



动物营养学报

CHINESE JOURNAL OF ANIMAL NUTRITION

首页 期刊介绍 编委会 编辑部 投稿须知 期刊订阅 广告服务 联系我们 留言与回复

动物营养学报 2013, Vol. 25 Issue (5) : 1105-1112 DOI: 10.3969/j.issn.1006-267x.2013.05.028

研究简报 Short Communications

最新目录 | 下期目录 | 过刊浏览 | 高级检索

<< Previous Articles | Next Articles

>>

饲料锌水平对鹅生长性能、血清生化指标及激素含量的影响

陈苗璐, 王宝维, 张名爱, 岳斌, 葛文华, 王迪, 王姣, 孟苓凤

青岛农业大学优质水禽研究所, 青岛 266109

Effects of Dietary Zinc Level on Growth Performance, Serum Biochemical Parameters and Hormone Contents of Geese

CHEN Miaolu, WANG Baowei, ZHANG Ming, YUE Bin, GE Wenhua, WANG Di, WANG Jiao, MENG Lingfeng

Institute of High Quality Waterfowl, Qingdao Agricultural University, Qingdao 266109, China

- 摘要
- 参考文献
- 相关文章

Download: PDF (991KB) HTML (1KB) Export: BibTeX or EndNote (RIS) Supporting Info

摘要 本试验旨在研究饲料锌水平对鹅生长性能、血清生化指标及激素含量的影响,以确定鹅饲料中锌的适宜水平。试验分别选用1和29日龄肝用型青农灰鹅各360只,随机分为6个组,每组6个重复,每个重复10只鹅。各组饲料锌水平:1~4周龄为31.28、81.28、131.28、181.28、231.28、281.28 mg/kg;5~15周龄为27.46、77.46、127.46、177.46、227.46、277.46 mg/kg。试验期15周。结果表明:1)根据曲线方程可得,1~4周龄,饲料锌水平为112.51 mg/kg时平均日增重最大;饲料锌水平为106.05 mg/kg时料重比最低。5~15周龄,饲料锌水平为108.09 mg/kg时平均日增重最大;饲料锌水平为101.69 mg/kg时料重比最低。2)饲料锌水平为131.28 mg/kg时能显著提高4周龄血清总蛋白(TP)、锌含量及碱性磷酸酶(AKP)活性($P<0.05$)。饲料锌水平为127.46 mg/kg时能极显著提高15周龄血清AKP活性和锌含量($P<0.01$)。3)根据曲线方程可得,饲料锌水平为161.16 mg/kg时,鹅4周龄血清雌二醇含量最高;饲料锌水平为167.92 mg/kg时,鹅血清生长激素含量最高。饲料锌水平为132.41 mg/kg时,鹅15周龄血清生长激素含量最高。由此可见,锌对鹅的生长性能以及血清TP、锌、激素含量和AKP活性具有重要影响。建议鹅最佳生长性能饲料锌适宜水平为:1~4周龄106.05 mg/kg,5~15周龄101.69 mg/kg。

关键词: 锌 鹅 生长性能 激素 适宜水平

Abstract: This experiment was conducted to study the effects of dietary zinc level on growth performance, serum biochemical parameters and hormone contents of geese, and to estimate the dietary zinc optimal level of geese.

Three hundred and sixty 1-day-old and three hundred and sixty 29-day-old *Qingnonghui* geese were randomly selected and divided into 6 groups with 6 replicates per group and 10 geese per replicate. Dietary zinc levels in each group were 31.28, 81.28, 131.28, 181.28, 231.28 and 281.28 mg/kg at the age of 1 to 4 weeks and 27.46, 77.46, 127.46, 177.46, 227.46 and 277.46 mg/kg at the age of 5 to 15 weeks, respectively. The experiment lasted for 15 weeks. The results showed as follows: 1) according to the curve equation, at the age of 1 to 4 weeks, when the dietary zinc level was 112.51 mg/kg, the average daily gain (ADG) reached the highest, when the dietary zinc level was 106.05 mg/kg, the feed to gain (F/G) reached lowest. At the age of 5 to 15 weeks, when the dietary zinc level was 108.09 mg/kg, the ADG reached the highest, when the dietary zinc level was 101.69 mg/kg, the F/G reached lowest. 2) At 4 weeks of age, dietary zinc level of 131.28 mg/kg significantly increased the serum total protein and zinc contents and serum alkaline phosphatase (AKP) activity ($P<0.05$). At 15 weeks of age, dietary zinc levels of 127.46 mg/kg significantly increased serum AKP activity and zinc content ($P<0.01$). 3) According to the curve equation, at the age of 4 weeks, when the dietary level of zinc was 161.16 mg/kg, the serum estradiol (E_2) content of geese reached the highest; when the dietary level of zinc was 167.92 mg/kg, the serum growth hormone content of geese reached the highest. At the age of 15 weeks, when the dietary level of zinc was 132.41 mg/kg, the serum growth hormone content of geese reached the highest. In conclusion, zinc has important influence on the growth performance, serum total protein content, serum AKP activity and serum hormonal contents of geese. The dietary zinc optimal level of geese is 106.05 mg/kg at the age of 1 to 4 weeks and 101.69 mg/kg at the age of 5 to 15 weeks.

