

This strong pecking behavior to the corn must presumably be due to some effect from the experience with the canary seeds. Some of the reinforcing effect from eating the seed apparently generalized to the corn through similarities in the two stimulus patterns. Similarly in the capsule experiment, the chicken's eating behavior was so strengthened by the mash that the capsules also became adequate stimuli and were eaten. These interpretations are, of course, tentative.

Conditions of Feeding

Background. It has been found in previous experiments that chickens will eat up to 50 per cent. more feed when, after having been satiated in isolation, they are placed in the environment with another hungry chicken which is eating. This is presumably due to some sort of competition factor in the chicken. It is also generally known in behavioral experimentation that any stimulus which is consistently associated with the presentation of a reinforcing state of affairs comes to have in itself considerable control over the elicitation of the response normally tied up to the reinforcement. The following experimental situation represents an attempt to utilize both of these principles simultaneously to make the chicken eat more feed per unit of time.

The food was presented in a series of small amounts, never enough so that there was enough to go around. In this way it was hoped that the competitive aspects of the chickens' behavior would be augmented. At the same time a definite stimulus was given just prior to the presentation of the food or simultaneously with it. This, it was hoped, would take on the characteristics of a discriminative stimulus and strengthen the eating behavior.

The Animals. The animals used in this experiment were 23 White Rock chickens obtained from the Hartmann Poultry Farm, Wayzata, Minnesota, on March 11, 1949. They had been hatched February 31 and had been raised on the new Larro broiler mash under battery conditions. They were apparently in good health, although we have had to isolate one bird because of a suspected fowl paralysis and another died at the time of writing this report, after the data had been collected and analyzed.

The Experimental Situation. Eleven birds were assigned to the control group and 12 to the experimental group. The birds were placed in adjacent pens 4' x 4', 30" high, with wire mesh covering the sides and the top. Special hovers were constructed for them, electrically heated to about 70° and thermostatically controlled. They were equipped with standard waterers and feed troughs. A 40 watt light bulb was placed in each pen and was on at all times.

These pens were located in a basement barn where the temperature during the early part of the experiment occasionally fell to 20° or 25° so that the waterers froze during the night. A tarpaulin was spread over the pens for extra warmth. Equal amounts of warm water were given each morning, of sufficient warmth and quantity to last throughout the day.

¹ These chickens, I was told by Mr. Hartmann, were 3 weeks old on the purchase date. However, we discovered later, much to our chagrin, that they were nearer 5 than 3 weeks old.