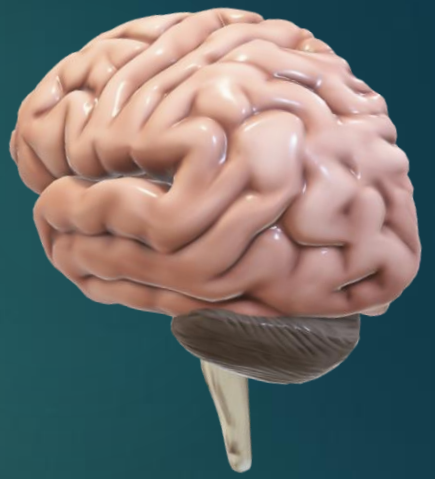
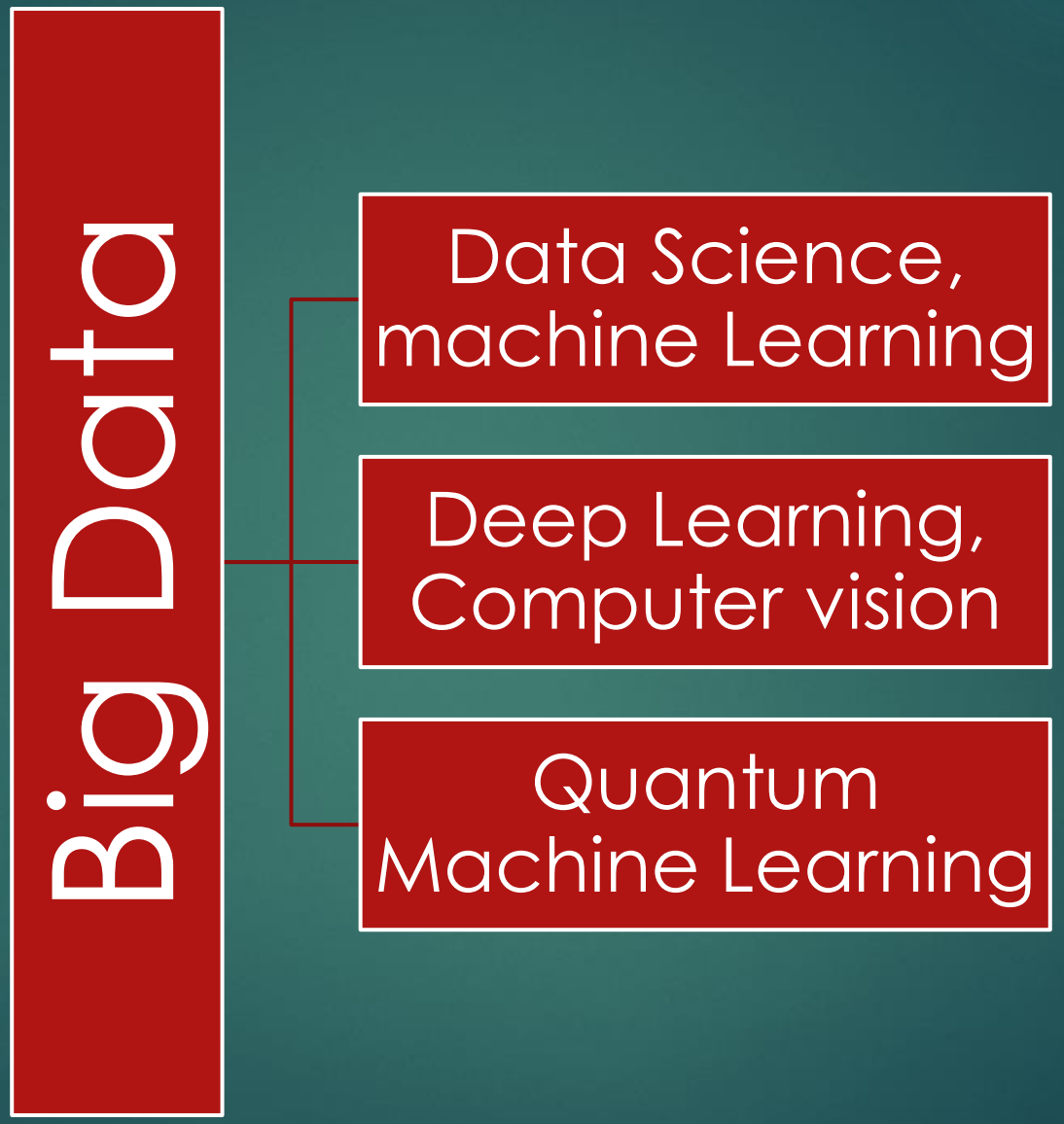
Agriculture