Keywords: zinc, geese, growth performance, hormone, optimal level

收稿日期: 2012-11-02;

Service

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ Email Alert
- ▶ RSS

作者相关文章

- ▶ 陈苗璐
- ▶ 王宝维
- ▶ 张名爱
- ▶ 岳斌
- ▶ 葛文华
- ▶ 王迪
- ▶ 王姣
- ▶ 孟苓凤

基金资助:

国家水禽产业技术体系专项基金(CARS-43-11)

通讯作者 王宝维,教授,硕士生导师,E-mail:wangbw@qau.edu.cn

引用本文:

陈苗璐,王宝维,张名爱等. 饲粮锌水平对鹅生长性能、血清生化指标及激素含量的影响[J]. 动物营养学报, 2013,25(5): 1105-1112

CHEN Miaolu, WANG Baowei, ZHANG Ming etc. Effects of Dietary Zinc Level on Growth Performance, Serum Biochemical Parameters and Hormone Contents of Geese[J]. Chinese Journal of Animal Nutrition, 2013,25(5): 1105-1112.

链接本文:

http://118.145.16.228/Jweb_dwyy/CN/10.3969/j.issn.1006-267x.2013.05.028 或 http://118.145.16.228/Jweb_dwyy/CN/Y2013/V25/I5/1105

