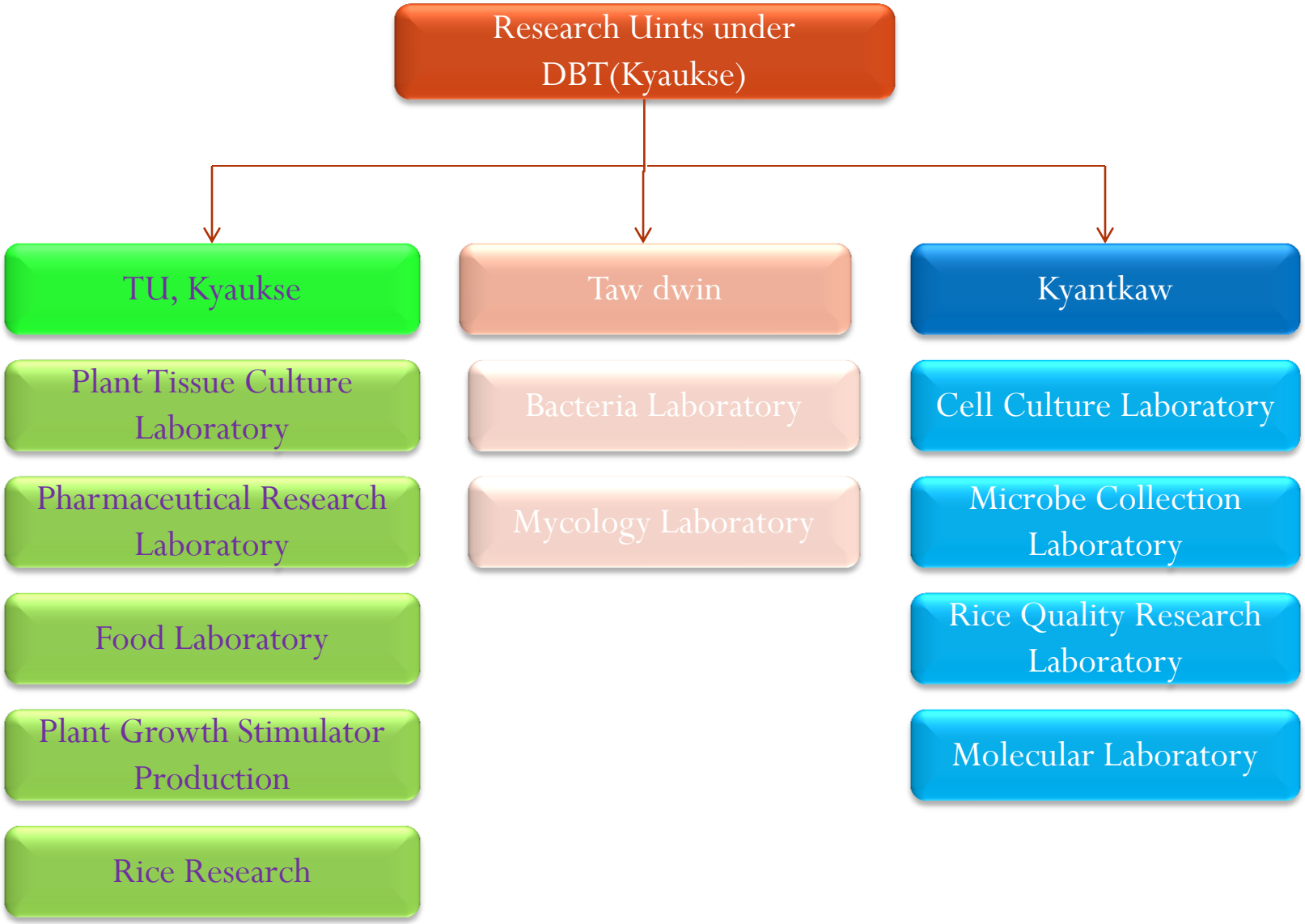
Ministry of Science and Technology
Technological University (Kyaukse)
Department of Biotechnology
Myanmar

Research Activities under DBT, Technological University (Kyaukse)

