A STUDY OF 'LEPTADEN' (VET) THERAPY ON GROWTH, LAYING PERFORMANCE AND DISEASE CONTROL OF POULTRY

by G. N. SAMAL, G. B. V. C. (Paina) Veterinary Officer Incharge, Veterinary Hospital, Baripada, Dist. Mayurbhanj.

*Present Address: Veterinary Officer 1/C, Veterinary Hospital, KENDRAPARA, Dist. Cuttack.
Dr. G. N. Samal-Born in the Cuttack district in 1926. Graduated at the Bihar
Veterinary college, Patna in the year 1952, Joined the Orissa Veterinary Science during 1952 and since then continuing his service in the field work of various Veterinary Hospitals of Orissa.

INTRODUCTION: It is interesting to note that the Ayurvedic system of treatment is making rapid strides along with modern technical and scientific research facilities in our country. The Ayurveda is regaining its ancient glory due to popularity of some Ayurvedic products, both in the Medical and Veterinary field. Ayurvedic therapy in Poultry is a new field of research in which there is not much record on drugs like "Leptaden. Leptaden feeding has initiated egg laying in undersized pullets (Private Poultry Breeder, Karala, 1966). It has also been observed in white Leg-Horn birds, that Leptaden helps egg production and weight gain, as well as health and egg production in culled birds (Natarajan, 1968).

Hence extensive trials and exhaustive studies were undertaken to find out the effect of Leptaden therapy on growth, in laying performance and in disease control of poultry.

MATERIALS AND METHODS:

"Leptaden (Alarsin) is selected as a drug of choice as it is an Ayurvedic harbal drug well proved to be an effective, safe galactagogue without any detrimental effect in buffalo, cow, sheep and goat (moulvi, 1963; Vaishnav & Buch, 1965: Anjaria & Gupta, 1967), Leptaden is an Ayurvedic original research product of Alarsin, and it consists of (a) Leptadenia reticulata (Jiwanti) and (b) Breynia patens (Kamboji).

Birds under this study were presented at the Veterinary Hospital, Baripada, by different owners for treatment. Though the birds were treated individually and also in some units, they had been grouped, in three categories accor ding to their age, dosage duration or of treatment, etc. It was ascertained from the owners that all these birds were properly fed and main tained uniformly before, during and after Leptaden therapy.

RESULTS & DISCUSSION:

I. The effect of Leptaden on growth and weight gain of chicken:

40 White Leg-Horn pullets and 10 cockerels belonging to a local poultry farmer were reared in one deep litter unit. The birds were devided in to two groups of 25 each as Leptaden treated group average weight gain is presented in and Control group, and their average weight gain is presented in table 1.

Effect of Leptaden on growth (weight in kg.) of W.L.H. Chicken of 20 weeks

Sr No.	No. & Description of birds	Leptaden therapy			Average weight /bird			Gain	%	Average feed consumption in gms. per bird per day	Started laying eggs at the age of 25 weeks	
		Dosage	Duration	Before	After therapy						No.	%
					1st week	2nd week	3rd week					
(Leptaden Treated Group)												
1	5 Cockerels	1 tab. daily	2 weeks	1.800	2.000	2.200	2.400	0.600	33.33	115	—	—
2	20 Pullets	3/4 tab daily	2 weeks	1.600	1.800	1.950	2.150	0.550	34.37	115	20	100.0%
(Control Group)												
3	5 Cockerels	—	—	1.800	1.950	2.100	2.250	0.450	25.00	105	—	—
4	20 Pullets	—	—	1.600	1.700	1.850	1.950	0.350	21.87	105	5	25.0%

Ref : Indian Poultry Review, Vol. VI, No. 8, December 1, 1974

It will be seen from the table 1, that Leptaden treated cockerel and pullet gained an average weight of 150 gm. and 200 gra respectively as compared to the average weight of cockerel and pullet of the control group. It is also interesting to note that the Leptaden treated birds bird per day on an average than the consumed 10 gm. more feed per bird per day on average than the birds in the control group. It is also observed that out of 20 Leptaden treated pullets, 15 pullets started laying eggs at the age of 24 weeks and the rest five pullets began laying eggs at the age of 25 weeks, giving a rate of 10% success, whereas, out of 20 pullets of the control group, 2 pullets started laying eggs at the age of 24 weeks and 3 pullets began laying eggs at the age of 26 weeks, given the value of only 25% success.

