

BRUCELLOSIS OUTBREAK IN A PIG BREEDING FARM

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จุฬาลงกรณ์มหาวิทยาลัย ศูนย์ฝึกนิสิตสัตวแพทย์ นครปฐม 7300

Abstract

A pig breeding farm in Potharam district, Ratchaburi, with history of 18% of infertility, 9.4% of return heat and 11.7% of abortion in a herd of 128 crossbred sows. Brucellosis was suspected, 50 sera of problem sows and 8 boars were collected and sent for laboratory diagnosis. It was shown that they were positive 75, 90, 70 and 37.5 percent for the groups of infertility, return heat, abortion and boars respectively.

Introduction

Routine blood test for brucellosis in a pig breeding herd is recommended twice annually. For the last 2 years Faculty of Veterinary Medicine, Chulalongkorn

University carried out the test about 8,000 accidental samples. Five percent was found positive for the year 1981 but for last year only one breeding farm in Potharam district, Ratchaburi, was found with losses due to reproductive failure. The present report provided additional clue of clinical symptoms of brucellosis boars.

Case history

During August to October 1982, a pig breeding farm of 128 crossbred sows and 8 boars in Potharam district, Ratchaburi encountered a problem of reproductive failure including infertility, return heat and abortion. The owner suspected the feed as the cause of the problem but the prove has never established. Local authority of the district was called in to investigate the problem. Blood samples were collected and tested for brucellosis by rapid plate test (RPT) and 90 percent was found positive. The owner was hesitated to accept the out come of the test. The authors were requested to re-investigate the problem on 23rd November 1982. Planing was drawn and investigation was carried out for 6 consecutive visits.

Examination of the farm: The farm was divided into 2 units, one was an old fattening housings while the new one was a breeding unit with slatted floor for farrowing and lactating sows and adjacent to it was a housing with cement floor. Part of the breeding sows were selected from fattening gilts from the farm, only recently that the owner bought some sows and boars from a commercial breeding farm.

Clinical examination: For the sows and pigs in the farrowing crates, no abnormal clinical sign was observed excepted hygienic problem. Individual sow in each pen was examined, only a few sows with purulent vaginal discharge was observed. Two sows exhibited sign of lameness on one hindleg otherwise they appear to be normal.

The most striking feature was 3 out of 8 boars displayed posterior lameness with only one hindleg was affected for 2 boars and no swollen or any wound was noticed. In addition, the third boar with mild lameness but manifested posterior paresis. They showed sign of good libido but failed to mate the sows as they could not stand on both hindlegs while mounting.

Blood sera were collected from 50 sows mostly from second (24/50) and first parity (8/50) as well as 8 boars. Routine brucellosis test was performed by rapid plate test (RPT) and confirmed with tube agglutination test (TAT) at 37°C and 56°C as well as 2-Mercaptoethanol (ME-TAT) 37°C.

Result and discussion

Problem sows were divide into 3 groups and results of the test was shown in table 1.

Table 1. Problem sows were divided according to groups of infertility, return heat and abortion as well as result of brucellosis test

| Reproductive problem | Total | Blood sampled | Positive (%) |
|----------------------|-------|---------------|--------------|
| Infertility | 22 | 10 | 9 (90%) |
| Return heat | 13 | 7 | 5 (71.4%) |
| Abortion | 15 | 4 | 3 (75%) |

It was also found that 37.5 (3/8) percent of the boars tested was positive for brucellosis.

As shown in table 1, for each problem only part of the animals were available for blood test as the owner was not in good cooperation although explanation was given. Nevertheless, the data of the findings indicated very high positive for

brucellosis (more than 70 percent for the sows). The owner was recommended to cull all positive sows as well as the boars, disinfecting the floor and premises. Two last visits we noticed that the owner had already slaughtered the 3 boars and problem sows. In the mean time he brought in a number of gilts and boars for replacement, this malpractice only rendered further complication in eradication. Problem sows were 16, 48, 2 and 32 percent for parity 1,2,3 and unknown respectively. This findings confirmed well established fact that in sow brucellosis causes reproductive failure mainly for the first 2 parities. This farm had poor breeding record which would be another factor for spreading the disease to sows in the herd by infected boar as brucellosis is a venereal disease. The disease caused heavy economic losses to the owner due to different forms of reproductive failure to the sows totalled 50 during a period of 3 months. Furthermore, 3 boars were infected and had to be culled, this situation was detrimental to the breeding programme. Kunawongkrit et al (1980) reported the same incidence of brucellosis in the same province, out of 80 sows 72 percent were positive. Reproductive problems were infertility 35%, abortion 28% as well as weak pigs. Previous report by Markvichit and Sattayapunt (1981) in a survey of brucellosis in village farm in Kam-paengsan district, Nakhon Pathom, also showed similar clinical symptoms. They also revealed problem of endometritis and only 3.4 percent of 212 cases studied was positive. Although the disease itself does not cause death to infected animal but it poses a threat to industry of pig farming in term of economic loss as well as zoonosis.

