

## Development of a Solar Type Birds-Expelling Robot

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### Abstract

Rice and millet are important crops in Taitung, but usually mass damage occurs before harvest due to birds feed, especially in organic farm. To offer a better way for bird-expelling, we developed a solar type birds-expelling robot. In a human-like appearance, the robot consists of a shaky head that functions to expel birds. The robot uses strengthen wires to pull clickers in a frequency of 24 times per minutes which creates expelling sound of 100-120db. It also employs a timer relay, to reduce bird suitability so as to upgrade its efficiency. The expelling robot equips a solar cell that generates power at daytime and stop automatically in night. Test results in millet and sugar apple fields show that the robot significantly affects the yield when compared to control groups. In rice field trails, result shows rice yield of control group is only 70% of test group. Test result also indicates that the robot device can reduces cost and ease farmers' burden.

**Key words:** Bird-causing crop losses, Bird Repeller, Millet, Rice.

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