PREGNANCY DIAGNOSIS IN SWINE FROM URINE USING BARIUM CHLORIDE TEST.

K.Lalrintluanga and Mittali Dutta.
College of Veterinary Sciences & A.H.
Central Agricultural University, Selesih, Aizawl-796014. Mizoram (India).

ABSTRACT
A total of 300 urine samples were collected from 50 nos. of mated sows, out of which 25 sows were pregnant and 25 sows were non-pregnant. Gestation period was divided into 3 stages viz. less than 38 days, 38 to 76 days and more than 76 days. Urine samples were collected once in each stage of gestation from all the sows and tested for pregnancy diagnosis using barium chloride test. The accuracy of pregnancy diagnosis based on Barium Chloride test from urine of pregnant sows at less than 38 days, 38 to 76 days and more than 76 days of gestation were 64, 68 and 84 %, respectively. The sensitivity of this test to identify non-pregnant at 1st, 2nd and 3rd stage were 84, 88 and 88 %, respectively.

Key words: Pregnancy diagnosis, Barium Chloride, Urine, Swine.

INTRODUCTION
An early diagnosis of pregnancy is required to identify non-pregnant sow/gilt soon after mating so that the production time lost from infertility may be reduced by appropriate treatment or through culling. Most of the techniques employed for pregnancy diagnosis in wine are costly and time consuming. That is why pregnancy diagnosis is not commonly practiced in the field condition. The chemical test from urine using barium chloride test have been practiced in cow, mare, etc. with varying accuracy rate for pregnancy detection. But their use in wine for pregnancy diagnosis is not reported. This study is, therefore, conducted to record the accuracy of the barium chloride test in swine, which can be done in the field condition with less expenditure and time consumption.

MATERIAL AND METHODS
A total of 300 urine samples were collected from 50 numbers of mated sows, out of which 25 were pregnant and another 25 were non-pregnant. The sows were from varying managerial conditions under Govt. Farm and Private Piggery Farmers in and around Aizawl. The gestation period of sow is divided into 3 stages viz. less than 38 days, 38 to 76 days and more than 76 days. Urine samples were collected once in each stage of gestation from all the sows using polythene bag while the sows were urinating in the morning hours. The urine samples were tested immediately for pregnancy diagnosis using barium chloride test (Maslov and Smirnov, 1965).

1) Take 5 ml of urine in test tube.
2) Add 5 ml of 1% BaCl₂

Result: If the solution is clear it indicates pregnant. Precipitation of the solution indicates non-pregnant.

RESULTS AND DISCUSSION
The accuracy of barium chloride test for pregnancy diagnosis in urine of sows at different stages of gestation viz, less than 38 days, 38 to 76 days and more than 76 days is 64, 68 and 84 %, respectively and the effectiveness of this test in identifying the non-pregnant sow at these stages is 84, 88 and 88%, respectively (Table I; Fig. 1 and Fig. 2).

The findings in this study is comparable to the finding of Ndu et al (2000) who found 59% of the sows in their first stage of gestation (38 days post coitum) being correctly diagnosed as pregnant, and 95-100 % of those in their latter stages of
Table 1: Accuracy of pregnancy diagnosis by barium chloride test from urine of sows at different stages of gestation.

<table>
<thead>
<tr>
<th></th>
<th>1st stage (less than 38 days)</th>
<th>2nd stage (38-76 days)</th>
<th>3rd stage (more than 76 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(+)</td>
<td>(-)</td>
<td>(%)</td>
</tr>
<tr>
<td>Pregnant urine</td>
<td>16</td>
<td>9</td>
<td>64*</td>
</tr>
<tr>
<td>Non-pregnant urine</td>
<td>4</td>
<td>21</td>
<td>84**</td>
</tr>
</tbody>
</table>

* = percentage of true positive  
** = percentage of true negative
gestation being diagnosed correctly using BaCl₂ test. They reported that BaCl₂ test was 100% and 81% effective in identifying non-pregnant and pregnant sows respectively. The less effectiveness of the test in the present finding might be due to false positive results when non-conceiving sows that have delayed or irregular return to oestrus or due to anoestrus because of cystic ovarian diseases as reported by Almond and Dial (1986) and Williamson et al. (1980).