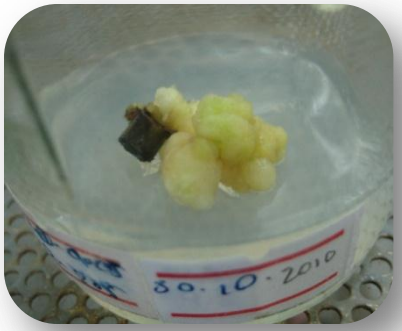
Dr. Ohn Mar Tun


Research Uints under DBT(Kyaukse)
TU, Kyaukse
Plant Tissue Culture Laboratory
Pharmaceutical Research Laboratory
Food Laboratory
Plant Growth Stimulator Production
Rice Research
Taw dwin
Bacteria Laboratory
Mycology Laboratory
Kyantkaw
Cell Culture Laboratory
Microbe Collection Laboratory
Rice Quality Research Laboratory
Molecular Laboratory

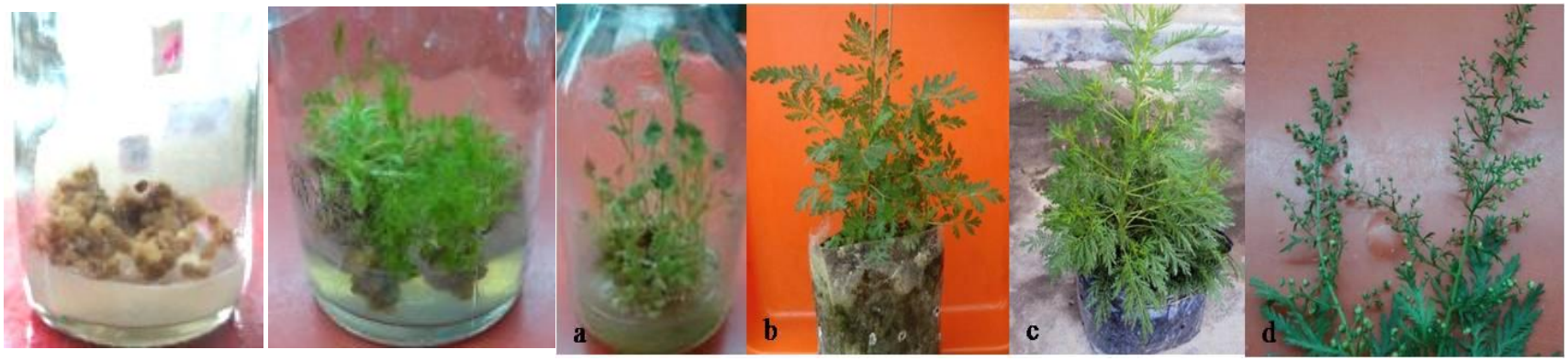
TU, Kyaukse

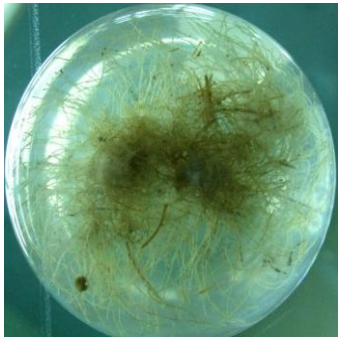
Commerical Production of Banana Tissue Culture Plantlets

