Prevention of Acid Rain Effects with Sacrificial Metals and Development of a Detection System

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The effects of acid rain on plants and soil have been carefully studied. By using sacrificial metals, like magnesium, these negative effects of acid rain can be offset. Both mortality rate among vegetation and alterations in the physical and chemical characteristics of the soil have been reduced, which can affect its richness considerably. A system has been designed to enable the detection of acid rain since the very first moment. As a consequence of this, it would be possible to apply immediate and effective measures to stop its effects. From this project, it can be concluded that, by applying powdered magnesium on plants, their death can be prevented when they are sprinkled with an acid dissolution. In the same way, soil acidification can be stopped by adding powdered magnesium and, as a result, the reduction of soil fertility is prevented when plants are exposed to acid rain. Through conventional electronic devices such as LEGO MINDSTORMS EV3 and arduino, and their components, it is possible to detect acid rain very quickly and to be able to diminish its effects in an immediate way.
Keywords: acid rain, pH gauges, sacrificial metals, magnesium, acid.

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