

Agri - Technology Management



What is Agritech?

- Use of technological innovations in agriculture to increase yields, efficiency, and profitability
- Technology use in the following areas:
 - Faster planting
 - Gene edited crops
 - Use of big data and AI

Challenges in Agricultural Sector

- Climate Change – rise in temperature
 - Droughts and floods
 - Growth and harvesting of plants
 - Pests and diseases
 - Nutrient composition
 - Loss of biodiversity
- Land Management
 - Synthetic fertilizers and pesticides
 - Resource depletion – loss of forest cover
 - Livelihoods of small and marginal farmers

Use Cases

- Smart farming
 - Automated irrigation
 - Use of weather forecasts to optimize the planting and harvesting of the crops
 - Precision farming – use of sensors, drones and its data for precise applications
 - Vertical farming – growing crops in vertical layers
 - Hydroponics – crops grown without soil



FIGHTING CROP DISEASES

UAVs evaluate crops for disease with hi-res photos, giving farmers critical information to improve efficiency.



FERTILIZER

Apps for UAVs measure nitrogen deficiencies and yield potential, and use the right amount of fertilizer.



NIR SENSORS

Near-infrared (NIR) sensors can determine plant health based on light absorption.



ARTIFICIAL INTELLIGENCE

Smarter drones perform their own tasks, improving farm efficiency with little human intervention.



POLLINATION

Drones observe the pollination efforts of bees and will soon be able to pollinate plants themselves.



FOOD SECURITY

Drones help maximize the yield of farms, boosting production for a rapidly growing world population.



HERBICIDE

UAVs spray individual weeds, rather than needing to cover the entire crop in herbicide.



INSECTICIDE

Software helps UAVs to target individual insect infestations and eradicate them.



THERMAL CAMERAS

Drones monitor remote livestock pastures, keep track of animal health and watch for predators.



PLANTING SEEDS

UAVs fire seeds into the ground, planting at a much faster rate than any other device or human.

THE FUTURE OF AGRICULTURAL DRONES