

Robotic Agricultural Pest and Weed Control

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In today's agricultural world, pest and weeds are getting more tolerant to pesticides and herbicides used to control them. This is resulting in the need to use stronger chemicals which in turn lead to higher concentrations of these chemicals in the foods being grown which in turn lead to larger amounts of harmful chemicals being ingested by humans.

My concept involves creating a solar powered robot which shoots weeds with magnetic beads which crush the weed on impact against the dirt. The rear end of the robot has a tail flap to magnetically attract the beads back for reuse in its firing mechanism. The solar powered robot also scans for bugs and fires using nutrient rich liquid or water creating a twofold benefit. The robot uses artificial intelligence to make decisions but at the same time can send images and data for human assistance in its decision making process. Based on the human response the robot will use that information in future to take action against a weed or bug. Pollinators like butterflies and bees and aerators like earthworms are obviously not targeted. The software not only uses flying patterns but visual recognition to make a fire/ no fire decision.

The application of this technology in the Alabama blackbelt region would bring revenue to the people and small communities in those areas. Manufacturing and programming these agricultural robots could also create jobs in both the manufacturing and technology fields.

The desired outcome would be production of fruits and vegetables that are grown with the minimal amount of chemicals, leading to a healthier population and increased revenue for the agricultural sector.