Journal of Entomology and Zoology Studies

Available online at www.entomoljournal.com

E-ISSN: 2320-7078
P-ISSN: 2349-6800
www.entomoljournal.com
JEZS 2020; SP-8(2): 133-135

Received: 18-01-2020
Accepted: 20-02-2020

Sudhir Kumar
Division of Veterinary Gynaecology and Obstetrics, Faculty of Veterinary Sciences and Animal Husbandry, SKUAST-J, R. S. Pura, Jammu, Jammu & Kashmir, India

Utsav Sharma
Division of Veterinary Gynaecology and Obstetrics, Faculty of Veterinary Sciences and Animal Husbandry, SKUAST-J, R. S. Pura, Jammu, Jammu & Kashmir, India

Sharad Kumar
Division of Teaching Veterinary Clinical Complex, Faculty of Veterinary Sciences and Animal Husbandry, SKUAST-J, R. S. Pura, Jammu, Jammu & Kashmir, India

Anil Kumar Pandey
Division of Veterinary Gynaecology and Obstetrics, Faculty of Veterinary Sciences and Animal Husbandry, SKUAST-J, R. S. Pura, Jammu, Jammu & Kashmir, India

Dinesh Kumar Dwivedi
Division of Veterinary Surgery and Radiology, Faculty of Veterinary Sciences and Animal Husbandry, SKUAST-J, R. S. Pura, Jammu, Jammu & Kashmir, India

Corresponding Author:
Sudhir Kumar
Division of Veterinary Gynaecology and Obstetrics, Faculty of Veterinary Sciences and Animal Husbandry, SKUAST-J, R. S. Pura, Jammu, Jammu & Kashmir, India

Effect of different herbal drugs on average litter weight of piglets of Tamworth×Desi breed sows

Sudhir Kumar, Utsav Sharma, Sharad Kumar, Anil Kumar Pandey and Dinesh Kumar Dwivedi

Abstract
An experiment was conducted to assess the effect of herbal drugs viz; Femelin, Lecorin plus and Asoka cordial on reproductive trait, litter weight of piglets in 55 Tamworth×Desi breed sows allocated into 4 groups (3 treatment group and 1 control group). The superiority in average litter weight of piglets were observed in Lecorin Plus treated group (T_2) and Asoka cordial treated group (T_3) during preweaning period and also on weaning day ie.56th day. However, the effect had statistically non significant on average litter weight of piglets.

Keywords: Herbal drugs, litter weight, piglets, Tamworth×Desi breed sows

Introduction
Since the early development of civilization till date plants have been used as major source of almost all medicines. Researchers as well as scientists have realized the basic value of indigenous medicines in the treatment and increasing reproductivity in farm animals. It has now been establish that herbal drugs were found much better than chemical drugs with regard to effect and side effects. There is every possibility that improvement in the efficiency of swine reproduction can result by appropriate use of herbal drugs. Litter weight as well as Litter size at birth and weaning mainly depends on the rate of ovulation, fertilization, embryonic mortality and prenatal death (Roberts, 1971) [8] Laing *et al.*, 1988) [4]. Herbal drugs may prove to improve the farm profitability though optimization of reproductive functions. Litter weight at weaning being one of the most important criteria for profitability. In this experiment three herbal drugs Femelin, Lecorin Plus and Asoka Cordial (Herbal (APS) Pvt. Ltd) were used to study their effect on litter weight of piglets in Tamworth×Desi breed sows.

Materials and methods
The experiment was undertaken on a total of 55 Tamworth×Desi breed of sows during different stages of reproduction namely periparturient, post farrowing and around weaning stage maintained at Pig Breeding Farm, Ranchi Veterinary College, Ranchi. These sows were allocated to 3 treatment groups and 1 control group as follows:
Treatment group T_1 (n=15): The periparturient sows of this group were administered Femelin, 25ml orally twice daily 5 days before and after farrowing.
Treatment group T_2 (n=15): The post farrowing sows received Lecorin Plus @ 25ml orally bid daily for 10 days.
Treatment group T_3 (n=15): The sows around weaning were given Asoka cordial 25ml orally twice daily for 10 days.
Control group C_1 (n=10): A total of 10 sows were kept as control in which no treatment was given.
The sows were maintained under identical management, nutrition and husbandry preparation during entire experiment. Sows in advance pregnancy were separated from the herd and transferred to one of their farrowing pens. The newly born piglets were provided with paddy straw particularly during winter season to protect the piglets against cold effects. After farrowing the piglets were assisted to suckle their dam and allowed to remain with her till weaned at the age of 8 weeks. Following reproductive traits were recorded:
Litter weight at birth: Total weight of all the live piglets of one sow at the time of birth was recorded.

