Modified Agriculture – Precision Agriculture
Precision Agriculture (PA)

- Specific production over particular place, from foot to foot
- Data collection and decision making for small pieces of the field
- Identifying of particular part of the field for data collection and analysis for precise and reliable decision making
- Homogenous parts with significant differences and parts of the uniform network
- Decisions and data for one part don’t apply to another parts of the same field.

Spatial variability

- Demarcation of Spatial variability & acknowledge and cultivate
- Identify procedures for specific areas of the field based soil properties, micro relief, etc,
- Monitor plants & its growth parameters and apply required quantity of water, fertilizer & pesticide soil moisture, nutrient
Prepare Maps
• Coordinate systems
• Rows and columns in ordinary table.
• Combination of the letter and number (coordinates) is exact address/position of the cell in the table

Tools of precision agriculture
• Global positioning system (GPS)
• Geo-informational system (GIS)
• Remote Sensing (RS)
• Intelligent Devices and Implements (IDI)
• Computers

Precision Agriculture
• GPS Guidance and Auto-steer
• Section Control on Sprayers
• Row Control on Planters and Seeders
• Yield Monitoring
• In-field Sensing
Implications in Precision Agriculture
• Real-time Plant Fertilizer Requirements to Maximize Yield &
• Increased Use of fertilizer/pesticide efficiency & Reduce Total Application
• Early Yield Prediction
• Precision Desiccant Application

Issues
• Additional Application Costs – machinery, surveilliance
• Another Pass of Field
• Weather Issues Could Prevent Second Application

Unmanned vehicle
• Inventory of Nursery Tree Crops
• Crop Stress
• Livestock Observation
• Monitoring Rangeland Condition

Issues
• Airspace Operational issues
• Image Processing Complexities
• Difficulty of Operation @ all times
As agriculture is widespread in space and time and requirement monitoring and data collection drains our resources.

Production cost per unit produce moves up as well food cost.