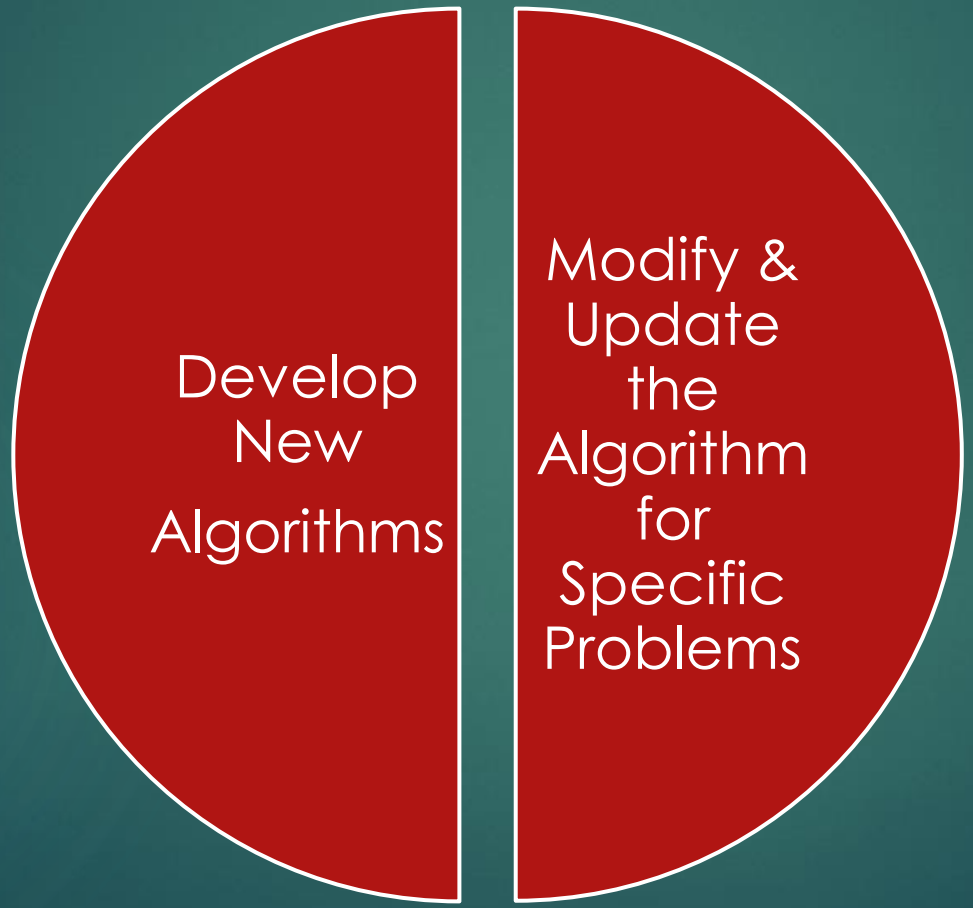
Data Processing

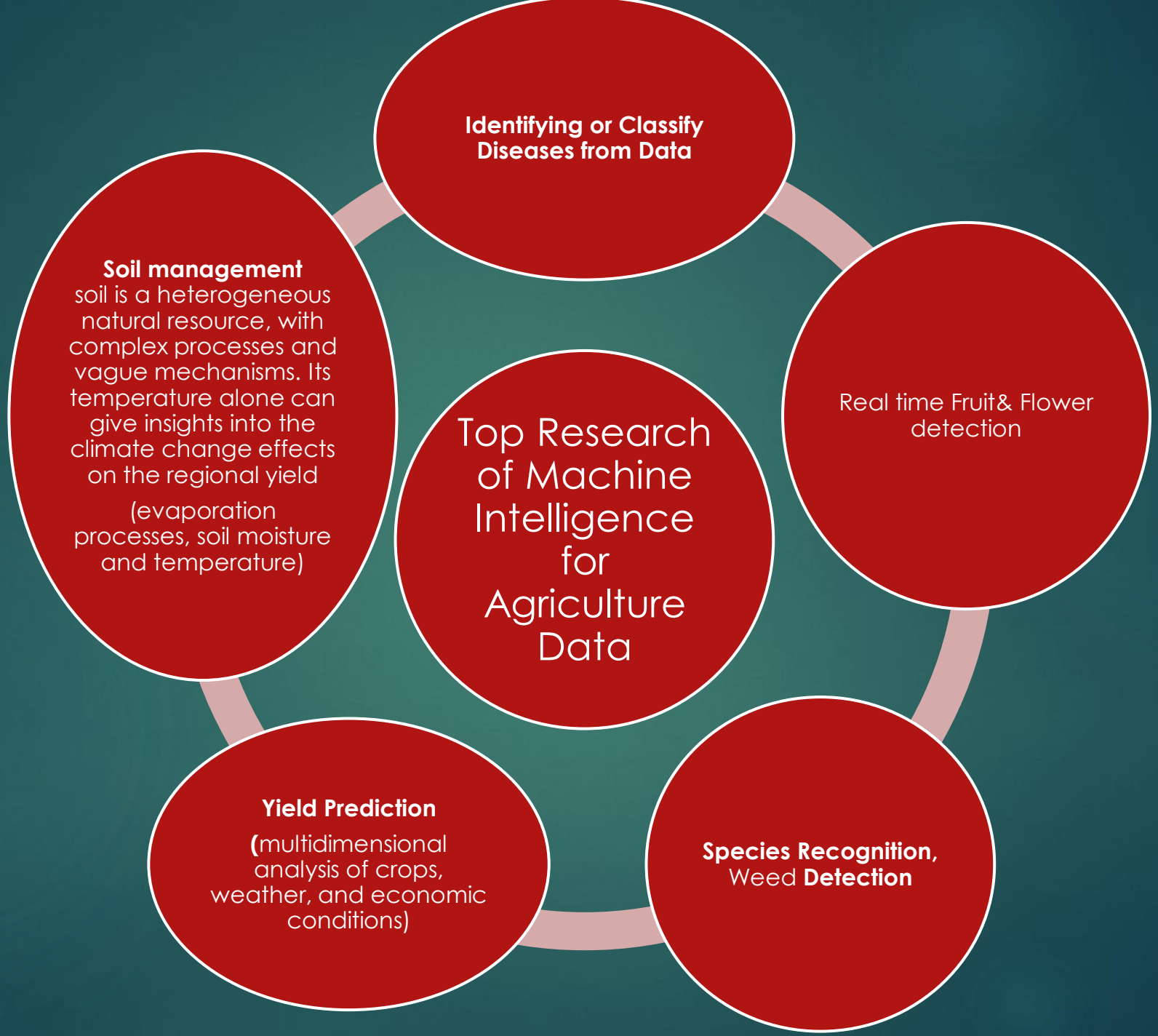
with Machine Intelligence




Big Data
Data Science, machine Learning
Deep Learning, Computer vision
Quantum Machine Learning

(*)Research Projects:




Identifying or Classify Diseases from Data
Soil management soil is a heterogeneous natural resource, with complex processes and vague mechanisms. Its temperature alone can give insights into the climate change effects on the regional yield (evaporation processes, soil moisture and temperature)
Top Research of Machine Intelligence for Agriculture Data
Real time Fruit& Flower detection
Yield Prediction (multidimensional analysis of crops, weather, and economic conditions)
Species Recognition, Weed Detection

Agriculture Applications Using

- Machine learning (ML) and Deep learning (DL) are the latest emerging trends in the computer field. It has been already used in different domain like healthcare, cybercrime, biochemistry, robotics, metrology, banking sector, medicine, food etc. to solve the complex problems by the researchers

