



Startup Areas of Interest 2025-2026 AgLaunch365

1. **Autonomous and Swarm Robotics for Field Operations**
Fully autonomous tractors, planters, weeders, and harvesters operating as coordinated “swarms” to reduce labor needs, lower fuel/chemical use, and enable 24/7 operation. Includes *AgRobots-as-a-Service* business models to reduce upfront costs.
2. **Real-Time Plant and Soil Sensing ("Plants as Sensors")**
In-field and in-plant biosensors to monitor health, stress, nutrients, and disease—enabling timely, precise interventions that improve yields and reduce waste.
3. **In-Season Biological and Microbial Crop Treatments**
Drone or irrigation-delivered living microbial solutions to enhance plant growth or suppress pathogens.
4. **Advanced Biocontrols & Living Crop Protection**
Targeted microbial biocontrols, phage-based bactericides, and beneficial insect systems guided by pest-detection AI.
5. **Closed-Loop Fertility & On-Farm Biological Input Manufacturing**
On-farm systems converting manure, residues, and food waste into custom nutrient blends; includes compost tea fermenters, microbial bioreactors, and seed coating “microbial inkjets.”
6. **Hyperlocal Weather, Microclimate & Irrigation Automation**
AI-driven microclimate prediction, smart drip systems, canopy-based evapotranspiration and frost sensors. Enables digital irrigation and localized climate response.
7. **Farmer-Centric AI Decision Tools & Assistants**
Mobile-first tools and AI copilots offering recommendations on planting, hybrid selection, input timing, and market decisions—democratizing agronomic expertise with farmer-first UX.
8. **Next-Gen Livestock & Native Herd Monitoring**
Wearables, drones, and AI systems for animal health, behavior, and fertility. Includes reintroduction of native grazers (e.g., bison) using Indigenous knowledge and co-stewardship.
9. **Fintech for Agriculture, Digital Market Access, & Specialty Crop Traceability**
Blockchain, QR storytelling, and traceability platforms supporting specialty crop differentiation and premium market access, as well as increasing financing options.
10. **On-Farm Carbon, Biodiversity & Ecosystem Service Monetization**
Verified systems for stacking carbon, water, and biodiversity credits. Includes carbon + biodiversity stacking and trait monetization.



11. Farmer-Owned Data-to-Revenue Platforms

Platforms enabling farmers to own, govern, and monetize operational, biological, and ecosystem data through cooperative models.

12. Precision Spray, Pruning & Harvest for Specialty Crops

AI-guided machines for micro-dosing sprays, robotic blossom thinning, soft fruit harvest, and selective pruning.

13. Farmworker-Assistive and Safety Technologies

Exoskeletons, ergonomic wearables, heat-stress monitors, and communication/translation apps to enhance worker safety and productivity.

14. Advanced Greenhouse Production

AI-managed greenhouses and vertical farms with LED spectrum tuning, dynamic humidity/CO₂ zones, and robotics for year-round specialty crop production.

15. Multispecies Field Trials & Biodiversity Design

AI-designed cropping systems to improve soil health and pest suppression through intentional biodiversity.

16. Crop-Livestock-Tree Integration (Agroecology Powered by Tech)

Combining precision ag with agroecological systems that integrate trees, livestock, and crops for resilient, circular production models.

17. Integration of Indigenous and Traditional Knowledge

Embedding ecological wisdom into tech, e.g., rotational grazing, polycultures, water harvesting, tribal-led agrivoltaics, and heritage grains.

18. Place-Based Innovation Bundles

Region-specific combinations of modern technologies and traditional practices tailored to local environments, crops, and cultures.

19. AI Tools and Approaches for Discovery

Accelerating discovery for genes linked to drought tolerance, disease resistance or nutrient inefficiencies in plants, beneficial microbes and biocontrols, disease patterns and genetic performance of livestock. Finding plant-derived replacements for synthetic dyes, new ingredients or valuable traits.

20. Other Groundbreaking Innovations

Interesting approaches to solving big problems that no one has thought of yet!