A Proposal for the Young Scientist Project

Title	Seed and Plant Analysis Using Phenotypic Imaging

1. Course Outline

❍ **Personnel**: KAFACI member countries

❍ **Period of Training**: March 2025 – November 2025 (8 months)

❍ **Implementing Department**: Gene Engineering Division, National Institute of Agricultural Sciences

❍ **Research Studies Currently Being Implemented**

- Research on seed morphology and color analysis using phenome image analysis technology

- Trait evaluation studies (e.g., drought resistance, disease resistance) using various sensors such as RGB, fluorescence, and hyperspectral imaging

2. Plan Course Direction

❍ **(Training Objectives)** Acquire rapid and accurate image-based phenotyping analysis techniques

* Key Outcomes: Gain proficiency in phenotyping software (1 case), perform data analysis (1 case), and submit a research paper (1 paper)

❍ **(Systematic Expertise Development)** Learn image data processing methods and trait data analysis

❍ **(On-Site Problem-Solving Capability Development)** Address field challenges related to seeds, plants, resistance traits, and diseases

❍ **(Future-Oriented Capability Development)** Strengthen the ability to identify climate-adaptive traits through big data analysis

3. Qualifications of Participants in Young Scientist Project

❍ **(General Requirements) Requirements for all Young Scientists**

- Must be a government official from a KAFACI member country, recommended by the head of their affiliated organization.

- Must hold a master's degree or higher in a relevant field with at least five years of related experience.

- Proficiency in English and strong computer skills are required.

❍ **(Details) Additional Requirements**

- Applicants with experience in data analysis in the fields of breeding, cultivation, and biotechnology

- Individuals interested in data analysis related to seeds, plants, resistance traits, and diseases