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(57) Abstract :

A crop management system, comprises of a cuboidal inspection module 101 mounted on a vertical telescopic rod 102 connected with a twin-axis slider 103 erected over agricultural land, multiple directional acoustic transducers 104 mounted on the inspection module 101 using motorized ball-and-socket joints 105 to emit targeted sound for stimulating crop growth, an extendable L-shaped probe 106 at the bottom of the inspection module 101 for measuring soil moisture, pH, temperature, and NPK levels, a smart irrigation pipe arrangement including pipe network of interconnected sections 201 for water and nutrient delivery, each section 201 equipped with an anti-blockage module to remove any blockage and a fertilizer dispensing module to dispense fertilizers, a processing module embedded in the system and coupled to the mechanical and electronic components for controlling all operations.

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