So, Leptaden therapy is found to be very valuable in increasing the growth rate of chicken and also in getting maturity or age for the first egg laying in chicken.

II. The effect of Leptaden in Laying Performance of poultry:

For this study, birds were divided into three groups as follows:
1. Non-layers.
2. Irregular or less Layers.
3. Moderate Layers.

1. Non-layers: In this group 35 non-laying healthy pullets were selected. These were sub-grouped according to their age, dosage and duration of treatment. The results are presented in table 2.

Effect of Leptaden therapy on Non-layer birds

Sr. No.	No. of birds & breed	Age of birds	Dosage of Leptaden	Duration of treatment	Duration of observation	Result
1	4 Hy-line	40–50 weeks	½ tab. daily	10 days	3 weeks from the first day of treatment	on 8th day started laying
2	3 W.L.H.	”	¾ tab. daily	”	—do—	100.0%
3	7	—	—	—	—	—
4	2 W.L.H.	—	¾ tab. daily	10 days	—	on 9th day started laying
5	6 R.I.R.	50–60 weeks	1 tab. daily	10 days	—	100.0%
6	5 Hy-line	—	½ tab. daily	—	—	—
7	4 W.L.H.	—	1 tab. daily	10 days	4 weeks	2 on 12th, 3 on 13th
8	3 Hy-line	40–60 weeks	½ tab. daily	15 days	—	2 on 14th day started laying
9	3 R.I.R.	—	1 tab. daily	15 days	—	100.0%
10	2 Hy-line	—	½ tab. daily	—	—	—
11	1 W.L.H.	40–60 weeks	¾ tab. daily	21 days	6 weeks	70.0%
12	1 Asbe	—	¼ tab. daily	21 days	—	did not lay eggs at all.
	5			21 days		0.0%
	35					27 (77.14%)

From this, it is observed that 20 pullets started laying eggs on 8th or 9th day of giving Leptaden treatment, giving 100% result. 7 pullets started laying eggs on 12th, 13th or 14th day of Leptaden treatment giving 70% success. All the 27 birds maintained the intensity and persistency of egg laying even after the treatment of Leptaden was stopped as indicated in the table. Only 8 pullets did not lay eggs at all. Out of these 8,5 pullets were examined but no defect was found. However, on post-mortem of all these 5 pullets, it was noticed that two of them had redimentary egg forming organs from ovary to the vent. The overall percentage of success of 27 birds laying eggs out of 35 birds, has given the result of 77.14% which is impressive, because Non layer birds alone were selected for this study. These results are quite in agreement with the records of Private Poultry Breeder, Kerala (1966) and Natarajan (1968). From these Leptaden treated birds, 2 eggs from each group were taken at random and were examined. All the eggs were found to be normal, with 12% of shell and shell membrane, 56% of albumen and chalazae and 32% of yolk.

Ref : Indian Poultry Review, Vol. VI, No. 8, December 1, 1974

2. Irregular or Less Layers: For this study 30 birds that were irregularly laying eggs or laying less than normal eggs were selected. The results are given in table 3.

Effect of Leptaden therapy in Irregular or Less layer birds

Sr. No.	No. and breed birds	Age	Dosage	Duration of treatment	Laying performance			Observation period
					Before treatment	After treatment	% of increase	
1	10 W.L.H.	40–50 weeks	¾ tab. daily	10 days	40.0%	75.0%	87.5%	4 weeks
2	5 Hy-line	45–50 weeks	¾ tab. daily	10 days	40.0%	75.0%	87.5%	4 weeks
3	4 R.I.R.	40–50 weeks	1 tab. daily	10 days	40.0%	75.0%	87.5%	4 weeks
4	2 W.L.H.	45–50 weeks	½ tab. daily	*7 days	30.0%	60.0%	100.0%	6 weeks
5	2 Hy-line	40–50 weeks	1 tab. daily	"	"	"	"	"
6	2 R.I.R.	45–50 weeks	1 tab. daily	"	"	"	"	"
7	2 W.L.H.	40–55 weeks	¾ tab. daily	*10 days	25.0%	30.0%	20.0%	7 weeks
8	1 R.I.R.	40–55 weeks	1 tab. daily	"	"	"	"	"
9	2 Hy-line	40–55 weeks	¾ tab. daily	"	"	"	"	"
	5			20 days	25.0%	30.0%	20.0%	
Overall 30							69.16%	

It is observed that there was 87.5 increase in laying performance with the Ist course of 10 days of Leptaden. (19 birds). In 6 birds, when the treatment was continued for 7 days more, egg laying performance in these was 100% increase. Only in 5 birds, there was increase in egg laying performance of 20% even after 20 days of Leptaden treatment. Overall improvement of egg laying performance of all the 30 birds taken for study was 69.16%, which is encouraging. because those birds that were irregular or less layers alone were selected for this study. The study also shows that inprovement was better achieved in layers which were having higher capacity of laying performance when compared to less layers.