Acknowledgement

Dr. Kiti Maneechwong, Pfizer, was acknowledged for his assistance.

Reference

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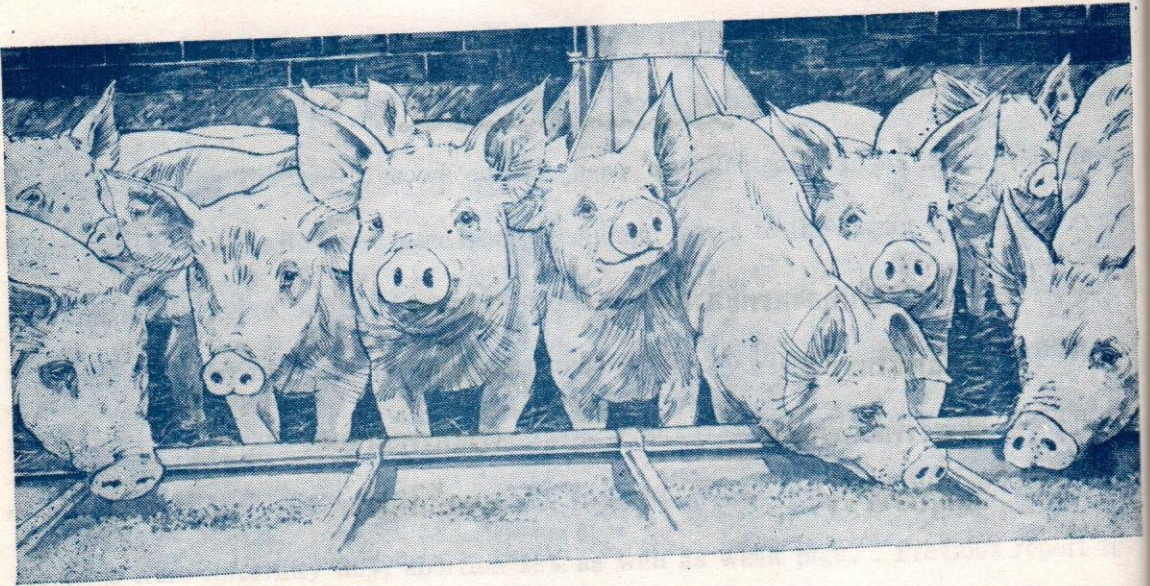
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บทคัดย่อ

สถานีผสมเทียมขอนแก่น ปัจจุบันมีจำนวนสมาชิกมากกว่า 400 ราย จากการศึกษาข้อมูลตั้งแต่เริ่มผสมเทียมในเดือนเมษายน 2520 จนถึงเดือนธันวาคม 2523 จำนวนควายปลัก 497 ตัว ได้รับการผสมเทียม 616 ครั้ง การศึกษาพฤติกรรมทางการสืบพันธุ์ในระหว่างเดือนตุลาคม 2521 ถึงกันยายน 2523 โดยดูจากอัตราการคลอดลูกย้อนกลับมายังเดือนที่ทำการผสมเทียมพบว่าในระหว่างเดือนกุมภาพันธ์ถึงเมษายน มีอัตราการผสมติดดีกว่าเดือนอื่น ๆ อย่างมีนัยสำคัญทางสถิติ ($P < 0.05$) ในระหว่างเดือนดังกล่าวนี้มีอัตราการคลอดลูก 66.67% ในปี 2522 และ 42.74% ในปี 2523 ระยะเวลาที่ใช้ในการตั้งท้องระหว่างลูกเพศผู้และเพศเมีย ไม่มีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติ ($P > 0.05$) คือ 319.94 ± 8.69 ($n = 99$, พิสัย 295-342) และ 321.80 ± 7.97 ($n = 87$, พิสัย 299-339) วันตามลำดับ อัตราส่วนเพศของลูกเพศผู้และเพศเมียเป็น 1 : 0.94

Abstract

During the year 1977 to 1980 Khon Kaen A.I. Station registered more than 400 members. Six hundred and sixteen inseminations on 497 buffaloes were performed during the period studied. Analysis of some traits of reproductive performance from October 1978 to September 1980 indicated that during the months of February to April, calving rate were 66.67% in 1979 and 42.74% in 1980 which were higher ($P < 0.05$) than other months. Gestation length in days between the male and female calves was not different significantly ($P > 0.05$) 319.94 ± 8.69 ($n = 99$, range 295-342) VS 321.80 ± 7.97 ($n = 87$, range 299-339). Sex ratio between male and female was 1 : 0.94.

Introduction

Khon Kaen A.I. Station which is located in the Northeast of Thailand, has started to operate artificial insemination in buffalo since 1977. The registered members increase annually and up to the present, there are more than 400 members and more