- [1] 黄艳玲,吕林,李素芬,等.0-21日龄肉仔鸡饲粮中锌适宜水平研究[J]. 畜牧兽医学报,2008,39(7):900-906.
 - [2] 蒋宗勇,刘小雁,蒋守群,等.1-21日龄黄羽肉鸡锌需要量的研究[J]. 动物营养学报,2010,22(2):301-309.
 - [3] 王宝维.中国鹅业[M].济南:山东科学技术出版社,2009:323-328.
 - [4] 金光明,闻爱友,李升和,等.微量元素锌对皖西白鹅生产性能的影响[J]. 中国畜牧兽医,2004,31(6):18-19.
 - [5] 董鹏辉,丁君辉,赵向红.微量元素锌对樱桃谷商品肉鸭生长性能的影响[J]. 水禽世界,2011(2):37-40.
 - [6] 苏莉娜,王安.饲粮锌水平对笼养蛋雏鸭生长性能、抗氧化功能及免疫器官发育的影响[J]. 动物营养学报,2012,24(5):815-821.
 - [7] 裴成江.动物体内血糖浓度变化研究[J]. 饲料与畜牧,2009(8):51-52.
 - [8] TAYLOR C G, BRAY T M. Effect of hyperoxia on oxygen free radical defense enzymes in the lung of zinc-deficient rats[J]. The Journal of Nutrition, 1991, 121: 460-466.
 - [9] 冯望宝,王安,艾涛.不同锌水平对笼养成蛋鸭生长性能及总抗氧化能力的影响[J]. 东北农业大学学报,2007,38(5):654-659.
 - [10] 冯江.甘氨酸锌对肉仔鸡生长性能、免疫功能 and 影响极其生物利用率研究[D]. 硕士学位论文. 杭州:浙江大学,2009.
 - [11] 马芳.饲粮锌水平对肉仔鸡免疫力、生长性能和血清生化指标的影响[D]. 硕士学位论文. 兰州:甘肃农业大学,2008.
 - [12] 彭西,崔恒敏,方静.试验性天府肉雏鸭锌缺乏症的病理学观察[J]. 畜牧兽医学报,2003,34(6):581-587.
 - [13] 何蕊,刘汉林,梁琳,等.肉仔鸡饲粮中锌需要量的研究[J]. 营养学报,1995,7(7):2-9.
 - [14] 高惠林,王前光,倪必林,等.不同锌源和锌水平日粮对桃源鸡生产性能和血液生化指标的影响研究[J]. 饲料与畜牧,2008(9):24-27.
 - [15] 蒋宗勇,刘小雁,蒋守群,等.43-63日龄黄羽肉鸡锌需要量的研究[J]. 中国农业科学,2010,43(20):4295-4302.
 - [16] 李梅清,李福宝,方富贵,等.蛋氨酸锌对皖西白鹅血清雌二醇(E₂)的影响[J]. 现代农业科学,2007(11):136-143.
 - [17] 李文立,任慧英,陆治年.锌对黑白花种公牛精液品质及某些生化指标的影响[J]. 饲料研究,1997(7):3-6.
 - [18] DEVINE A, ROSEN C. Effects of zinc and other nutritional factors on insulin-like growth factor I and insulin-like growth factor binding proteins in postmenopausal women[J]. The American Journal of Clinical Nutrition, 1998, 68(1): 200-206.
 - [19] LEFEBVRE D, BECKERS F, KETELSLEGERS J M, et al. Zinc regulation of insulin-like growth factor- I (IGF- I), growth hormone receptor (GHR) and binding protein (GHBP) gene expression in rat cultured hepatocytes[J]. Molecular and Cellular Endocrinology, 1998, 138: 127-136.
 - [20] 虞泽鹏,施用晖,乐国伟.硫酸锌和蛋氨酸锌对小鼠早期生长的影响研究[J]. 营养学报,2005,27(6):471-474.
-
- [1] 徐晨晨,王宝维,葛文华,张名爱,岳斌,史雪萍.铜对5~16周龄五龙鹅生长性能、屠宰性能、营养物质利用率和血清激素含量的影响[J]. 动物营养学报, 2013,25(9): 1989-1997
 - [2] 张世忠,王全溪,王长康,吴南洋,江斌,邵良平.丁氨丙磷溶液对肉仔鸡生长性能和免疫功能的影响[J]. 动物营养学报, 2013,25(9): 2111-2117
 - [3] 李文婷,丛玉艳,曹阳,李丰田.饲粮锰水平对辽宁绒山羊母羊产绒性能及相关血清激素含量的影响[J]. 动物营养学报, 2013,25(9): 2028-2035
 - [4] 张铁涛,崔虎,高秀华,杨福合,李光玉,邢秀梅.低蛋白质饲粮中添加蛋氨酸对育成期蓝狐生长性能和营养物质消化代谢的影响[J]. 动物营养学报, 2013,25(9): 2036-2043
 - [5] 黄学琴,任周正,曾秋凤,张克英,丁雪梅,白世平,罗玉衡,刘永刚.液态复合酶制剂对肉鸭生长性能及钙、磷代谢的影响[J]. 动物营养学报, 2013,25(9): 2082-2090
 - [6] 孙敏敏,刘含亮,王红卫,孟晓,王纪亭,万文菊.酵母铬对尼罗罗非鱼生长和糖代谢的影响[J]. 动物营养学报, 2013,25(9): 2143-2149
 - [7] 荆祎,李光玉,刘晗璐,杨雅涵,鲍坤,李志鹏.不同乳酸杆菌添加剂对水貂生长性能、营养物质消化率、氮平衡及血清生化指标的影响[J]. 动物营养学报, 2013,25(9): 2160-2167
 - [8] 刘进军,刘洁,任二军,李亚青,李晓华.饲粮锌源与水平对冬毛期公貂体重、营养物质消化率及氮代谢的影响[J]. 动物营养学报, 2013,25(9): 2168-2173
 - [9] 叶慧,郑玲玲,雷建平,冯定远,左建军.25羟基维生素D₃和1 α 羟基维生素D₃代替维生素D₃对42~63日龄黄羽肉鸡生长性能、血清生化指标和胫骨发育的影响[J]. 动物营养学报, 2013,25(8): 1752-1761
 - [10] 向泉,周兴华,陈建,黄辉,李代金,王文娟,吴青,周小秋.饲料脂肪水平对白甲鱼幼鱼生长性能、体组成和血清生化指标的影响[J]. 动物营养学报, 2013,25(8): 1805-1816
 - [11] 吴学壮,张铁涛,杨颖,刘志,高秀华,杨福合,邢秀梅.饲粮锌添加水平对繁殖期雄性水貂繁殖性能、营养物质消化率及氮代谢的影响[J]. 动物营养学报, 2013,25(8): 1817-1824

- [12] 常启发, 白会新, 石宝明, 单安山, 魏传玉, 于长青, 仝宝生. 黄腐酸对生长猪生长性能、血清生化指标、血常规参数和免疫功能的影响[J]. 动物营养学报, 2013,25(8): 1836-1842
- [13] 宋林, 樊启学, 胡培培, 刘汝鹏, 王昆鹏, 姚昌林. 饲料蛋能比对翘嘴鲌幼鱼生长性能、肠道和肝胰脏消化酶活性的影响[J]. 动物营养学报, 2013,25(7): 1480-1487
- [14] 周明, 刘波, 戈贤平, 谢骏, 万金娟, 崔素丽. 饲料维生素E添加水平对团头鲂生长性能及血液和肌肉理化指标的影响[J]. 动物营养学报, 2013,25(7): 1488-1496
- [15] 刘志, 张铁涛, 郭强, 吴学壮, 高秀华, 杨福合, 邢秀梅. 饲料铜水平对育成期蓝狐生长性能、营养物质消化率及氮代谢的影响[J]. 动物营养学报, 2013,25(7): 1497-1503