Low cost automation of artificial illumination for broilers

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Abstract: The main purpose of lighting programs in aviaries is to stimulate food consumption at the right moment to improve performance, as it provides access to birds for water and feed. These programs are important in the early stages of birds development, since they facilitate their adaptation to the environment. This research aimed to develop an automated system of low cost to control and monitor the light program in facilities for poultry cutting. Through a light sensor connected to an Arduino microcontroller, it was possible to drive and control two lighting circuits to maintain adequate values of the luminous flux and the photoperiod required by the birds, according to their age. The values were established based on the

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consulted bibliographical references. For the correct system functioning, a flowchart for a computational program and its implementation in the C language were elaborated, using the development environment of the microcontroller. During the tests, the system controlled the circuits and saved the data as expected, showing good performance. It was concluded that, it was possible the automation in small farms to control and monitor the program of light in the cutting poultry. The proposed system could reduce the energy consumption in the property, because the circuits were activated to complete the photoperiod required by the birds. This work will serve as a useful and viable tool to contribute to the sustainability of poultry enterprises because of minimizing the production costs of this sector.