The sensitivity of the test in pregnant sows was significantly influenced by and tend to increase with the increase in the stage of gestation. Maslov and Smirnov (1965) reported that the end product of progesterone present in urine prevents precipitation. Shearer et al. (1972) reported an increase in plasma progesterone between day 93 and day 112 followed by a decline until parturition on day 117. This increase in plasma progesterone may be the reason for increasing the sensitivity of barium chloride test for pregnancy diagnosis as the stage of gestation increased. Ndu et al. also reported in agreement with the present finding that the sensitivity of BaCl₂ test for pregnancy diagnosis in the pregnant sows was increased as the stage of gestation increased. Contrary to this, Robertson and King (1974) reported that the progesterone concentration remain fairly constant throughout pregnancy until 15 to 25 days before parturition.

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REFERENCES
RELATIONSHIP BETWEEN DIFFERENT CHARACTERISTICS OF LIVESTOCK OWNERS AND THEIR EXPECTATIONS AND PERCEPTIONS TOWARDS ROLE OF VETERINARY OFFICER

Barsati Lal* and H.P.S. Arya
Indian Veterinary Research Institute Izatnagar, Bareilly- 243122, India.

ABSTRACT

The study conducted on 120 livestock owners in Bareilly district of U. P. revealed that age, mass-media exposure, contact with politician and source credibility were positively and significantly related with the perception of livestock owners about the performed role of Veterinary Officer. However, social status and economic motivation were found to be negatively and significantly related with the expectations of livestock owners indicating that they had higher expectation from the Veterinary Officer.

Key words: Livestock owners, Perceptions, Veterinary Officer.

INTRODUCTION

The Veterinary Officer is the main input and functionary at a veterinary hospital. He plays different roles for serving livestock owners. He has to treat the livestock against diseases, provide vaccination, advises livestock owners about heat symptoms, optimum time of insemination, balanced feeding, green fodder production, management of farm animals such as weaning of calves, clean milk production and symptoms of parturition etc. Us a veterinary officer is also responsible for spreading new ideas regarding animal husbandry, and is expected to communicate and advise the village people through group meeting, personal contacts or through local leaders. Although Veterinary Officer is supposed to perform educational roles too, he is very much similar with human healthcare doctors.

All above mentioned roles of Veterinary Officer are very much related to livestock owners. But what livestock owners expect from him, and what they feel about his role is not known to him. Resultantly, he is not able to behave with them in the way they expect. This creates role conflict and disturbances in his working on one hand and frustrations among the livestock owners on the other. This condition is called “role ambiguity” - a condition when the individual is not clear about the various expectations people have from his role. (Basu and pestonjee1976)

1. Present address: CPRS, Patna, India.

He then faces the conflict which may be called “role ambiguity” which may be due to the lack of understanding of the cases available to him. Different types of livestock owners have different expectations and perceptions from Veterinary Officers depending upon their socio-economic, communicational and psychological characteristics, which decides their expectations and perceptions about the role of Veterinary Officer. Kaul, (1967) analyzed the role of Animal Husbandry Extension Officers in Haryana. Kherde (1978), studied role expectations and performance of stockman of ICDP, Kamal. Rao, (1978) studied the job performance of Veterinary Assistant Surgeons (VAS) in ICDP, Karnal. Ram Kumar, (1980) studied role conflicts and its consequences of VAS. All these studies related to Veterinary Officer and have used the information collected from them only. None of them have used the information collected from livestock owners. In the expectations and perceptions of the role of Veterinary Officer. On the other hand, the livestock owners are the most important incumbent of the role set of the Veterinary Officer. They are the client to whom he has to serve. Keeping these things in mind the present study was undertaken, to analyze the relationship between socio-psychological, communicational
characteristics of livestock owners and their expectations and perceptions about the role of veterinary officer. The study is an indication whether the socio-personal, psychological and communicational characteristics of livestock owners affect their expectations and perceptions or not.

MATERIAL AND METHODS

The present study was undertaken in Bithrichainpur block of Bareilly district Uttar Pradesh. The area suited better where majority of farmers were practicing animal husbandry as their occupation. A total of eight villages namely; Bithrichainpur, Rithora, Khata, Kalapur, and Dharmpur, Balipur, Faridpur inayatkhan and Purnapur having 3000-4000 livestock population and being nearest to veterinary hospital were purposively selected from both project and non-project area. At first stage a comprehensive list of farm families having different livestock units like cattle, buffalo, goat, pig and poultry were prepared. After that applying proportionate random sampling, 10 per cent livestock owners from each village were purposively selected. Thus the total sample consisted of 100 livestock owners from all the eight villages in all.

