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## 3种硒源对蛋鸡生产性能、蛋硒含量及转化率的影响

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## Effects of Three Kinds of Selenium Sources on Production Performance, Egg Selenium Content and Conversion Rate of Laying Hens

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**摘要** 本试验旨在研究饲料中添加植物硒——富硒苜蓿、无机硒——亚硒酸钠和生物硒——酵母硒3种硒源对蛋鸡生产性能、蛋硒含量及转化率的影响。选取50周龄健康罗曼蛋鸡300羽,随机分成5组,每组4个重复,每个重复15羽。试验1组为对照组,饲喂基础饲料,试验2组饲喂在基础饲料中添加15%普通苜蓿粉的试验饲料,试验3、4组饲喂在试验2组饲料中分别添加1.60 mg/kg亚硒酸钠和730 mg/kg酵母硒的试验饲料,试验5组饲喂在基础饲料中添加15%富硒苜蓿粉的试验饲料,试验期为38 d。结果表明:1)基础饲料中添加富硒苜蓿能显著提高蛋鸡产蛋率和日产蛋量( $P<0.05$ ),显著降低料蛋比( $P<0.05$ );添加酵母硒可显著提高产蛋率( $P<0.05$ ),而添加普通苜蓿、亚硒酸钠和酵母硒对日产蛋量和料蛋比均无显著影响( $P>0.05$ )。2)基础饲料中添加亚硒酸钠、酵母硒和富硒苜蓿均可极显著提高蛋硒含量( $P<0.01$ ),其中富硒苜蓿组蛋硒含量极显著高于添加亚硒酸钠组( $P<0.01$ ),却极显著低于酵母硒组( $P<0.01$ );各组蛋硒含量随试验期的延长而增加,3种硒源组蛋硒转化率大小顺序为:酵母硒>富硒苜蓿>亚硒酸钠,均极显著低于对照组( $P<0.01$ )。由此可知,蛋鸡饲料中添加富硒苜蓿,其生产性能略优于添加酵母硒,明显优于添加普通苜蓿和亚硒酸钠;蛋鸡的蛋硒含量极显著高于亚硒酸钠,但极显著低于酵母硒,3种硒源蛋硒转化率大小顺序为:酵母硒>富硒苜蓿>亚硒酸钠。

**关键词:** 富硒苜蓿 亚硒酸钠 酵母硒 蛋鸡 蛋硒转化率

**Abstract:** This research was conducted to compare the effects of selenium (Se) supplementation as forms of plant Se—Se-rich alfalfa, inorganic Se—sodium selenite and biological Se—Se-rich yeast on the production performance, egg Se content and conversion rate of laying hens. Three hundred healthy Roman hens, 50 weeks old, were randomly divided into 5 groups with 4 replicates per group and 15 laying hens per replicate. Group 1 was fed a basal diet as control, group 2 was fed the basal diet supplemented with 15 percent of common alfalfa, groups 3 and 4 were fed the group 2 diet supplemented with 1.60 mg/kg sodium selenite and 730 mg/kg Se yeast, respectively, and group 5 was fed the basal diet supplemented with 15 percent of Se-rich alfalfa. The experiment lasted for 38 days. The results showed as follows: 1) the addition of Se-rich alfalfa in the basal diet could significantly increase laying rate and daily egg production ( $P<0.05$ ), and decrease feed/egg ( $P<0.05$ ); the addition of Se-rich yeast could also significantly increase laying rate ( $P<0.05$ ). There was no significant effect on daily egg production and feed/egg with the addition of common alfalfa, sodium selenite and Se-rich yeast ( $P>0.05$ ). 2) The addition of sodium selenite, Se-rich yeast and Se-rich alfalfa in the basal diet could significantly increase the Se content in egg ( $P<0.01$ ). The Se content in egg in the group supplemented with Se-rich alfalfa was significantly higher than that in the group supplemented with sodium selenite ( $P<0.01$ ), but it was significantly lower than that in the group supplemented with Se-rich yeast ( $P<0.01$ ). The Se content in egg in all groups was increased with experimental time passing. The order of Se conversion rate in egg in the three Se source groups was as follows: Se-rich yeast>Se-rich alfalfa>sodium selenite, however, it was significantly lower than that in the control group ( $P<0.01$ ). As for as production performance of laying hens, Se-rich alfalfa is slightly superior to Se-rich yeast, but it is very

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superior to common alfalfa and sodium selenite. Se content in egg in the group supplemented with Se-rich alfalfa is significantly lower than that in the group supplemented with Se-rich yeast, and is significantly higher than that in the group supplemented with sodium selenite; the order of Se conversion rate in the three Se source groups is Se-rich yeast>Se-rich alfalfa> sodium selenite.

Keywords: [Se-rich alfalfa](#), [sodium selenite](#), [Se-rich yeast](#), [laying hens](#), [egg selenium conversion rate](#)

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