Production of Long Lasting *Anthurium andreanum* Linn. Tissue Culture Plantlets

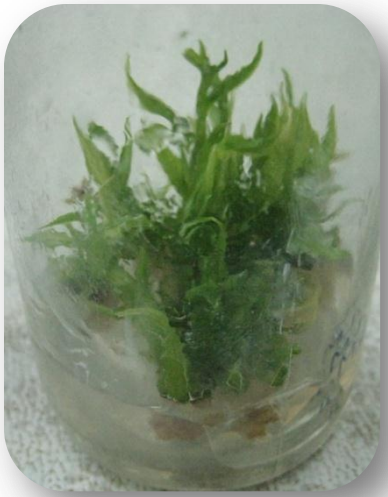


Production of *Artemisia annua* Tissue Culture Plantlets for Antimalaria

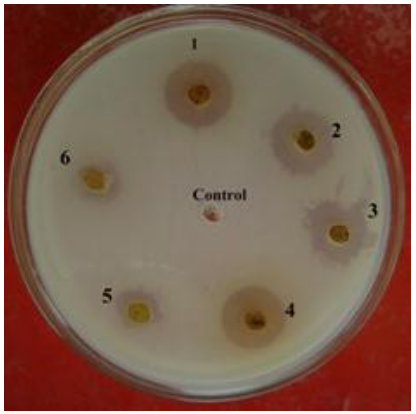




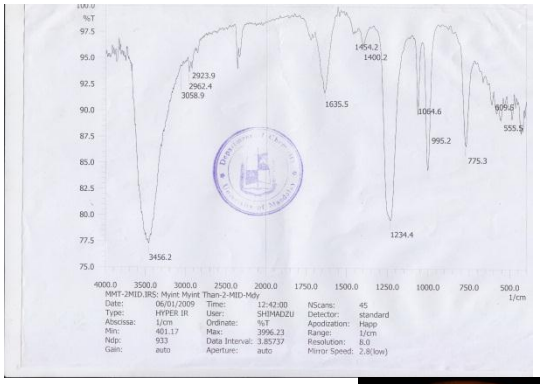
Anticancer Plant (*Aristolochia indica* Linn.)

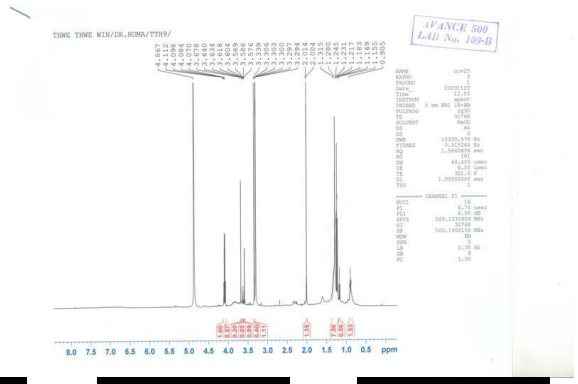


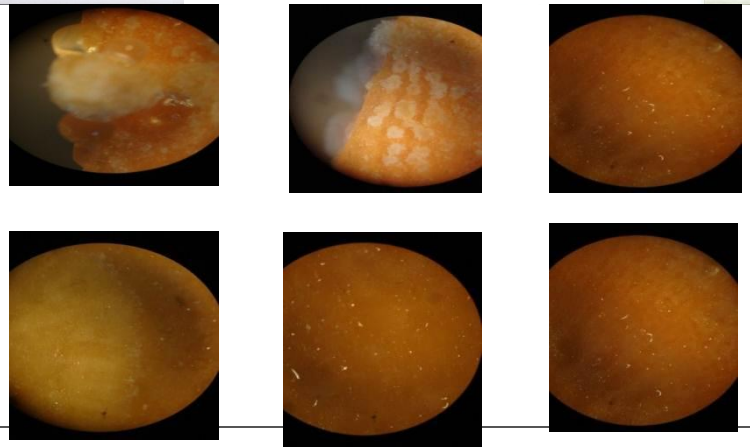
Study on Anmicrobial, Antioxidant and Antitumor Activities of Secondary Metabolite from *Catharanthus roseus Linn. Don* Culture Extracts



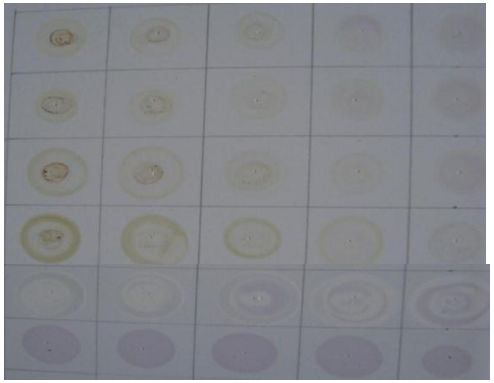
Anmicrobial activity of *C. roseus* culture extract







