**Model Development Phase Template**

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| Date | 03 February 2025 |
| Team ID | xxxxxx |
| Project Title | Implementing AgriPrediction using Machine Learning |
| Maximum Marks | 6 Marks |

**Model Selection Report**

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

**Model Selection Report:**

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| **Model** | **Description** | **Hyperparameters** | **Performance Metric (e.g., Accuracy, F1 Score)** |
| Model 1 | Decision Tree Classifier for predicting crop yield based on environmental factors. | Max depth = 10, Min samples split = 4, Criterion = 'gini' | Accuracy = 85% |
| Model 2 | Random Forest Classifier for improving prediction accuracy using ensemble learning. | N\_estimators = 100, Max depth = 15, Min samples leaf = 5 | Accuracy = 88% |
| Model 3 | Support Vector Machine (SVM) for classifying crop health and soil condition. | C = 1, Kernel = 'rbf', Gamma = 'scale' | F1 Score = 0.83 |