment of terrestrial ecosystems, (3) changes in aerosol optical thickness of terrestrial ecosystems, (4) changes in atmospheric ozone concentration of terrestrial area. Chapter XV Some thoughts on strategic layout and development of CERN.

Compared with the book *Chinese Ecosystems*, written by Sun Honglie and published by Science Press, Beijing, in 2005, which generally summed up some typical ecosystems of China, the book *Comprehensive Research on Ecosystems in China* is deeper and more detailed, and could be regarded as a sister book or a companion volume of the former. Hopefully this book would contribute to the deeper understanding of the various aspects of different Ecosystems of China. The book is suitable for the professionals who engage in ecology, biology, agriculture, forestry, water sciences or environmental sciences, or other persons who are interested in these fields.

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Theoretical Basis and Practical Modes of Returning Farmland to Forest or Grassland

By Li Xianwei, Zhang Jian, Hu Tingxing, Luo Chengde. 2009. Beijing Science and Technology Press, 16 Xizhimen South Street, Beijing, China, 100035. 450 pages. 75.00 CNY.

For thousands of years, most of Chinese farmers have been bound to the land. They reclaim the lands around their living areas for crop cultivation, regardless of whether these lands are ecologically suitable for grain production or not, leading to serious environmental problems in some areas. The Chinese government made a strategic policy a few years ago to return some infertile and unsuitable farmland to forest or grassland to protect the environment of these areas.

In China, returning farmland to forest or grassland, or in other terms, the grain for green project, refers to ecological engineering to convert the present farmland located in unstable slope land, or desertified arable land, or ecologically important but fragile land, or the land with frequent or serious soil erosion, or lower grain production etc, to forest or grassland, so as to improve and protect the environment. Actually, such policy and practice has a long history in China. However, for a long time, such practices were only conducted in sporadic areas. In the world, at least as early as the 20th century, in the United States there was a precedent of successful practice of returning farmland to forests, especially in the state of New York. In China, the project is mainly implemented in about 20 provinces, cities and regions in north, west and central China. The natural environments and social conditions of these areas are mostly quite harsh and poverty stricken. These include places such as the inaccessible mountainous or semi-mountainous areas with little valley or plains, arid or semi-arid areas, both sides of the sources of rivers, areas around the lakes and reservoirs, etc.

Returning some farmland to forest or grassland is an urgent need in some areas with fragile and degraded environment, and of importance for restoration, protection and construction of the environment in these areas, and long-term survival of millions of local people and development of the local economy. At present, in China, about 37.5% and 18.2% of land areas suffer from soil erosion and desertification, respectively, which mainly resulted from blindly practising long-term deforestation and reclamation. According to a national survey of land resources, the slope farmland with above 25 degrees makes up 6.06 million km^2. The deforestation and reclamation increase the arable land area and subsequent grain production came with high environmental costs. The middle and upper reaches of the Yangtze and Yellow River have become one of the most serious soil-eroded areas in the world, due to the deforestation and reclamation on steep slopes of the river banks. Two-thirds of more than 2 billion tons of sediment flowing into the Yangtze and Yellow River each year come from the slope farmland, which further lead to the siltation of rivers and lakes, and increase the flooding or water shortage in lower reaches.

In China, the implementation of the project of returning farmland to forest or grassland, not only can fundamentally solve the problem of soil erosion, effectively enhance the capacity of water conservation, improve the environmental quality, increase the capacity of water logging-prevention and drought-resistance, increase the productivity of existing farmland, change the traditional farming habits, adjust and optimize the industrial structure in rural areas, promote the local economic development, help people to eliminate poverty, promote the development of the industry and agriculture in these areas, but also can provide ecological protection for the middle and lower reach areas, as well as the healthy and sustainable development of the environment, society and economy of the whole country. The project of returning farmland to forest or grassland is one part of the national strategy of sustainable

Erratum The Canadian Field-Naturalist 126(4)

In response to the review of *Contributions to the History of Herpetology*. CFN 126(3): 344-345, the book's editor Kraig Adler pointed out (personal communication to FRC 12 May 2013): "Only one small correction. Mrs. Martof used a kitchen knife, not a gun. She told the police she slipped while cutting some pizza. But Bernie was stabbed up under his rib cage several times!"

Erratum The Canadian Field-Naturalist

It has come to our attention that sections of many of the book reviews by Li Dezhi and Qin Aili were copied from sources without attribution. The journal and the authors apologize for this oversight.