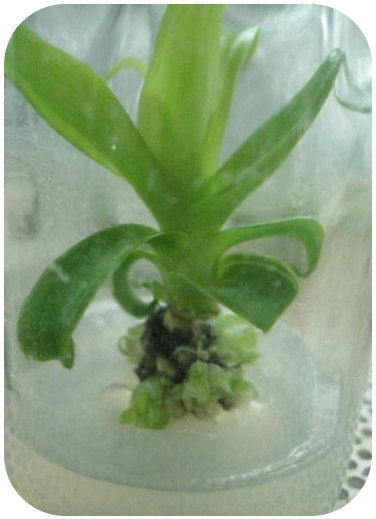
Tumor suppression activity of *C. roseus* shoot culture extracts on carrot discs

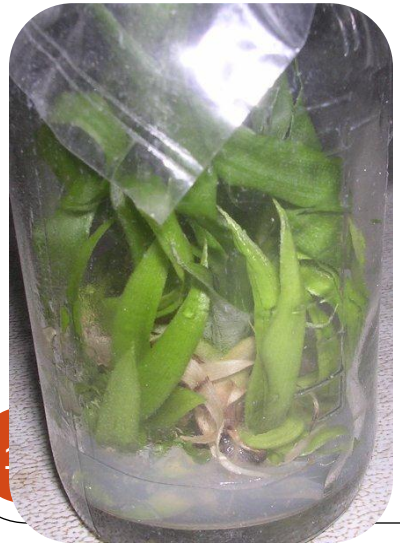


Antioxidant activity of *C. roseus* culture extracts

Multiplication of Anticancer Plant(*Aloe vera*)

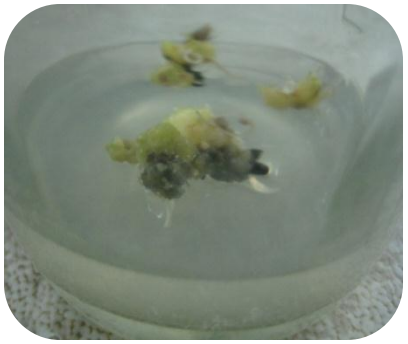
Multiplication of Pineapple (*Ananas comosus* var.)





Multiplication of *Chrysanthemum morifolium* L.

Multiplication of *Lilium* spp.



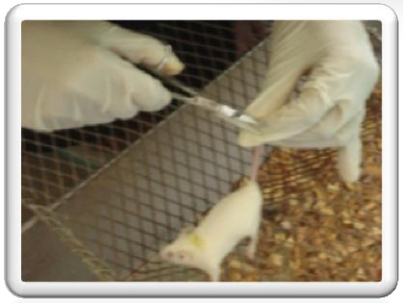
Orchids (*Dendrobium* spp., *Oncidium* spp., *Vanda* spp.)

Dendrobium spp.

Oncidium spp.

Vanda spp.

Antihepatitis and Antidiabetic Researches in Pharmaceutical Research Laboratory



Microbial Utilization Researches in Food Laboratory

Lactobacillus spp.

(yogurt/fermented vegetable/milk/fish)

Application Areas

- Probiotic Yogurt
- Fermented Vegetable
- Fermented Tea
- Bacteriocin

Production of Chitosan based foliar as plant growth stimulator

Shwe Sein
(Chitosan)

Shwe Poe Hnin
(Chitosan and Bamboo Vinegar)

Shwe Se Ye
(Chitosan, Bamboo Vinegar, Fish Amino)

Rice Research

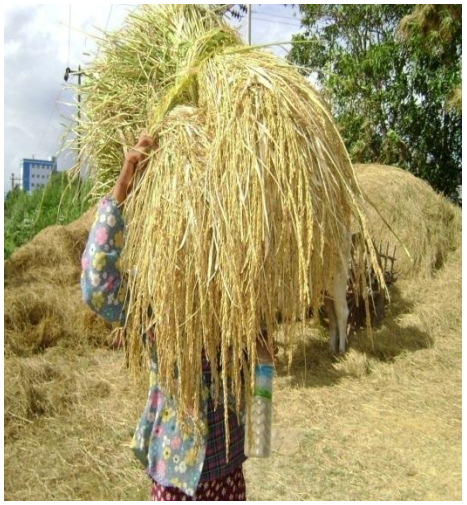
Mutation breeding on some rice varieties through r ray