Machine Intelligence

- . Deep learning algorithms are making machine learning more powerful and accurate. By using automated machine learning (AutoML) we can cut the demand of ML experts, we can automate the ML pipeline with more accuracy

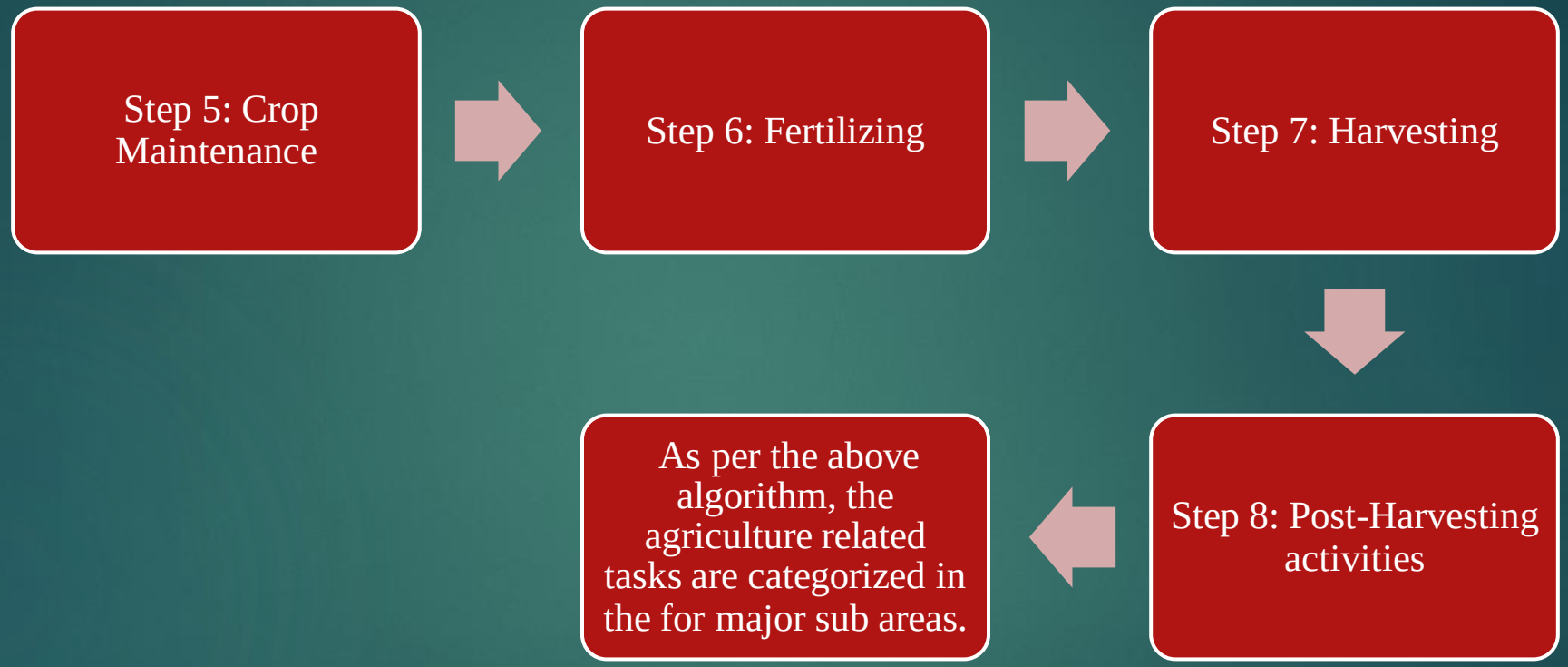
While performing agriculture tasks, the following flowchart is followed by farmers

