

citrus meal produced by modern processing methods would result in the same rate of mortality as observed by Mehrhof and Rusoff.

Experimental Procedure

Trial 1: Eighty Vantress x White Rock broiler type chicks were used in this experiment. At one day of age they were randomized into eight groups, each containing five males and five females. Each group was placed in a separate unit in an electrically heated battery-brooder with raised wire screen floor.

Two basal diets were utilized (Table 1). The control diet was similar to those used in commercial broiler production. The second diet was formulated by replacing a portion of the corn with 30% citrus pulp. Corn oil was added to keep the diets approximately iso-caloric. Two additional diets were formulated by blending these diets in proportions to obtain levels of 10 and 20% citrus pulp. Each diet was fed to replicate pens of chicks from one day to four weeks of age. At the end of the feeding period all birds were individually weighed.

Trial 2: The procedures in this experiment were the same as those followed in Experiment 1, except that citrus seed meal was substituted for citrus pulp in the experimental diets.

Results and Discussion

Trial 1: The incorporation of 10% citrus meal in the diet did not result in a significant reduction of growth rate of chickens (Table 3). However, the 20% level resulted in a significant reduction in growth, and a further reduction in growth rate was obtained when a level of 30% citrus meal was fed. No mortality occurred during the growing period, which indicated that levels up to 30% of citrus meal in the diet were not toxic to growing chickens.

Table 3: Body Weight of Chicks Fed Various Levels of Citrus Pulp

Citrus Pulp in Diet	4 Wk. Body Wt. ¹
(%)	(gms)
0	467 ^a
10	448 ^a
20	387 ^b
30	330 ^c

¹Means with different superscripts are significantly different according to Duncan's multiple range test (1955).

Trial 2: A level of 5% citrus seed meal significantly reduced growth rate of chicks (Table 4). A further reduction in growth rate was obtained with each increase in level of citrus