Litter weight up to the weaning: Total weight of all the live piglets raised by each sow at an interval of 7 days up to 8 weeks of age during pre-weaning period was recorded.

Statistical analysis was done according to the methods suggested by Snedecor and Cochran (1968) [12].

Results and Discussion

The average litter weight of piglets at different ages in different treatment groups of sows has been presented in Table 1. The average litter weight of piglets of sows were recorded at birth as 8.00± 0.66, 8.71 ±0.91, 8.65±0.60 and 8.47 ±0.51 at 7th day 12.35±1.23, 13.43±1.28, 12.46±0.79 and 13.95±0.82 at 14th day 16.16±1.65, 18.51±1.67, 17.55±1.21and 19.71±1.08 at 21nd day 20.13±1.87, 23.31± 2.04, 22.08± 1.58 and 25.13 ±1.30 at 28th day 24.11±2.20, 27.82±2.63, 26.90±1.45and 30.14±1.51 at 35th day 28.80 ±2.48, 32.96 ±3.10, 30.85± 1.70 and 34.18± 1.65 at 42nd day 33.76±2.99, 37.75±3.51, 35.25±1.94 and 38.29±1.62 and at 49th day 39.51 ±3.48, 43.04± 4.11, 40.31 ±2.28 and 42.56 ±1.84 in T_1, T_2, T_3 and control group, respectively. It was noted that among treatment groups the highest litter weight of piglets was observed in treatment group T_2 given Lecorin Plus as compared to T_1 and T_3 right from birth up to 49th day during pre-weaning period. The findings in this study were higher than that of obtained by (Johar *et al*., 1975) [3] Singh (2000) [11] but lower than that of (Sharma and Mishra, 1989) [9] (Mishra *et al*., 1990a) [5] (Mishra *et al*., 1990b) [6]. The table also indicated that average Litter weight at the end of 56th day (weaning day) for T_1, T_2, T_3 and control group as 45.90±4.02, 49.81±4.80, 45.85±2.78 and 47.49±2.45 respectively. It was also observed that litter weight was highest again in T_2 group given Lecorin Plus and almost same in T_3 and T_1 group. These results were almost similar to the findings of (Johar *et al*., 1975) [3] Singh (2000) [11] but lower than those of (Mishra *et al*., 1990b [6] Sharma and Mishra, 1989) [9].

Variations in litter weight might be due to parity (Singh and Devi, 1997a) [11] and year (Mishra *et al*., 1990b) [6]. Litter weight may be affected by year (Sharma and Mishra, 1989) [9] (Mishra *et al*., 1990b) [6] and Singh and Devi, 1997a) [11] and litter size (Okai *et al*., 1982) [7]. In addition, location of farm and dam (Mishra *et al*., 1990b) [6], month of farrowing (Chhabra *el al*., 1996) [2] have also been attributed to affect the litter weight.

The effect of treatments on litter weight at different age in treated as well as control group of sows was observed non-significant (Table 2). Higher litter weight was recorded in Lecorin plus treated sows (Group T_2) at all ages. Lecorin plus probably helped in increasing the litter weight by providing essential herbal ingredients to the sows. Additionally, this herbal drug might have helped in increasing milk yield thus more milk is availability to the piglets. Agrawal and Agrawal (1998) [11] observed significantly higher litter weight over three weeks post-farrowing in sows which were given herbal uterine cleanser, Exapar for 5 days and the galactagogue, Payapro for 15 days commencing at farrowing.

Table 1: Average litter weight (kg) of piglets at different ages in treated and control groups of Tamworth×Desi sows.