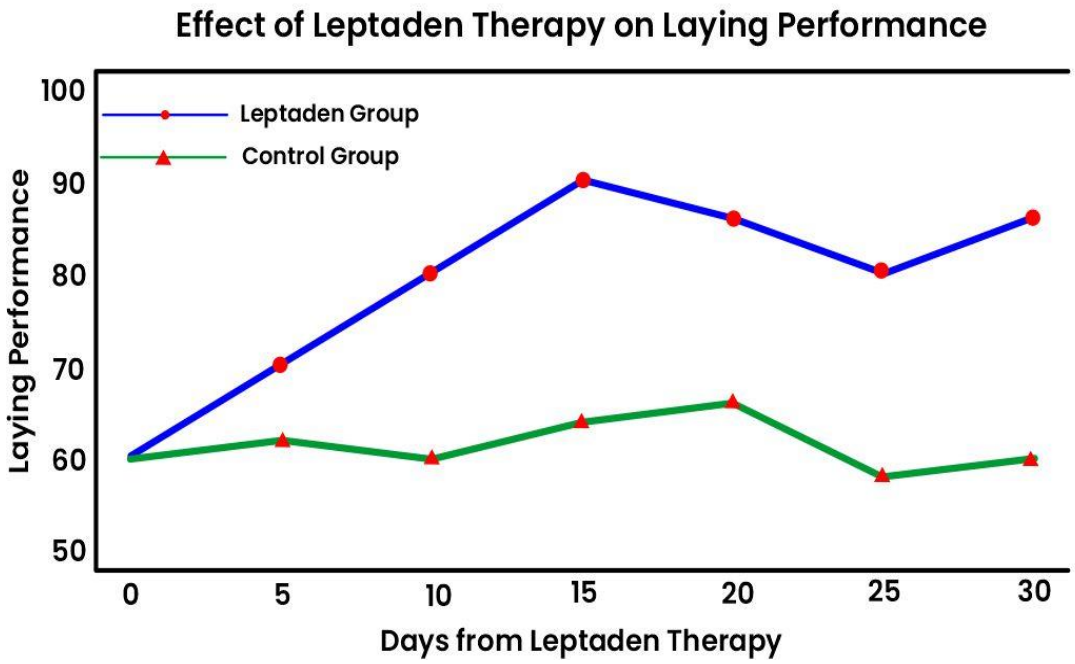
3. Moderate Layers: To study egg laying performance in Moderate layers, 50 Hyline layers reared in deep litter system which belonged to a Private Poultry Farmer were selected. One unit of 25 birds was given Leptaden, tablet per day, per bird for 15 days and another unit of 25 birds was kept as Control. The results are given in table 4.

Effect of Leptaden therapy on laying performance of birds

Sr. No.	Days from the Leptaden therapy	Percentage of laying performance	
		Leptaden Group	Control Group
1	0	60.0	60.0
2	5	70.0	62.0
3	10	80.0	60.0
4	15	90.0	64.0
5	20	86.0	66.0
6	25	80.0	58.0
7	30	86.0	60.0
		78.88%	**60.14%**

Ref : Indian Poultry Review, Vol. VI, No. 8, December 1, 1974

It is observed that the average percentage of laying performance in Leptaden treated group has increased from 60.0% to 78.88%, ranging from 60 to 90%, whereas the Control Group did not show any appreciable rise in laying performance, showing a rise from 60.0% to only 60.14%. Average percentage of laying performance in Leptaden treated group was significantly increased as compared to that of control group: t value for 12 d.f. was 4.64**. A graphical presentation of these results have been shown in Fig. 1. It was also observed that after 30 days of stopping Leptaden treatment the birds laid eggs 80 to 90%, which was continued without any fall.



