

## Original Research Article

# Efficacy of *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> as Growth Promoter for Broiler Chicken

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## ABSTRACT

The present experiment was undertaken to evaluate the efficacy of two ayurvedic pharmaceuticals, namely, *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> of Neolab Biotech Industries (associated with Warner Multimedia Ltd, Mumbai) as growth promoter for broiler chicken. The experiment was conducted at the Livestock Instructional Farm of the Department of Animal Science, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal, located in the warm-humid zone of India. The experiment was conducted during March to June, 2013 with 250 day-old broiler chicks of Vencob strain (Cobb 400). Effects of supplementing *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> individually and in combination were studied on body weight, feed intake and FCR, liver function attributes and carcass traits and dressing percentage of broiler chicken aged 42 days. The findings of the present trial indicated that the use of *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> in combination in broiler chicken improves growth and profitability through better feed conversion efficiency. No adverse effect was noticed throughout the study. *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> in combination can be used in commercial broiler chicken as growth promoter at the dose rate of *Ascovit*<sup>®</sup> 5 ml + *Winoliv-Vet*<sup>®</sup> 10 ml per 100 birds for 2nd and 3rd weeks followed by *Ascovit*<sup>®</sup> 10 ml + *Winoliv-Vet*<sup>®</sup> 20 ml per 100 birds for 4th, 5th and 6th weeks.

### Keywords

Growth promoter, Broiler chicken

## Introduction

Poultry industry has witnessed a boom during the past three decades. It has immense potential to address the burning problems of unemployment, nutritional security and socio-economic upliftment of people. Recently we are producing 63 billion eggs and 2.2 million tones of broiler meat in India and our country has secured 3<sup>rd</sup> rank in egg and 5<sup>th</sup> rank in broiler production in the world (FAOSTAT 2010, DAHD 2010-11). With this, India has achieved 6% and 12% annual growth rate in

egg and broiler production, respectively. However, there is a big gap between availability and requirements of poultry products in our country. As per National Institute of Nutrition recommendations regarding requirement of poultry products (180 eggs and 11 kg poultry meat per person per year), the present per capita availability is far below leaving a big scope for further expansion of poultry industry many folds in our country. In light of this, several measures are being taken in terms of

nutrition and feeding, genetic make-up of the birds, shelter management, post-harvest technology and health control measures. Use of pharmaceuticals to increase the utilization of feed offered to the birds is one such measure, so that the desired FCR is low as far as possible. Keeping this in view the two branded pharmaceuticals, namely, *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> of Neolab Biotech Industries, West Benagl, associated with Warner Multimedia Ltd, Mumbai) are taken into consideration to know the efficacy of the drugs as growth promoter for broiler chicken.

### Materials and Methods

The experiment was conducted during April to June, 2013 at the Livestock Instructional Farm of the Department of Animal Science, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal, India with due permission from the Directorate of Research of this university. This farm is located at latitude 22° 56' N, longitude 88° 32' E and altitude 9.75 m above MSL, in the warm-humid zone of India having average ambient temperature ranging from 19°C (min) to 31°C (max), relative humidity 67% (min) to 96% (max) and the annual precipitation of 1837 mm.

Two hundred and fifty (250) day-old broiler chicks of Vencob strain (Cobb 400) procured through local supplier were randomly divided into 5 groups of 50 birds each, of which 4 groups were taken into consideration for the actual experiment, and remaining group was kept as a buffer stock.

