MODERN AND SMART FARMING TECHNOLOGIES

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Abstract. Increasing world populations and increasing expectations are causing a need for more and more agricultural production of food, feed, fibers, and fuels. While resources are being consumed, and with problems such as urbanization, desertification, salinization, climate change, and soil degradation, it is imperative that increasing quantities and improved qualities of agricultural plant products be produced with environmental, economic, and social sustainability.

Smart farming is needed to assist with this task. Technology alone will not solve these problems, but technologies can help to gather data, remember and process data and information, and achieve more optimal control of machines and processes. This talk discusses some of the contemporary technologies for smart agronomic and horticultural farming.

Basic concepts, historical developments, and contemporary situations, including research and commercial adoption, are discussed. Due to time constraints, only selected examples can be covered. There is an emphasis on precision agriculture technologies. Some technologies for robotics and sensing are also discussed.