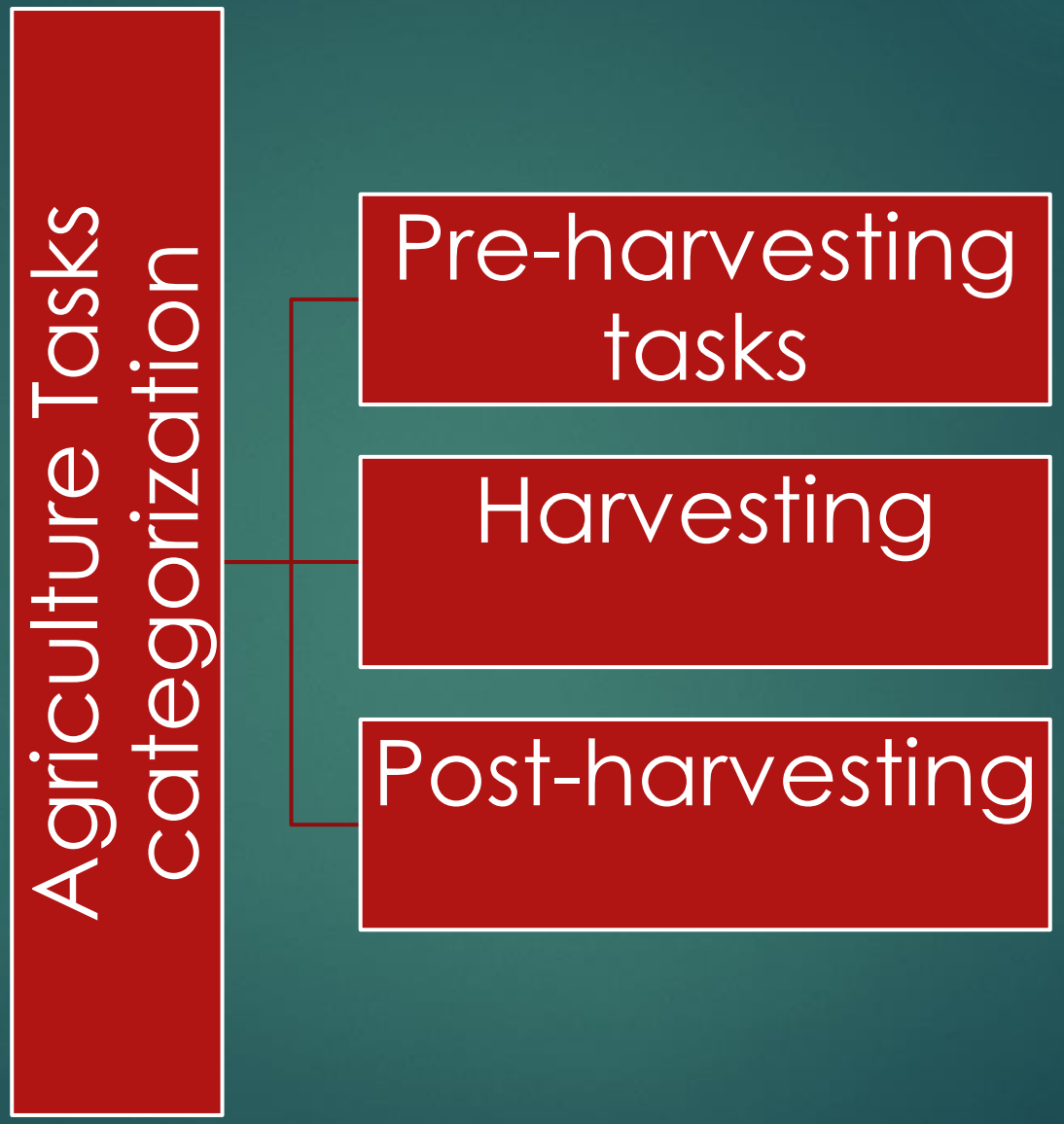
Step 1: Selection of Crop

Step 2: Land Preparation

Step 3: Seed Sowing

Step 4: Irrigation


Step 5: Crop Maintenance
Step 6: Fertilizing
Step 7: Harvesting
Step 8: Post-Harvesting activities
As per the above algorithm, the agriculture related tasks are categorized in the for major sub areas.


Agriculture Tasks categorization
Pre-harvesting tasks
Harvesting
Post-harvesting

Pre-harvesting

- Soil, seeds quality, fertiliser/pesticide application, pruning, cultivar selection, genetic and environmental conditions, irrigation, crop load, weed detection, disease detection.