Two branded pharmaceuticals, namely, *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> were procured from the manufacturer Neolab Biotech Industries, West Benagl (associated with Warner Multimedia Ltd, Mumbai). Each 5 ml of *Ascovit*<sup>®</sup> contains water extract of

*Arjuna* 5 mg, *Tulsi* 50 mg, *Kakamachi* 50 mg, *Aswagandha* 100 mg, *Bheemraja* 50 mg, *Haritaki* 50 mg, *Amla* 50 mg, *Shatavari* 50 mg, *Jesthimadhu* 50 mg and Sodium benzoate 25 mg in fruit pulp and distilled water q.s. to 5 ml. Each 5 ml of *Winoliv-Vet*<sup>®</sup> contains water extract of *Kalmegh* 100 mg, *Bheemraja* 50 mg, *Kulekhara* 30 mg, *Kakamachi* 16 mg, *Arjuna* 16 mg, *Haritaki* 20 mg, *Dauharidra* 50 mg, *Choto Elaich* 1 mg, Sodium benzoate 25 mg, Methyl paraban sodium 100 mg and sugar 100 mg in distilled water q.s. to 5 ml. The birds were maintained according to the following treatment protocol for six weeks. The Group-A was treated with *Ascovit*<sup>®</sup> @ 5 ml/100 birds for 2nd and 3rd weeks followed by 10 ml/100 birds for 4th, 5th and 6th weeks. Group-B was treated with *Winoliv-Vet*<sup>®</sup> @ 10 ml/100 birds for 2nd and 3rd weeks followed by 20 ml/100 birds for 4th, 5th and 6th weeks. Group-C was treated with both *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> at the dose rate of *Ascovit*<sup>®</sup> 5 ml + *Winoliv-Vet*<sup>®</sup> 10 ml per100 birds for 2nd and 3rd weeks followed by *Ascovit*<sup>®</sup> 10 ml + *Winoliv-Vet*<sup>®</sup> 20 ml per100 birds for 4th, 5th and 6th weeks. Group-D was maintained as control group without these drugs. The drugs were administered orally through drinking water.

The birds were maintained under deep litter system of intensive management. They were fed *ad libitum* on feed lot basis with commercial broiler mash type feed (EPIC brand, West Bengal Dairy and Poultry Development Corporation, Govt of West Bengal), and had a free access to *ad libitum* drinking water. The standard management and feeding practices were followed.

Feed consumption was recorded daily. The birds were weighed to obtain the initial body weight of each group before the commencement of the experiment and subsequently at weekly interval. The

mortality of birds was also recorded. At the end of the trial, 10 birds were randomly selected from each group and sacrificed for carcass evaluation. Twenty blood samples were collected (5 in each group) in aseptic containers for liver function test of the broiler chicken at the end of the trial. Data obtained were subjected to statistical analysis following standard procedures.

### Results and Discussion

The *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup>, manufactured by Neo Lab Biotech Industries, Kalyani, West Bengal and marketed by Warner Multimedia Ltd (Animal Health Care Division), Mumbai, are herbal products that contain water extracts derived from various medicinal plants as demanded by the manufacturer.

Effect of supplementing *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> individually and in combination on body weight, feed intake and FCR in broiler chicken aged 42 days is presented in Table 1. Birds in the treated groups attained the recommended average body weight (2 kg) at 6 weeks of age. The birds of all the treated groups achieved higher average live weight than control group, though the difference is not

statistically significant. However, better feed conversion efficiency was achieved in Group-C (supplemented with *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup>, 1.73) followed by Group-B (only *Winoliv-Vet*<sup>®</sup>, 1.80), Group-A (only *Ascovit*<sup>®</sup>, 1.81) and Group-D (control, without any drug, 1.87).

The results of this study are in agreement with some of the earlier studies on other herbal liver tonics like Liv-52 (Joshi and Kumar, 1987), Livol (Devegowda *et al.*, 1989), Crown grofit (Babu *et al.*, 1992) and Livfit vet premix (Prajapati, 1997).

Effect of supplementing *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> individually and in combination on liver function attributes of broiler chicken aged 42 days is presented in Table 2. The biochemical parameters *viz.*, serum glutamic pyruvate transaminase (SGPT / ALT), serum glutamic oxaloacetate transaminase (SGOT / AST), alkaline phosphatase (ALP), total protein, albumin and globulin were measured for evaluation of hepatoprotective effect of the drugs, if any. The comparative lower values of SGPT, SGOT and ALP in Group-B and Group-C confirmed the hepatoprotective effect of *Winoliv-Vet*<sup>®</sup> on broiler chicken (Table 2).