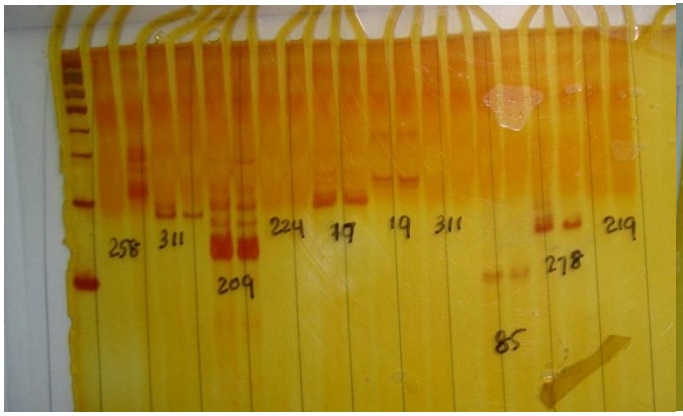
- Improvement of Crop Quality and Stress Tolerance for Sustainable Crop Production Using Mutation Techniques and Biotechnology. (IAEA/RAS/5/045/)
- Supporting Mutation Breeding Approaches to Develop New Crop Varieties Adaptable to Climate Change (RCA)(IAEA/RAS/5/056)
- Supporting Climate – Proofing Rice Production Systems Based on Nuclear Application. (IAEA/RAS/5/065)
- Yield improvement on Myanmar local rice varieties IAEA TC Project Mya – 5/020

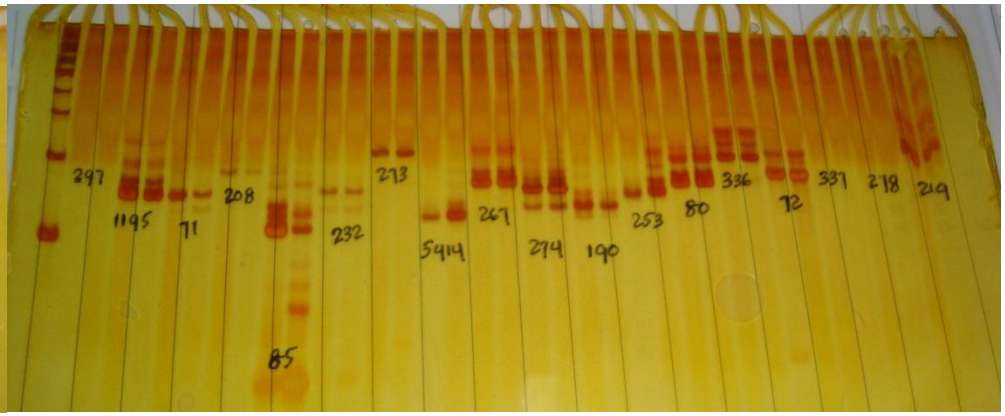
Rice var.Sin Thwe Latt Mutant having early maturity trait IAEA-RAS-5045

Desired Traits

- ✓ Early maturity (Short duration)
- ✓ Photoperiod insensitive
- ✓ Submerge tolerance
- ✓ Salt tolerance and drought tolerance
- ✓ Eating quality







Mutant characterization of STL-C and STL-K1 by SSR markers analysis at Zhejiang University in China