III. The effect of Leptaden in therapy in disease control of Poultry:

This study was taken up to see the effect of Leptaden in the disease control of poultry. 5 cases of Ranikhet Disease, 5 cases of Fowl Pox, 4 cases of Fowl Cholera, 4 cases of Infectious coryza, 3 cases of Avian leucosis, 7 cases of Coccidiosis, 4 cases of Round Worm, 3 cases of Caecal Worm, and 2 cases of Tape Worm, were empirically treated with Leptaden at to 1 tablet per day for 7 to 10 days, but no beneficial effects were observed.

However, encouraging and excellent results were achieved with Leptaden therapy of to 1 tablet per day, for 7 to 10 days in the convalescence stage of all the 5 cases of Ranikhet disease, all the 5 cases of Fowl Pox and all the 7 cases of Coccidiosis, where the birds regained their normal health very soon.

Apart from the above conditions, Leptaden therapy was tried in the following disease conditions of the poultry, with the following results:

(a) Vent gleet: 3 cases were given Leptaden to 1 tab. per day for 7-10 days and all the birds recovered soon.

(b) Nutritional roup: 8 cases were given Leptaden, -1 tab. per day for 7-10 days, along with Vit. A and all the birds recovered soon.

(c) Favus: 4 cases were given Leptaden, -1 tab. per day, for 5-7 days along with the application of Tincture Iodine to the affected parts of comb, ear lobes and wattles. All recovered soon.

Ref : Indian Poultry Review, Vol. VI, No. 8, December 1, 1974

In the study of the effect of Leptaden in disease control of poultry, it was found that Leptaden had no curative effect on poultry diseases, but excellent results were recorded in the convalescence period, particularly of Ranikhet disease, Fowl Pox and Coccidiosis. Leptaden therapy had also proved to be of immense value in the treatment of Vent gleet, Nutritional roup and Favus.

As the Leptaden therapy has given satisfactory results for laying eggs in non-layers and increased egg production, it is clear that this herbal drug has got definite action on the egg forming organs, ie, from ovary to vent It is evident that Leptaden contains some smooth muscle contrac ting properties and this is in agreement with the previous report of Sharma (1968). It is also recorded that birds under Leptaden therapy consumed more feed and thus increased in body weight. This tends to show that Leptaden has some tonic properties also which will bring an excess of vitality to the whole system. To the above properties, it may be added here that the oxytocic properties which Leptaden contains (Sharma 1968) which is presumed to be the main factor for more milk secretion, might be the factor that increases the egg production in the poultry also.

As the intensity and persistency in egg production is maintained even after discontinuance of Leptaden therapy, it confirms the report of Murthy (1969) that the drug has some action on the nervous system, particularly the hypothalamus, inhibiting the release of prolactin inhibiting factor.

SUMMARY:

A study of 'Leptaden (Vet) therapy in growth, laying performance and disease control of poultry was done as follows:

I. The effect of Leptaden on growth of the chicken:

5 cockerels and 20 pullets were treated with Leptaden @ I tab and tab per bird per day respectively for the period of 2 weeks and the average weight gain of 150gm and 200gm per bird res pectively was observed after 3 weeks of treatment as compared to control group. Leptaden therapy was found to increase the weight of birds and obtain maturity or age at the laying of first egg earlier (24 weeks).

II. The effect of Leptaden in laying performance of birds:

(1) Non-layers:-35 birds were treated with Leptaden to 1 tab per bird per day for 10-21 days and it was observed that 77.14% of birds started laying eggs from 8 to 14 days of treatment.

(2) Irregular or Less layers:-30 birds were treated with Leptaden 4 to 1 tab per bird per day for 10-20 days and the overall laying performance was increased in 69.16% of birds.

(3) Moderate layers:-25 Hy-line birds were treated with Lepta den@tab per bird per day for 15 days and it was found that laying performance was significantly increased (from 60% to 78.88%) as compared to that of control group.

It was observed in all the above birds that the intensity and persistency in egg production was maintained and continued even after the Leptaden treatment.

III. The effect of Leptaden therapy in disease control of Poultry:

32 cases were treated with Leptaden to 1 tab per bird per day for 7 to 10 days. The treatment was found to be useful in convalescence period of Ranikhet Disease, Fowl Pox and Coccidiosis. It was also of great value in the treatment of Vent gleet, Nutritional roup and Favus.

Ref : Indian Poultry Review, Vol. VI, No. 8, December 1, 1974

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