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## 低温环境下饲料硒添加水平对初产蛋鸭生殖器官发育及相关激素分泌的影响

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### Effect of Selenium Supplementation on Reproductive Organ Development and Relative Hormone Secretion of Primiparous Laying Ducks at Low Ambient Temperatures

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**摘要** 本试验旨在研究低温(1~7℃)环境下饲料硒(Se)添加水平对产蛋初期(120~155日龄)蛋鸭生殖器官发育及相关激素分泌的影响。试验选用120日龄金定鸭(母)216只,随机分为6组,每组6个重复,每个重复6只鸭。对照组饲喂玉米-豆粕型基础饲料,试验组分别在基础饲料中添加0.08、0.12、0.20、0.41、0.71 mg/kg硒。试验期5周。结果表明:1)与对照组相比,饲料添加0.20 mg/kg硒可显著提高血清促卵泡生成激素(FSH)、促黄体生成激素(LH)、孕酮(P<sub>4</sub>)含量和卵巢指数( $P<0.05$ ),但不同水平硒对输卵管长度指数和各级卵泡数影响不显著( $P>0.05$ );2)饲料添加0.20 mg/kg硒可显著降低血清三碘甲腺原氨酸(T<sub>3</sub>)和皮质醇(Cort)含量( $P<0.05$ ),但不同水平硒对血清甲状腺素(T<sub>4</sub>)含量影响不显著( $P>0.05$ )。由此可见,在本试验条件下,低温环境下蛋鸭饲料中添加0.20 mg/kg硒可促进初产蛋鸭生殖器官发育和性激素分泌,并能辅助调节机体内分泌活动,对寒冷应激有一定程度的缓解作用。

**关键词:** 低温 硒 初产蛋鸭 生殖器官 激素

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**Abstract:** The experiment was conducted to study the effects of selenium (Se) supplementation on reproductive organ development and relative hormone secretion of primiparous laying ducks aged from 120 to 155 days at low ambient temperatures (1 to 7 °C). Two hundred and sixteen 120-day-old *Jinding* ducks (female) were randomly allotted to 6 groups with 6 replicates per group and 6 ducks in each replicate. Ducks in control group were fed a basal diet, and the others in experimental groups were fed the basal diet supplemented with 0.08, 0.12, 0.20, 0.41 and 0.71 mg/kg Se, respectively. The experiment lasted for 5 weeks. The results showed as follows: 1) compared with the control group, adding 0.20 mg/kg Se significantly increased the contents of follicle-stimulating hormone, luteinizing hormone, progesterone in serum and the ovarium index ( $P<0.05$ ), but there were no significant effects on oviduct length index and number of ovarian follicles in all groups ( $P>0.05$ ). 2) Adding 0.20 mg/kg Se significantly decreased the contents of triiodothyronine and cortisol in serum ( $P<0.05$ ), but different levels of Se had no significant effect on the thyroxin content in serum ( $P>0.05$ ). In conclusion, under the condition of the experiment, adding 0.20 mg/kg Se can promote genital organ development and gonadal hormone secretion, regulate endocrine and reduce adverse effects of cold stress on primiparous laying ducks.

**Keywords:** low temperature, selenium, primiparous laying ducks, reproductive organs, hormone**收稿日期:** 2011-05-24;**基金资助:**

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[1] 李震钟. 家畜环境卫生学[M]. 3版. 北京: 中国农业出版社, 2003: 27-45.

[2] 赵健蓉, 夏东, 李如治. 冷热应激对蛋鸡生理生化指标的影响[J]. 中国畜牧杂志, 1998, 34(6): 6-7.

