# تأثير تغذية مستويات مختلفة من الشمبلان *Ceratophyllum demersum* على أداء البط المحلي

رسالة مقدمة إلى

مجلس كلية الزراعة–جامعة البصرة

كجزء من متطلبات درجة الماجستير في الثروة الحيوانية

## "تغذية الدواجن"


من قبل

ربيعة جدوع عباس

بكالوريوس علوم في ثروة الحيوانية


جمادى الاخرة 1416 هـ

تشرين الثاني 1995م

# Effect of feeding various level of *Ceratophyllum dimerism* on performance of local ducks

**A THESIS**

**Submitted to Council of College of Agriculture University of Basrah**

**As Apart Fulfillment of Requirement for the Degree of Master of Science In**

**Animal Resources) Poultry Nutrition)**

**By**
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# Summary

This experiment was conducted at Animal Production Department , College of Agriculture , Basrah University , to investigate the effect of feeding four levels of *Ceratophyllum demersum* meal (0, 10, 20 , 30 %) from 2 to 16 weeks of age on local duckling performance . At two weeks if age, 96 local duckling (48 males and 48 females) were randomly distributed to four treatments. Chicks of three replicate (4 males and 4 females) were received one of four experimental diets as follows:

1. Basal diet (Control).
2. Basal diet + 10% *Ceratophyllum demersum*.
3. Basal diet + 20% *Ceratophyllum demersum*.
4. Basal diet + 30% *Ceratophyllum demersum*.

Statistical analysis of data performed by the analysis of variance as complete Random Design (for feed consumption and feed conversion ration) whereas the other traits analyzed as factorial experiment that was conducted in a completely randomized design. Revised L. S. D. test was applied to the means when difference between them had been demonstrated to be of statistical significance.

Statistical results indicated the followings:

**1-** Significant differences ($P<0.05$) between the experimental treatments in average live body weight of local duckling were observed at 4, 8 and 12 weeks of age , while there was no significant differences at 16 weeks of age.

**2-** Significant differences )$P<0.05$) were revealed in the amount of feed consumption at 0 – 4 weeks of age , whereas there were no significant differences at the other remaining experimental periods.

**3-** The results showed highly significant differences ($P<0.01$) in conversion ratio during the period 0 -4 and 0 -8 weeks , however differences at the period 0 -12 and 0 -16 weeks of age did not reach the level of significance.

**4-** No significant differences were observed among birds to the experimental treatments in dressing percent , percent of liver , heart , gizzard , blood , head and feather , carcass cuts percentages,

physically dissection into meat , bone and skin of breast and leg cuts and carcass chemical analysis percentages.

**5-** Highly significant differences due to sex factor ($P<0.01$) was observed in body weight means during all the experimental ages , percentages of breast , neck cuts and breast meat . While significant differences were observed in dressing percent and gizzard. No significant differences were observed between the two sexes in liver, heart, blood, and head feather and carcass chemical analysis percentages.

**6-** Statistical results did not indicate any evidence of sex – diet treatment interaction for all traits examined and under all investigated ages.

# استجابة هجن من فروج اللحم والدجاج البياض إلى إحلال نوعين من النباتات المائية (*Vallisneria spiralis* و *Bacopa monniera*) في العليقة

أطروحة مقدمة إلى

مجلس كلية الزراعة–جامعة البصرة

وهي جزء من متطلبات نيل درجة دكتوراه فلسفة في

الثروة الحيوانية (تغذية الدواجن)

من قبل

ربيعة جدوع عباس

ماجستير علوم زراعية (ثروة الحيوانية)

ربيع الثاني 1426 هـ

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# The Response of Broiler and Laying Hens Hybrid to Replacement Two Type of Aquatic Plants (*Vallisneria spiralis* and *Bacopa monniera*) in the Diets

**A THESIS**
**Submitted To The College of Agriculture University of Basrah**
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**By**
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# Summary

Two experiments were conducted to evaluate of *(Vallisneria spiralis* and *Bacopa monniera* ) as unconventional feed stuff and their effect on birds performance after determining their chemical analysis. The first experiment was carried out at the College of Agriculture, University of Basrah from 7/11/2003 to 2/1/2004. A total of 630 one day old broiler chicks including 315 Shaver chicks and 315 FAO-bro chicks, were randomly distributed to 42 cages (15 chicks/cage), with three replicates for each treatment in a Complete Randomized Design. Birds in each hybrids received one of seventh experimental diets which divided into: Treatment one as control diets, while *Vallisneria spiralis* meal replaced yellow corn and soybean meal at a levels of 4 (3 corn: 1 soybean), 8 (6 corn: 2 soybean) and 12% (9 corn: 3 soybean) in treatment two, three and four respectively, *Bacopa monniera* meal replaced yellow corn and soybean meal at the same levels above to treatment five, six and seven respectively in broiler diets.