**Table.1** Effect of supplementing *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> on body weight, feed intake and FCR in broiler chicken aged 42 days

Parameters	Group-A ( <i>Ascovit</i> <sup>®</sup> )	Group-B ( <i>Winoliv-Vet</i> <sup>®</sup> )	Group-C ( <i>Ascovit</i> <sup>®</sup> + <i>Winoliv-Vet</i> <sup>®</sup> )	Group-D (Control)
Total body weight, kg	101.66	101.88	104.59	97.47
Average body weight, kg	2.03	2.04	2.09	1.95
Total feed intake, kg	184.05	183.63	181.44	182.05
Average feed intake, kg	3.68	3.67	3.63	3.64
FCR	1.81	1.80	1.73	1.87

**Table.2** Effect of supplementing *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> on liver function attributes of broiler chicken aged 42 days

Parameters	Group-A ( <i>Ascovit</i> <sup>®</sup> )	Group-B ( <i>Winoliv-Vet</i> <sup>®</sup> )	Group-C ( <i>Ascovit</i> <sup>®</sup> + <i>Winoliv-Vet</i> <sup>®</sup> )	Group-D (Control)
SGPT (ALT), IU/L	16.70	15.68	15.10	15.92
SGOT (AST), IU/L	422.40	401.40	380.00	444.00
ALP, IU/L	1177.40	1016.80	1065.00	1182.40
Total protein, g/dl	4.69	5.16	5.06	5.09
Albumin, g/dl	2.18	2.52	2.19	2.46
Globulin, g/dl	2.51	2.64	2.89	2.63
Total bilirubin, mg/dl	0.53	0.54	0.48	0.53

**Table.3** Effect of supplementing *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> on carcass traits and dressing percentage of broiler chicken aged 42 days

Parameters	Group-A ( <i>Ascovit</i> <sup>®</sup> )	Group-B ( <i>Winoliv-Vet</i> <sup>®</sup> )	Group-C ( <i>Ascovit</i> <sup>®</sup> + <i>Winoliv-Vet</i> <sup>®</sup> )	Group-D (Control)
Live weight, g	2226.67	2120.00	2317.50	2169.50
Dressed weight, g	1471.33	1390.33	1517.00	1406.17
Weight of liver, g (% of live weight)	46.33 (2.08)	43.67 (2.06)	48.83 (2.11)	47.00 (2.17)
Weight of gizzard, g (% of live weight)	40.00 (1.80)	40.67 (1.92)	44.67 (1.93)	39.00 (1.80)
Weight of heart, g (% of live weight)	11.30 (0.51)	11.00 (0.52)	12.17 (0.52)	11.00 (0.53)
Dressing percentage (with giblet)	70.46	70.08	70.02	69.31
Dressing percentage (without giblet)	66.08	65.58	65.89	64.81

Effect of supplementing *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> individually and in combination on carcass traits and dressing percentage of broiler chicken aged 42 days is presented in Table 3.

The carcass traits were not affected by administering the drugs through drinking water, but edible meat as a percentage of body weight was more in the treated groups than untreated control (Table 3). However, the differences in the dressing percentage values in different groups were not

statistically significant, which is corroborated with the findings of Sapra and Mehta (1990). The findings of the present trial indicate that the use of *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> in combination in broiler chicken improves growth and profitability through better feed conversion efficiency. No adverse effect was noticed throughout the study. Hence, *Ascovit*<sup>®</sup> and *Winoliv-Vet*<sup>®</sup> in combination can be used in commercial broiler chicken as growth promoter at the dose rate of *Ascovit*<sup>®</sup> 5ml + *Winoliv-Vet*<sup>®</sup> 10 ml per100 birds for 2nd and 3rd weeks

followed by *Ascovit*<sup>®</sup> 10ml + *Winoliv-Vet*<sup>®</sup> 20 ml per100 birds for 4th, 5th and 6th weeks.

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