- [3] 任涛,辛朝安.寒冷应激对鸡的影响(下)[J].养禽与禽病防治,1997,3:19-20.
- [4] 翟亚玲.鸡舍温度对蛋鸡生产性能的影响 //姚军虎.第六次全国饲料营养学术研讨会论文集.杨凌: ,2010:440.
- [5] 陈龙.热应激与鸡营养因子维生素C[J].饲料与畜牧,1991,4:13-15.
- [6] 任涛,辛朝安.寒冷应激对鸡的影响(上)[J].养禽与禽病防治,1997(2):32-33.
- [7] 米玉玲.寒冷应激和高能饲料对笼养蛋鸭生化指标及生产性能影响的研究.硕士学位论文.哈尔滨:东北农业大学,2002:25-27.
- [8] 王义之.环境温度对产蛋鸡的影响[J].辽宁畜牧兽医,1990(1):33-35.
- [9] 史喜菊,冯梁,段俊秀.鸡冷热应激及其仿制机制[J].畜禽业,2003(1):24-25.
- [10] 陈敏.微量元素硒的存在形式及其生物学功能[J].中国畜牧杂志,2005,41(6):60-62.
- [11] 宋树豪,王安,芦燕,等.低温和VC对笼养育成蛋鸭生产性能及性成熟的影响[J].东北农业大学学报,2009,40(3):70-74.
- [12] 王凤英,陈守葆.硒对肉用种鸡产蛋性能的影响[J].河南畜牧兽医,1999 (2):33.
- [13] 李震钟,BURKE W H,HULSEY M G.环境温度对产蛋母鸡采食量、体重、产蛋率、蛋重、蛋壳强度、血钙含量及雌二醇水平的影响[J].畜牧与兽医,1986,3:97-98.
- [14] 屠云洁,耿照玉,陈国宏,等.冷应激对家禽神经内分泌系统的影响[J].安徽农业科学,2009,37(24):11555-11557.
- [15] 傅伟龙,高增兵,朱晓彤,等.维生素E和C对高温环境中肉鸡生长及血液甲状腺激素浓度的影响[J].华南农业大学学报,2000,21(4):61-64.
- [16] JALLAGEAS M, ASSENMACHER I. Further evidence for reciprocal interactions between the annual sexual and thyroid cycles in male Peking ducks[J]. General and Comparative Endocrinology, 1979, 37:44-51.
- [17] LIEN R J, SIOPE T D. Effects of thyroidectomy on egg production, molt, and plasma thyroid hormone concentrations of turkey hens[J]. Poultry Science, 1989(68):1126-1132.
- [18] 杨焕民,李士泽.动物冷应激的研究进展[J].黑龙江畜牧兽医,1999(3):42.
- [19] BECKER B A, NIENABER J A, CHRISTENSON R K, et al. Peripheral concentrations of cortisol as an indicator of stress in the pig [J]. American Journal of Veterinary Research, 1985, 46(5): 1034-1038.
- [20] 杨焕民,胡仲明,李士泽,等.雏鸡在冷暴露下体内相关激素的动态变化[J].中国兽医学报,2001,21(6):600-602.
- [21] BEARD C W, MITCHELL B W. Influence of environmental temperatures on the serologic responses of broiler chickens to inactivated and viable Newcastle disease vaccines[J]. Avian Diseases, 1987, 31:321.
- [1] 霍思远,王安,冯婧.核黄素对笼养生长期蛋鸭生产性能、激素分泌及免疫器官发育的影响[J].动物营养学报,2011,23(11):1906-1911
- [2] 靳峰涛,王安,胡晨晖.低温环境下维生素E水平对初产蛋鸭性激素分泌和抗氧化指标的影响[J].动物营养学报,2011,23(10):1703-1709
- [3] 冯婧,王安,霍思远.饲料添加硒对生长期蛋鸭生长性能、免疫机能及内分泌的影响[J].动物营养学报,2011,23(10):1697-1702
- [4] 张琴,麦康森,张文兵,马洪明,艾庆辉,徐玮,刘付志国.饲料中添加硒酵母和维生素E对刺参生长、免疫力及抗病力的影响[J].动物营养学报,2011,23(10):1745-1755
- [5] 来景辉,范红结.生长激素释放肽(ghrelin)促生长作用和应用前景[J].动物营养学报,2011,23(07):1085-1088
- [6] 洪宇,刘玉兰,吴志锋,朱惠玲,侯永清,丁斌.鱼油对仔猪生产性能、炎症介质和下丘脑-垂体-肾上腺轴激素的影响[J].动物营养学报,2011,23(06):937-942
- [7] 芦燕,任延铭,王安.低温环境下饲料核黄素添加水平对蛋鸭激素分泌的影响[J].动物营养学报,2011,23(06):943-949
- [8] 赵庆,刘爱巧,王晓霞,张洁,刘婷婷.饲料添加硒对种公鸡睾丸中硒含量和硒蛋白酶基因mRNA表达的影响[J].动物营养学报,2011,23(06):1011-1018
- [9] 刘伟龙<sup>1</sup>,占秀安<sup>1\*</sup>,王永侠<sup>1</sup>,郝彦昭<sup>2</sup>,武如娟<sup>1</sup>.肉种鸡补充硒代蛋氨酸对后代肉鸡肉质的影响及作用机理[J].动物营养学报,2011,23(03):417-425
- [10] 李士泽,高福久,杨玉英,姜宁,赵雅楠,李玉恒,杨焕.谷氨酰胺和L-肉碱对低温下肉羊瘤胃纤维分解菌的影响[J].动物营养学报,2011,23(03):499-505
- [11] 冯冬冬<sup>1</sup>,吴德<sup>1\*</sup>,车炼强<sup>1</sup>,周东胜<sup>1</sup>,方正锋<sup>1</sup>,林燕<sup>1</sup>.饲料纤维水平对妊娠母猪繁殖性能、激素分泌及仔猪器官发育的影响[J].动物营养学报,2011,23(01):25-33
- [12] 王秀娜<sup>1</sup>,耿忠诚<sup>1\*</sup>,王燕<sup>2</sup>,刘胜军<sup>1</sup>,王志敏<sup>1</sup>.饲料硒来源及添加水平对仔猪组织中细胞内谷胱甘肽过氧化物酶基因mRNA表达的影响[J].动物营养学报,2010,22(06):1630-1635
- [13] 郭旭东<sup>1</sup>,刁其玉<sup>1\*</sup>,王月影<sup>2</sup>,屠焰<sup>1</sup>,闫贵龙<sup>3</sup>,汪新建.芦丁促进大鼠泌乳性能的研究[J].动物营养学报,2010,22(06):1775-1782
- [14] 王安<sup>1</sup>,范承浩<sup>1</sup>,李士平<sup>1</sup>,王宏强<sup>2</sup>,任延铭<sup>1,3</sup>.低温环境下饲料电解质平衡对后备蛋鸭激素分泌及营养物质代谢的影响[J].动物营养学报,2010,22(06):1566-1570
- [15] 钟铭<sup>1,2</sup>,吴德<sup>1,2\*</sup>,方正锋<sup>1,2</sup>,车炼强<sup>1,2</sup>,林燕<sup>1,2</sup>.硒对公猪精液品质的影响及其机理[J].动物营养学报,2010,22(06):1488-1494