Statical results indicated the following:

**7-** The chemical analysis of plants composition revealed that *Vallisneria spiralis* containing the highest percentage of protein (19.36%), crude fiber (14.19%) and ash (25.17%) compared to *Bacopa monniera* which higher in crude fat (4.06%) and metabolizable energy value (3004 Kcal/kg).

**8-** There was a significant differences ($P<0.05$) between the experimental treatments in average live body weight at 2, 4 weeks of age, while there was no significant differences at 6, 8 weeks of age.

**9-** There was a significant differences ($P<0.05$) in average weight gains at 0-2 and 2-4 weeks, while there was no significant differences at other ages.

**10-** There was significant differences ($P<0.05$) in the amount of feed consumption at 0-2, 2-4, 4-6 and 0-8 weeks of age, whereas there were no significant differences at 6-8 weeks of age among the different treatments .

**11-** The results showed Significant differences ($P<0.05$) in feed conversion ratio during the period 0-2 weeks of age, whereas there were no significant differences at other ages.

**12-** There were a significant differences ($P<0.05$) in total mortality rate of birds among different treatments.

**13-** No significant differences were observed in dressing percentage, percent of liver, heart and gizzard, carcass cuts percentages, percentage of moisture, ash and protein in breast and thigh meat content, while there was significant differences in the percent of fat meat.

**14-** There were no significant differences in total plasma protein, albumin, globulin and cholesterol of broiler among different treatment.

**15-** There was highly significant differences due to hybrid factor ($P<0.01$) in live body weight, weight gains, amount of feed consumption and feed conversion ratio during all the experimental ages, total mortality rate and dressing percentage. While there were no significant differences observed in percent of liver, heart and gizzard, carcass cuts percentages, carcass chemical analysis percentages and in serum total protein, albumin, globulin and cholesterol of broiler.

**10-** Statistical results did not indicate any evidence of breed-diet treatment interaction in live body weight and weight gains at all age of birds, percent of liver, heart and gizzard, dressing percentage, carcass chemical analysis percentages and in serum total protein, albumin, globulin and cholesterol. While there were significant differences observed in the amount of feed consumption at 0-2, 2-4, 4-6 and 0-8 weeks of age, in feed conversion ratio during the period 0-2 weeks, in meat fat percent and in total mortality rate.

The second experiment was carried out at the College of Agriculture, University of Basrah during the period 25/5/2004 to 25/8/2004. A total of 168 laying hens ages 18 weeks including 84 hens from ISA Brown and 84 hens from ISA White hybrid, were randomly distributed on 42 cages (4 hens/cage), with three replicates for each treatment in a Complete Randomized Design. Hens in each hybrid received on of seventh experimental diets as described in first experiment.

The results showed the following:

**1-** There were no significant differences in average live body weight and weight gains of birds fed different experimental diets.

**2-** There was significant differences ($P<0.05$) in feed consumption and feed conversion ratio between the experimental treatments at all period of study.

**3-** Egg production, egg mass, mean egg weight and egg quality were not affected by using different level of *Vallisneria spiralis* and *Bacopa monniera* in the diets.

**4-** The results did not revealed significant differences in serum and eggs total protein, albumen, globulin content, cholesterol level and yolk carotene content of hens among different treatment.

**5-** There was a highly significant differences ($P<0.01$) due to hybrid factor in live body weight, weight gains, feed consumption and feed conversion ratio during all the experimental ages, in albumen and cholesterol in egg, in total plasma protein, globulin and cholesterol of the hens.

**6-** There was no significant breed-diet treatment interaction for all traits measured and under all investigated ages.