

前 言

中国是世界第一养猪大国,养猪业占有举足轻重的地位。在全球经济一体化的今天,我国的养猪业必须面向世界,要想实现由养猪大国转变为养猪强国,猪种的遗传改良是实现这一转变的基础。然而,长期以来我国在位于养猪生产体系“金字塔”顶端的核心种质群依赖进口,处于“引种→维持→退化→再引种”的不良循环,成为制约我国养猪业健康发展的瓶颈。

令人鼓舞的是,在我国广大猪遗传育种学者和企业家的共同努力下,目前已具备了开展大规模商业化种猪育种的条件。主要表现有二点:一是经过近 20 年持续不断的优良种猪资源引进,我国目前已成为瘦肉型种猪资源最丰富的国家之一;其二是种猪业发达国家的成功经验提供了可资借鉴的先例,建立国家和区域性种猪遗传评估系统是其成功的基础,而我国自 1997 年开始在全国畜牧兽医总站的组织和推动下,经过近 8 年的艰难实践,目前也已为国内种猪企业和育种学者所接受。更值得庆幸的是,农业部“引进国际先进农业科学技术”重大专项“猪遗传评估技术的引进与中国优秀种猪核心群繁育体系的持续发展(2004~2007 年)”于 2004 年正式启动,初步建成了国家种猪遗传评估中心,在华南、华中、华北、华东和西南等地区也全面开展了区域性的种猪遗传评估系统建设,得到广大种猪企业的积极支持和参与,一个多极化、大规模种猪育种核心群体正在逐步形成。

值此关键时期,2005 年 4 月在该项目支持下,中国猪遗传育种学术考察团赴美国和加拿大进行技术交流,在美国 Iowa 大学期间与 Ensminger 基金会的董事长 David G. Tope 教授等协商,确定由 Ensminger 基金会在全世界范围内邀请知名的猪遗传育种专家,于 2005 年 10 月在广州召开“国际猪遗传育种专题学术讨论会”。2005 年 8 月农业部全国畜牧兽医总站下发“牧站(畜)【2005】128 号”文件,在全国范围内组织此次会议,华南农业大学负责承办。会议特邀了国内外 10 位学者,撰写了 10 篇综合报告,涉及到猪遗传育种的多个热点问题,极具参考价值。承蒙华南农业大学学报编委会的大力支持,特以《华南农业大学学报》(增刊)的形式予以正式出版。

由于时间紧迫,对收编的论文本着文责自负的基本原则,在尊重作者原意和风格的前提下,对文字和版面格式等做了一些处理,但仍存在许多不足之处。对于英文稿件,我们组织了一些老师和研究生翻译,由于翻译和审校人员水平的限制,差错之处在所难免,为避免误解,论文集中同时刊出了英文原文,敬请广大同仁批评指正。此外,由于时间关系,对个别论文,我们尽量按照论文表述的意思,补写了中英文摘要,不恰当之处,也敬请作者谅解。

在论文集编辑过程中,华南农业大学张豪副教授和李加琪教授为英文论文的翻译做了大量的组织和校对工作,学报编辑部全体编辑人员对全部论文作了认真仔细的审校和编排,在此我谨代表组委会对他们的辛勤劳动表示衷心地感谢!

借此机会,我谨代表项目组向农业部科技教育司引进开发处刘艳处长和全国畜牧兽医总站陈伟生副站长对本项目及此次会议的关心和支持,表示诚挚的谢意!

陈瑶生

2005 年 9 月 20 日于广州

Preface

The Ensminger International Schools have had a rich tradition for more than 50 years. Dr. and Mrs. Ensminger conducted 71 Ensminger Schools in countries around the world. This is the 4th Ensminger School for China.

Iowa State University's Animal Science Department received a wonderful gift from Marion Eugene Ensminger and Audrey Ensminger to continue the International Schools in cooperation with outstanding animal science programs throughout the world. We are proud to be a partner for the Guangzhou School in cooperation with the South China Agricultural University.

Professor Ensminger established the Agriservices Foundation, a non-profit foundation serving world agriculture in the areas of world food production systems, hunger and malnutrition. It is from this foundation that he established the International Ensminger Schools.

In 1964, Dr. Ensminger developed the International Stockman's School in the United States in addition to the Ensminger Schools in other countries. Professor Ensminger was an outstanding teacher and researcher at Washington State University before he moved to Davis, California to become a full-time author of animal science books. He also became President of the Agriservices Foundation. He published 22 outstanding animal science books.

The College of Agriculture at Iowa State University has had very successful cooperative programs with several universities in China as well as with the Chinese Academy of Science. During the discussions of these cooperative programs, it was pointed out that animal agriculture in China had some significant challenges as well as some special opportunities in the next four or five years. The best way to overcome the challenges and take advantage of the opportunities is to have a good science foundation on which to obtain the correct answers and develop programs for the best direction of the animal industry. Therefore, the 2005 Ensminger Schools for China was established to help provide a stronger scientific foundation for swine production systems. Scientists from the leading animal breeding and genetics programs in China formed the program committee for this Ensminger School. The committee developed outstanding topics and established scientists were invited to present the scientific papers for the 2005 China Ensminger School. The China School will feature: 1) Historical review of swine testing programs; 2) Software application for problem solving in animal breeding systems; 3) Development of quantitative genetic technology for swine improvement programs; 4) Integration of molecular genetic technology with quantitative genetic technology for maximizing genetic improvement.

The papers in the Ensminger School Proceedings were not peer reviewed. Therefore, the contents of the papers are the responsibility of the authors.

I want to thank all of the individuals who contributed to the China Ensminger School, especially the speakers for their outstanding papers, of the planning committee and everyone at the South China Agricultural University who helped with the Ensminger School to make it a success.

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