HARBIN VETERINARY RESEARCH INSTITUTE
CHINESE ACADEMY OF AGRICULTURAL SCIENCES

Introduction of Animal Mycoplasma Research Team

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About Harbin Veterinary Research Institute

1. Harbin Veterinary Research Institute (HVRI) of the Chinese Academy of Agricultural Sciences (CAAS)， is located in Harbin, a beautiful and famous city in northeast China.
2. It was founded in June, 1948 as the first veterinary medicine research institute in China. The HVRI includes main campus in downtown Harbin and a experimental farm in the outskirts of Harbin. HVRI has a company (Weike biotechnology development company) and controls a research center (Harbin national engineering research center of veterinary biologics corporation)
3. The institute has 566 staffs, including 111 senior researchers. At present, 270 doctor and master candidates are studying in the institute.

Research fields

1. Mycoplasma mycoides subsp. Mycoides (Mmm)
   It causes contagious bovine pleuropneumonia (CBPP) in cattle. The control of CBPP in China is divided into three periods:

   I) **1949–1962**: The pathogen is epidemic in most counties in China. There is no effective vaccine available. A total of 153771 cattle died of CBPP. The rate of motality is between 46.9-61.2%.

   II) **1962-1996**: The scientists in our lab have developed an attenuated vaccine from the virulent Ben-1 strain. After vaccination of Ben-1 vaccine in nationwide, CBPP is controlled. In 1996 the Ministry of agriculture announced the eradication of CBPP nationally in China.

   III) **1996 to the present**: serollogical surveillence of CBPP with c-ELISA assay and pathogen surveilance in the abattoir

Xin, J., Y. Li, et al., 2012, Vet J **191(2): 166-170**

1. Contagious bovine pleuropneumonia (CBPP) (continues)

In 2011, OIE has approved our achievement and give us the certificate to recognize China as free from CBPP.

To control the CBPP in Africa, Bill & Melinda Gates Foundation gives us a grant in the amount of $1,270,583 to evaluate the effect of Ben-1 vaccine in Africa.

BILL & MELINDA GATES *foundation*

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November 12, 2013

Xiangang Kong
Harbin Veterinary Research Institute, CAAS
427 Maduan Street
Harbin
China

Re: Global Development Grant Number OPP1088553
Contagious Bovine Pleuropneumonia BEN-1 Vaccine Evaluation

Dear Professor Kong:
The Bill & Melinda Gates Foundation (the "Foundation") is pleased to award Harbin Veterinary Research Institute, CAAS, ("HVRI") a grant in the amount of $1,270,583.00 for the period beginning on the date you sign this agreement (the "Start Date") to February 28, 2015 (the "Grant Period"). This agreement (the "Grant Agreement") contains the terms and conditions of this grant.

OIE

Certificate

Contagious bovine pleuropneumonia status of People's Republic of China

This is to certify that following a recommendation of the OIE Scientific Commission for Animal Diseases, the World Assembly of Delegates of the OIE approved on 24 May 2011 that People's Republic of China be recognised by the OIE as free from contagious bovine pleuropneumonia (CBPP) in accordance with the provisions of Article 11.8.3 of the OIE Terrestrial Animal Health Code.

This recognition is based on the documentation submitted to the OIE by the Official Veterinary Services of People's Republic of China. The Delegate of People's Republic of China to the OIE has the obligation to notify the OIE immediately if there is any significant epidemiological event relating to CBPP in People's Republic of China and to confirm annually that the epidemiological situation has remained unchanged.

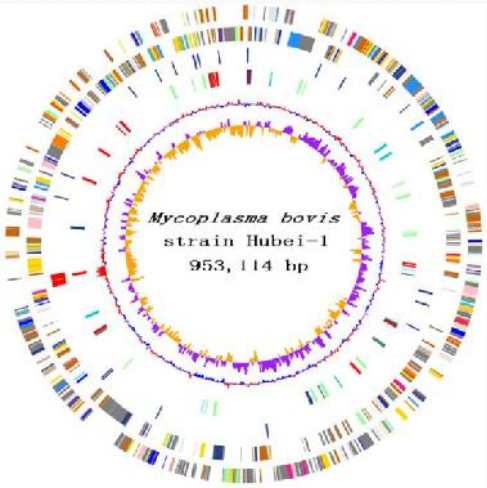
Paris, 26 May 2011

Carlos A. Correa Messuti
President

Bernard Vallat
Director General

2. Mycoplasma bovis

1). Epidemiologic investigation of Mycoplasma Bovis (PLoS One **6(6): e20999**)



2). Explore the functions of adhesion protein (PLoS One **7 (6): e38836**); PLoS One **8(7): e69644)**

3. Mycoplasma hyopneumoniae (MHP)

MHP is an important mycoplasma and epidemic in the world. The positive rate in Chinese herd is very high.

1) Antigenic research of important membrane proteins

2) Epidemiologic investigation and isolation of virulent strains

3) Characterize immune responses against MHP in pigs during infection

Challenge for our research

1. Explore the immune mechanism of Ben-1 vaccine in vivo

2. Isolate the virulent MHP in the field and characterize immune responses initiated by MHP in vivo

3. Develop more effective vaccines for controlling MHP

About Our Team

Five Research staffs, three technicians and eleven master candidates

Professor **Jiuqing Xin**

Associate professor
Henggui Liu and Yuan Li

Assistant professor
Xiumei Wang and Ying Yu

Thanks for your attention!