RESULTS AND DISCUSSION

In order to study the relationship between different characteristics of livestock owners and their expectations and perceptions, the value of correlation coefficient (r) were compiled and tested for their statistical significance. and are presented in Table 1.

The detailed findings are as follows:

Role expectations: Data presented in Table 1 reveals that in non-project area social status and economic motivation were found to be negatively and significantly (P 0.05) correlated with the expectations of the livestock owners (r = -0.29 and -0.31 respectively) indicating that expectation of livestock owners increased with the decease in social status and economic motivation and the vice-versa. Age, education, herd size, mass media exposure, contact with politician, extension agency contact, source credibility, scientific orientation and progressiveness had no relationship with the expectation of livestock owners in respect of role of Veterinary Officer. This indicated that the personal characteristics of livestock owners have not reflected in a major contribution in expectation of livestock owners. In the project area none of the socio-personal characteristics of livestock owners had significant relationship with their expectations and perceptions about the role of Veterinary Officer.

Role perception: Data presented in Table 1 clearly reveal that in non-project area, age was found to be positively and significantly (P > 0.01) related with the perception of livestock owners about the role performance of Veterinary Officer, indicating that with an advancement in age of livestock owners, their perception about the role performance of Veterinary Officer becomes more pronounced.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Project Area</th>
<th></th>
<th>Non-project Area</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Expectations</td>
<td>Perceptions</td>
<td>Expectations</td>
<td>Perceptions</td>
</tr>
<tr>
<td>Age</td>
<td>-0.06</td>
<td>0.01</td>
<td>0.01</td>
<td>0.29*</td>
</tr>
<tr>
<td>Education</td>
<td>-0.05</td>
<td>0.01</td>
<td>-0.20</td>
<td>-0.07</td>
</tr>
<tr>
<td>Heard size</td>
<td>0.14</td>
<td>-0.21</td>
<td>0.00</td>
<td>0.12</td>
</tr>
<tr>
<td>Mass media exposure</td>
<td>0.12</td>
<td>0.39**</td>
<td>-0.23</td>
<td>0.19</td>
</tr>
<tr>
<td>Contact with politician</td>
<td>-0.26</td>
<td>0.29*</td>
<td>0.02</td>
<td>0.13</td>
</tr>
<tr>
<td>Extension agency contact</td>
<td>0.06</td>
<td>0.11</td>
<td>-0.15</td>
<td>0.26</td>
</tr>
<tr>
<td>Social status</td>
<td>0.00</td>
<td>0.06</td>
<td>-0.29*</td>
<td>-0.18</td>
</tr>
<tr>
<td>Source credibility</td>
<td>-0.20</td>
<td><em>0.64</em>*</td>
<td>0.16</td>
<td>0.22</td>
</tr>
<tr>
<td>Scientific orientation</td>
<td>-0.14</td>
<td>-0.07</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>Economic motivation</td>
<td>0.07</td>
<td>-0.01</td>
<td>-0.31*</td>
<td>-0.10</td>
</tr>
<tr>
<td>Progressiveness</td>
<td>0.01</td>
<td>0.07</td>
<td>0.10</td>
<td>0.04</td>
</tr>
</tbody>
</table>
Education, herd size, mass media exposure, contact with politician, extension agency contact, social status, source credibility, scientific orientation, economic motivation and progressiveness were not found to have significant relationship with the perception of livestock owners in respect of role of Veterinary Officer. This indicated that the personal characteristics of livestock owner did not play a major role in perception of livestock owners.

On the other hand, in project area the data in the table 1 clearly indicate that the mass media exposure, contact with politician and source credibility were positively and significantly (P > 0.01) correlated with the perceptions of livestock owners, indicating that the increase in mass media exposure, contact with politician and source credibility there is increase in the perceptions of the livestock owners in respect of role performance of Veterinary Officer. Other variable such as age, education, herd size, extension agency contact, social status, scientific orientation, economic motivation and progressiveness were not found to be correlated with the perception of livestock owners in respect of role performance of Veterinary Officer. This indicates that the personal communicational and psychological characteristics of livestock owners did not have a major role on their perception in respect of role performed by the Veterinary Officer.

REFERENCES