

An automatic recorder for bird feeders

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A simple photocell and counting relay provide an effective recording system for bird visits to a feeder

With an interest in the effects of weather on bird feeding rates, we needed to know the total number of visits to a feeder each day for varying conditions. An automatic recorder would permit the comparisons of numbers of visits on clear, cold days with rainy, cold days, or snowy days, et cetera. (Actual weather data gathered each day included temperatures, cloud cover, and precipita-

tion). No commercial counters were available, so we constructed one and wish to share its design with others.

Essentially, a standard bird feeder with "one-side" feeding is equipped with a photocell across the face of the tray (Figure 1). In feeding, a bird must interrupt the light beam which then causes a relay to record a count. For convenience the counter may be installed indoors, with two signal lights (a red light indicates when the system is "on"; a white light flashes each time a visit is recorded). The difference between the recorded numbers on successive days yields the total daily visits.

The 1000 ohm counting relay is the basic building block of the circuit, and details of the entire system are indicated on illustration. There are many electrical modifications possible for such a simple photocell recorded system. Our total cost was approximately fifty dollars, excluding the actual feeding station. A few practical details are important. The P-6377 Transformer eliminates any shock hazard as there are never more than 12 volts D.C. at the feeder. It is also essential that all outdoor elements be as waterproof as possible. Further, it is recommended that the front of the photocell be surrounded by a small tube with blackened interior, to keep sunlight from the cell. The system uses little electricity

The counter provides an interesting addition to one's bird feeder, or is useful for research. Our preliminary studies have shown dramatic increases in feeding rates with winter snow storms, but an apparent temperature independence in feeding.

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