

RESEARCH NOW

Chromium-Methionine Complex Improves Egg Production and Hatchability in Japanese Quail

Introduction:

Previous research has indicated positive performance responses from supplementing chromium-methionine complex (Cr-Met) to Japanese quail diets. This experiment was to determine the effect of Cr-Met supplementation on the egg hatching response of Japanese quail.

Trial Design & Duration:

- 320 Japanese quail breeders (240 female, 80 male)
- Randomly assigned and placed in 40 groups
- 8 birds/group (6 female, 2 male)

Treatments:

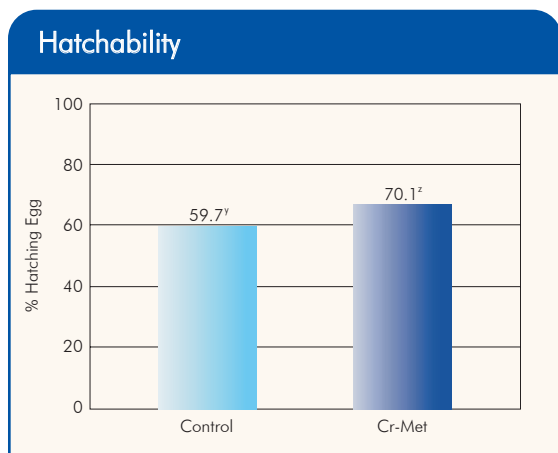
- 0 ppb Cr (Control)
- Control + 200 ppb Cr (Cr-Met)

Conclusion:

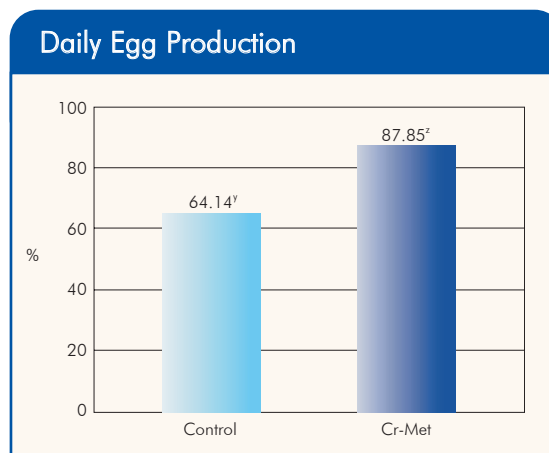
Cr from chromium-methionine improved the production of eggs and the hatchability of Japanese quail.

Results:

- Cr-Met increased (+ 32.8%) average daily egg production ($P < 0.01$)
- Cr-Met increased percentage of egg production ($P < 0.01$)
- Cr-Met increased (+17.7%) the percent of hatching eggs ($P < 0.01$)
- Cr-Met reduced the feed:egg ratio by 11.1%



[†] $P < 0.01$



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ABSTRACT

1015 Effect of Chromium Methionine Supplementation on Egg Hatching Response of Japanese Quail Under Controlled Temperature Condition in Dry Tropic Weather. G. Contreras*, R. Barajas, and A. Montoya, *Universidad Autonoma de Sinaloa*.

To determine the effect of chromium methionine supplementation, on hatching egg production response of Japanese quail under weather controlled condition (25°C) in dry tropic. Once all randomized design experiments were conducted, 320 Japanese quail (240 females and 80 males) were divided into 40 groups of eight avian (six females and two males). Each group of eight quails was allocated in a metal wire crate (25 x 30 cm), including as part of a battery of crates with five levels and four crates by levels (20 crates), each battery level (32 quails) was considered as an observation, and were randomly assigned to consume one of two experimental diets in that consist the treatments: 1) Diet containing 21% CP and 2.9 Mcal ME/kg (control); and 2) Diet similar to control, supplemented with 200 ppb of Cr from chromium methionine (Met-Cr). Chromium methionine supplementation, increased ($P < 0.01$) in 32.8% the average daily egg production (64.14 vs 87.85%) and percent of egg production (55.12 vs 73.21%). Met-Cr improved ($P < 0.01$) in 56.3% the average of daily hatching egg production (39.4 vs 61.6), and in 17.7% the percent of hatching egg (59.7 vs 70.1%). Daily feed intake was augmented ($P < 0.01$) in 8.3% by Met-Cr supplementation (5.32 vs 5.76 g/d). The length, width, and weight of eggs were not affected by treatments. The index feed intake/egg production was diminished in 11.1% by Met-Cr treatment (0.648 vs 0.576). It is concluded that chromium methionine supplementation improves the production of egg and hatching egg in Japanese quail under weather controlled conditions in dry tropic areas.

Key Words: Chromium, Japanese quail, Hatching

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