

RESEARCH NOW

Effect of Different Chromium Sources on Japanese Quail

Introduction:

This experiment evaluates the effect of MiCroPlex® chromium methionine (Met-Cr) or chromium picolinate (Pic-Cr) on blood glucose level and weight gain of Japanese quail in the first 7 days of life.

Results:

- No difference in mortality observed between Treatments. Overall mortality was only 1.2%
- No significant improvements in weight gain or blood glucose for Pic-Cr 100 or 200 ppb or Met-Cr 100 ppb
- However, Met-Cr 200 ppb increased blood glucose ($P < 0.01$), final weight ($P < 0.05$) and weight gain ($P < 0.05$)

Trial Design:

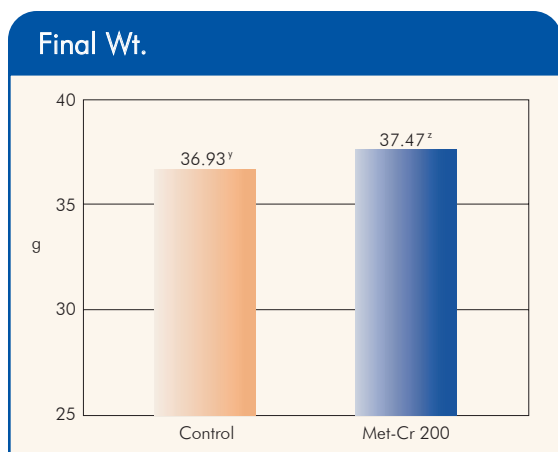
- 500 birds
- 25 groups x 20
- 5 groups per treatment

Treatments (via water):

- Control
- Pic-Cr 100 ppb
- Pic-Cr 200 ppb
- Met-Cr 100 ppb
- Met-Cr 200 ppb

Parameters Measured:

- Mortality
- Blood glucose
- Weight gain



^{yz} $P < 0.05$



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ABSTRACT

1016 Effect of supplementation in drinking water with two organic chromium sources on blood glucose level and weight gain of Japanese quail (*Coturnix coturnix japonica*) in their first week of live. G. Contreras*, N. Montesinos, and R. Barajas, Universidad Autonoma de Sinaloa.

To determine the effect of supplementation in drinking water of chromium picolinate (Pic-Cr) or chromium methionine (Met-Cr) on blood glucose level and weight gain of Japanese quail in their first week of live. Five hundred Japanese quail (*Coturnix coturnix japonica*) were used in a randomized design experiment. The animals were distributed in twenty five groups of 20 quail. Each five group was randomly assigned to one of the next treatments: 1) Regular management without supplement in water (control); 2) Drinking water with supplemented with 100 ppb of Cr from Pic-Cr; 3) Drinking water with 200 ppb of Cr from Pic-Cr; 4) Drinking water supplemented with 100 ppb of Cr from Met-Cr; and 5) Water supplemented with 200 ppb of Cr from Met-Cr. Mean of experiment mortality was 1.2% and was not affected ($P > 0.10$) by treatments. Treatment with 200 ppb of Cr from Met-Cr, increased ($P < 0.01$) blood glucose (236.6 vs 299.8 mg/dL) and improve ($P < 0.05$) final weight (36.93 vs 37.47 g) and weight gain (27.7 vs 29.12 g). Met-Cr inclusion in drinking water with independence of used level, increased 26% ($P < 0.01$) blood glucose concentration (236.6 vs 297.9 mg/dL) and tended to increase ($P = 0.07$) in 2.8% body weight (36.93 vs 37.97 g), and tended to improve ($P = 0.10$) in 3.6% weight gain (27.7 vs 28.7 g). Pic-Cr had no effect on the variables. It is concluded that, chromium supplementation in drinking water not affect the mortality of Japanese quail in trial in the first living week, and the inclusion of 200 ppb of chromium from chromium methionine increased blood glucose levels and weight gain.

Key Words: Chromium methionine, Picolinate, Japanese quail

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