Treatment groups	No. of observations	Age(Days)								
		At birth	7	14	21	28	35	42	49	56
T_1	15	8.00± 0.66	12.35±1.23	16.16±1.65	20.13±1.87	24.11±2.20	28.80 ±2.48	33.76±2.99	39.51 ±3.48	45.90±4.02
T_2	15	8.71 ±0.91	13.43±1.28	18.51±1.67	23.31± 2.04	27.82±2.63	32.96 ±3.10	37.75±3.51	43.04± 4.11	49.81±4.80
T_3	15	8.65±0.60	12.46±0.79	17.55±1.21	22.08± 1.58	26.90±1.45	30.85± 1.70	35.25±1.94	40.31 ±2.28	45.85±2.78
C_1	10	8.47 ±0.51	13.95±0.82	19.71±1.08	25.13 ±1.30	30.14±1.51	34.18± 1.65	38.29±1.62	42.56 ±1.84	47.49±2.45

Table 2: Analysis of variance showing the effect of treatments on litter weight of piglets at different ages in treated and control groups of Tamworth×Desi sows.

Sources of variation	d.f.	Age (Days)								
		At birth	7	14	21	28	35	42	49	56
		MS F	MS F	MS F	MS F	MS F	MS F	MS F	MS F	MS F
Between	3	6.05	7.44	8.42	55.29	78.09	72.99	60.62	41.32	51.83
treatments		0.82^{NS}	0.43^{NS}	0.92^{NS}	1.23^{NS}	1.27^{NS}	0.89^{NS}	0.56^{NS}	0.28^{NS}	0.25^{NS}
Error	51	7.40	17.14	30.80	44.90	61.26	81.64	107.67	146.6	203.72

NS= Non-significant

Conclusion

It was concluded from experiment that the superiority in average litter weight of piglets was higher in Lecorin plus treated group (T_2) than Asoka cordial treated group (T_3) and Femelin treated group (T_1) during entire pre-weaning period and this may be used for the profit/earnings by pig farmers.

Acknowledgement

The first author is highly thankful to Dean, Ranchi Veterinary College, Ranchi for providing necessary facilities for the experiment. The help extended by M/S Herbal (APS) Pvt. Ltd. for the supplementation of required drug.

References

1 Agrawal A, Agrawal A. Herbal therapy of Metritis-Mastitis-Agalactia syndrome in sows. The Indian Veterinary Journal. 1998; 75:144-146.
2 Chhabra AK, Gaur GK, Bhatia SS, Raheja KL, Pal S. Studies on litter traits in Desi and crossbred pigs. Indian Journal of Animal. Research. 1996; 30:134-136.
3 Johar KS, Saibaba P. Gupta RN. A study on litter size and litter weight at birth and weaning in Middle Yorkshire pigs. Indian Veterinary Journal. 1975; 52:707-710
4 Laing JA, Brinley Morgan WJ, Wagner WC. Fertility and Infertility in Veterinary practice. Edn 4, ELBS, Bailliere

Tindall, 1988.
5 Mishra RR, Lal K, Prasad S. A study on reproductive parameters of Large White Yorkshire pigs. Indian Journal of Animal Research. 1990b; 24:34-39.
6 Mishra RR, Lal K, Prasad S. Factors affecting litter weight of Landrace pigs. Indian Journal of Animal Production and Management. 1990a; 6:205-206.
7 Okai DB, Abu AA, Tuah AK. Bediako KA. The reproductive performance of Large White sows with emphasis on pre-weaning piglet mortality Kumasitech Journal of Agricultural Science. 1982; 1:53-63.
8 Roberts SJ. Veterinary obstetrics and genital diseases (Theriogenology). Edn 3, CBS Publication and Distributors (India), 1971.
9 Sharma GC, Mishra RR. Studies on reproductive traits of Large White Yorkshire pigs. Indian Journal of Animal Production and Management. 1989; 5:185-187.
10 Singh NK. Role of certain therapeutic agents for augmentation of fertility in swine. 2000; M.V.Sc. Thesis submitted to Birsa Agricultural University, Ranchi.
11 Singh SK, Devi A. Studies on some pre-weaning traits in Exotics, Desi and their crossbred pigs under tropical climate. Indian Veterinary Medical Journal. 1997a; 21:288-291.
12 Snedecor GW, Cochran WG. Statistical method. Edn 7, Oxford and IBH Publication Co., New Delhi, 1968.