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# **Yield Monitoring and Soil Mapping**

**LECTURE 4**



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## 4.1 Introduction on Yield Monitoring

- To enable decision makers and planners to predict the amount of crop import and export yield estimation well before harvest is imperative
- But conventional methods are expensive, time consuming and are prone to large errors due to incomplete and inaccurate ground observations
- Data captured through remote sensing has the prospective, capacity and the potential to exhibit spatial information at global scale



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## 4.1.1. Aerial Photography

- This is used for optimized use of resources for agriculture and crop inventory
- Black and white photography has been used for crop identification, primarily based on ground appearance and the equivalent aerial photographic form of selected fields at nine intervals during growing season



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## 4.1.2. Multispectral Scanners

- It uses pattern recognition techniques using a computer format to differentiate specific crop from other agricultural crops
- It also helps in species identification



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## 4.1.3. Radar

- It helps in monitoring the yield concentrating on seasonal change between the crops and numerous variables which are considered in making simplest determinations



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## 4.1.4. Satellite Data

- Remote sensing has proved effective in predicting crop yield and provide representative and spatially exhaustive information on the development of the model
- Yield estimates through remote sensing is indirect in nature
- Recently, researchers are using coarse resolution data as a sampling tool to estimate the yield through remote sensing for increased precision



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## 4.2. Soil Mapping

- Soil maps are required on different scales varying from 1:1 million to 1:4,000 to meet the requirements of planning at various levels
- As the scale of a soil map has direct correlation with the information content and field investigations that are carried out, small scale soil maps of 1:1 million are needed for macro-level planning at national level



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## 4.3 Applications of soil mapping through remote sensing

- Remote Sensing for Soil and Land Degradation Mapping
- Soil Mapping methods
- Visual Image Interpretation
- Computer Aided Approach





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**THANK YOU**