

RESEARCH NOW

Chromium-Methionine Complex Affects Hatching of Japanese Quail (Winter)

Introduction:

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

Trial Design & Duration:

- 1280 Japanese quail (960 female, 320 male)
- Randomly assigned to 160 Groups
- 8 birds/group (6 female, 2 male)

Treatments:

- 0 ppb Cr (Control)
- 100 ppb Cr (Cr 100)
- 200 ppb Cr (Cr 200)
- 400 ppb Cr (Cr 400)

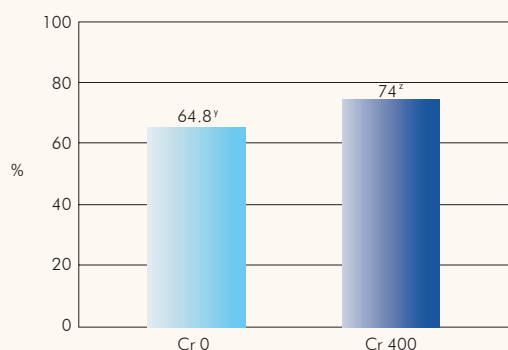
Conclusion:

Data from this experiment indicate that Cr-Met generally improves hatching of Japanese quail.

Results:

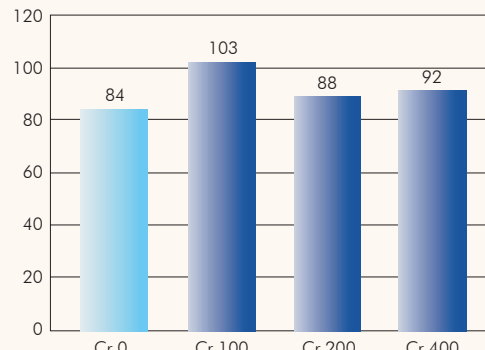
- Mean daily feed intake was not affected by Treatments ($P > 0.10$)
- Percentage of hatching (74%) was not affected by Treatments ($P > 0.10$)
- Cr 100 increased ($P < 0.05$) the number of hatched quail/day by 22% as compared to Control (103 vs. 84)
- Cr 100 increased hatching by 12% ($P < 0.05$)
- Cr 400 increased hatchability vs. Control ($P < 0.05$)
- Cr 100 & 200 diminished weight of newly born quail ($P < 0.05$)

Hatchability



^y $P < 0.05$

Quail Born/Day^z



^z Cubic effect of Cr supplementation ($P < 0.05$)



RN-P-007
10/28/03

ABSTRACT

1338 Effect of Chromium-Methionine Level in Diet on Hatchability of Japanese Quail in Dry Tropic Weather:II. Response Under Temperature-Controlled in Winter Season. G. Contreras*¹ and R. Barajas¹. ¹Universidad Autonoma de Sinaloa.

To determinate the effect of chromium-methionine level in diet on hatchability of Japanese quail in dry tropic weather under temperature-controlled in summer season, a completely randomized design experiment was conducted (four treatments: ten replicates by treatment). One thousand two hundred eighty Japanese quail (960 females and 320 males) were divided into 160 groups of eight (six females and two males), and were allocated in wire cages (25 x 30 cm); groups of four cages (32 quails) formed an observation. The avian were randomized assigned to consume diets (21% CP; 2.9 Mcal DE/kg), in that consist the treatments, containing one of four levels (0, 100, 200 and 400 ppb) of supplemental chromium from chromium-methionine (MiCroPlex®, Zinpro Corp, MN). Mean daily feed intake by quail in the experiment was 31.7 g and was not affected ($P>0.10$) by treatments. The hatching was increased 12% ($P<0.05$) with Cr 100 ppb treatment. Percentage of egg hatching was not affected ($P>0.10$) by treatments (74%). Level of 100 ppb of Cr increased ($P<0.05$) in 22% the number of newly born quails by day (103 vs 84) with respect to zero Cr level, cubic effect ($P<0.05$) of Cr-Met supplementation was found (84, 103, 88 and 92 newly born quails for 0 to 400 ppb of Cr in diet). Hatchability in Cr-400 was higher ($P<0.05$) than control (64.8 vs 74%). A linear effect of chromium was detected ($P<0.05$). The weight of newly born quail was diminished ($P<0.05$) by chromium levels of 100 and 200 ppb with respect of Cr 0 ppb treatment. A quadratic ($P<0.01$) effect of chromium was observed, with values of 10.17, 9.82, 9.7 and 10.12 g for chromium levels of 0, 100, 200 and 400 respectively. It is concluded that 100 ppb of supplemental Cr from Cr-Met improve hatching and newly born quails by day of Japanese quail in dry tropic weather under temperature-controlled in winter season.

Key Words: Japanese quail, Chromium, Hatchability

2001 Poultry Sci. 80 (Suppl.1):323