Visit to Agricultural Research station Amaravati on 28-10-2024

Objectives of the visit:

- To gain knowledge on liquid and powder form biofertilizers production unit

Description of visit:

Firstly, we interacted with the Dr. Ravindra Reddy, Principal scientist and Head, ARS and explained about the purpose of visit. Secondly, he interacted with the students. Sir has explained about the various kinds of biofertilizers used in the agriculture in detail. The main summary of his lecture was: Biofertilizers are of Nitrogen, Phosphorus, Potassium and other micronutrient fixers and absorbers. Nitrogen fixers were *Rhizobium, Azospirillum, Azatobacter, Azolla* and Blue green algae. Phosphorous solubilizing bacteria, *Mycorrhizae* fungi and Potassium solubilizing bacteria and Zinc solubilizing microorganisms. He also emphasized on the various procedures involved in the rearing, incubating and culturing of liquid and powder biofertilizers by using different agents. He stressed on the equipment necessary to produce biofertilizers. Quality analysis and efficiency of biofertilizers need to be assessed before the production. Kinds of precautionary measures to be taken during the inoculation and culturing to reduce the agrobacterium colonies in the lab.

Later students were exposed to the liquid and powder biofertilizers production unit. Dr. Prasad Reddy clearly explained about the production units of *Rhizobium, Azospirillum, Azatobacter*, Phosphorous solubilizing bacteria, Potassium solubilizing bacteria and *Mychorhizae* fungi. He showed the various equipment's, reagents, bioreactors for the storage of fresh inoculum and production unit of liquid biofertilizers. Students were taken to the powder form biofertilizer production unit in which the 1000 liters bioreactors, other equipment were clearly explained. Polyhouse unit where mycorrhizae culturing pots containing millets and cereals crops were exhibited to the students.

Outcome of visit:

- Students gained knowledge on the various kinds of biofertilizers used in the agriculture.
- They were exposed to the liquid and powder biofertilizers production units.
- Kinds of equipment necessary for the inoculation, incubation and fermenting the biofertilizers
- Various reagents required to filter the efficient strains from the mother culture.
- Polyhouse conditions required to culture the VAM fungi
- They got information on the *in-vitro* and *in-vivo* conditions for culturing the biofertilizers.

Geo tagged photos:

Brief overview of ARS, Amaravati explained by Dr. Ravindra Reddy, Principal scientist

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