Experiment 1
Feeding Schedules

This experiment was undertaken to investigate various psychological aspects of the feeding schedule, such as times of feeding and previous exposure to or deprivation of food. The psychological conditions attendant upon a continuous exposure to feed, such as is encountered in the ad libitum feeding method, are quite different from those attendant upon feeding methods wherein peaks of drive are encountered, the organisms being deprived of all or of certain types of feed for a certain length of time. It might be expected that groups raised under different drive conditions would show different rates of weight gain.

It is further known that chickens are competitive in their eating behavior; for example, a chicken satiated in isolation, when placed with another chicken which is eating, will commence to eat again. Conditions of feeding which provide a group of satiated chickens with a continual supply of sufficient food are quite different with respect to this competitive aspect of eating behavior than conditions which present a group of chickens hungry for all feed or one particular feed with an amount of feed which is not sufficient for the entire group.

The method and initial results of setting up some of these conditions in four fairly uniform groups of birds are described below.

Subjects. The birds used in this experiment were 78 White Rock chickens of mixed sex, hatched June 23, 1949. They were 30 days old at the time of their purchase and had been raised prior to that date on Nutrena broiler mash. After their purchase they were housed for approximately two weeks in two compartments of a standard four-deck broiler battery and were fed upon Larro broiler mash. Broiler pellets, chick size, were begun at 5 weeks and by August 5 all pellets were being fed.

On August 5 the birds were weighed and banded. The weight and number of each bird was recorded, and the chickens were then divided into four groups by drawing numbers at random from this supply. Each group was then housed in a separate deck of the battery and provided with feed and water troughs.

Method and Apparatus. Groups B and D were designated as the control groups. Group B was fed on a schedule of continual access to mash in the meal or powder form, with pellets scattered on top of this ration twice a day, morning and evening. The amount of pellets varied somewhat from day to day, variation being based upon the amount cleaned up the previous day, or the occasional failure to clean up a feeding of pellets. The amount given was weighed each time. Group D was given unlimited access to broiler pellets only.

Groups A and C, the experimental groups were fed pellets from two specially constructed automatic hoppers which delivered every 30 minutes a small supply of pellets to the feed troughs. These hoppers are 40 inches long, constructed of plywood, and mounted above the feeding troughs in such a position that the feed released falls into the trough. The design of a suitable release mechanism required considerable experimentation. As finally developed, this