Harvesting

- Fruit/crop size, skin colour, firmness, taste, quality, maturity stage, market window, fruit detection and classification.

Harvesting

- Factors affecting the fruit shelf-life such as temperature, humidity, gases used in fruit containers, usage of chemicals in postharvest and fruit handling processes to retain the quality, fruit grading as per quality.

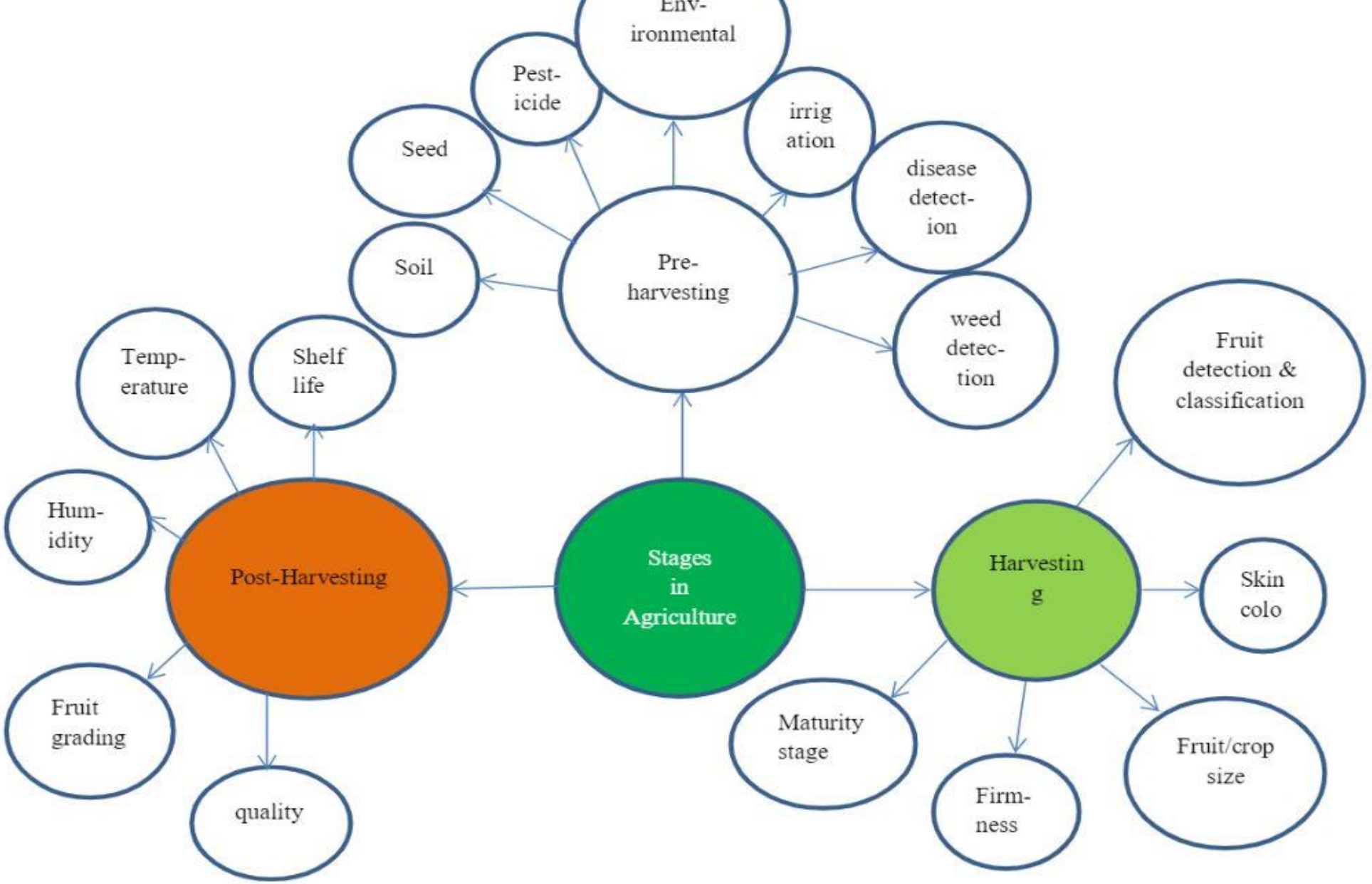
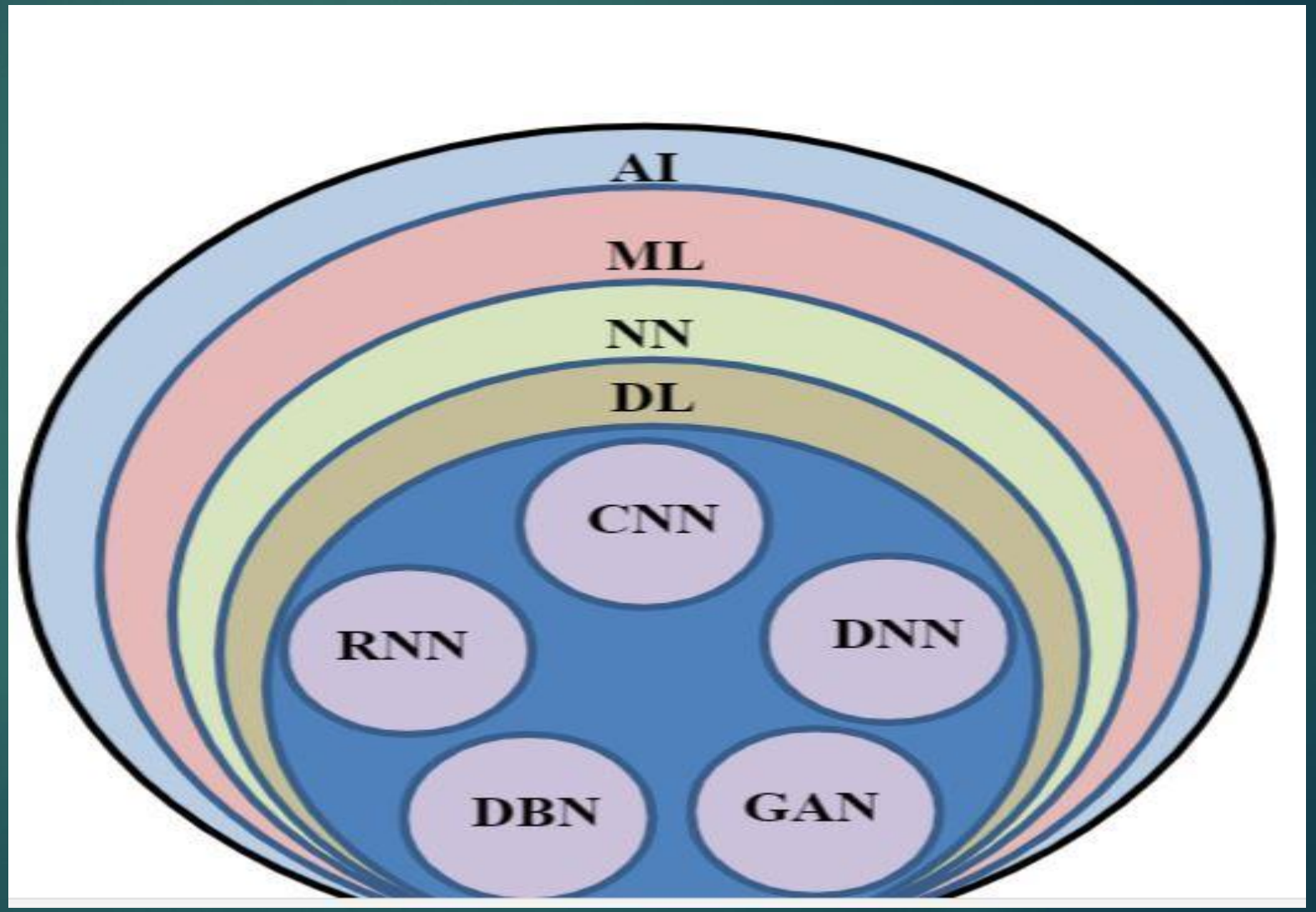


Figure 2. Important parameters considered in each stage of farming

Overview of AI or Machine Intelligence, ML, and DL