Taw dwin

Sheziwa Biofertilizer Production at Bacteria Laboratory

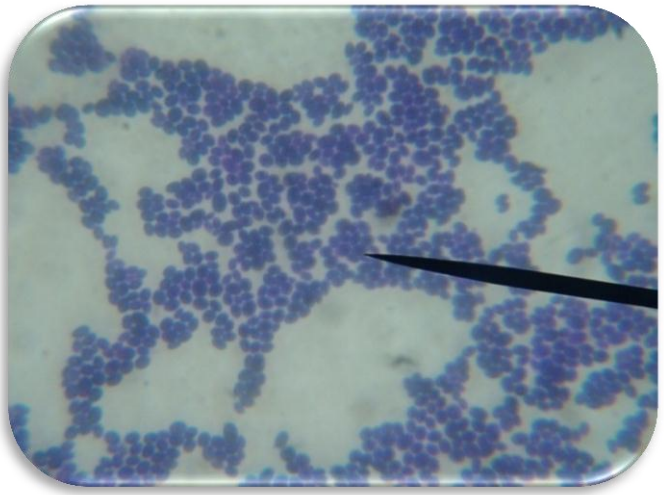
Microbial Utilization

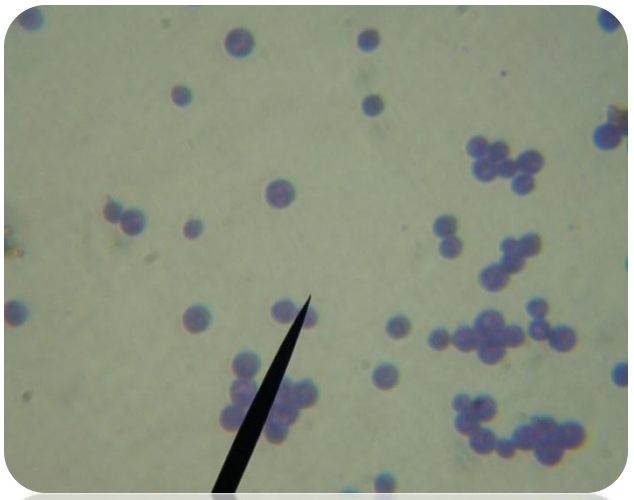
- *Azotobacter sp.*(N_2 fixing bacteria)
- *Bacillus megaterium* (P solubilizing bacteria)
- *S. cerevisiae*

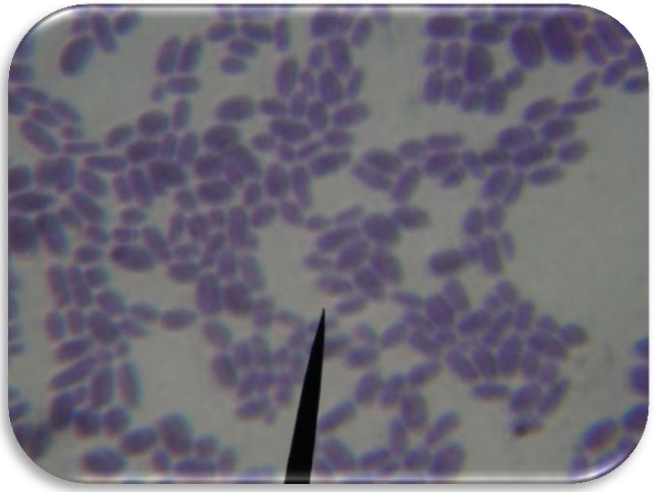
Application Area

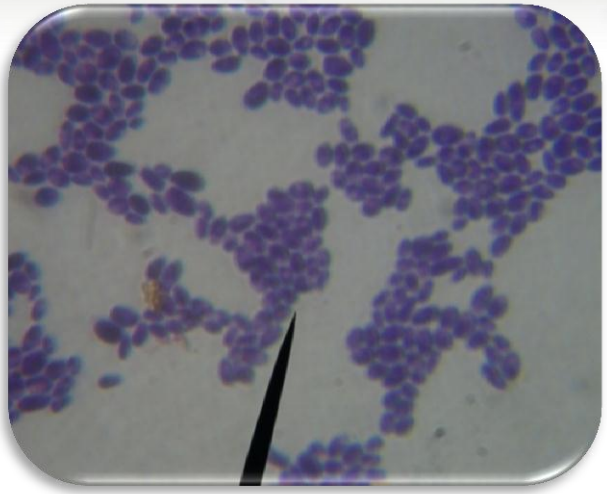
- for rural development

Isolation of Yeast Strains for Yeast Based Biofertilizer Preparation and Ethanol Production









Microbial plant hormone project

Microbial Utilization

- *Pseudomonas* spp. (soil sources)
- *Azotobacter* spp. (soil sources)
- *Azospirillium* spp. (root sources)

Previous work

- Screening of IAA and GA hormone productivity
- Characterization of IAA and GA
- Quantitative measurement of IAA and GA productivity
- Plant growth promoting activities in pot and field trial

Production of Single Cell Protein (SCP) from Yeasts as an Alternative Source of Protein Diet for Fish

Work Done

- Isolation of *Saccharomyces cerevisiae* from baker yeast
- collection and preparation of sample from the market, sugar factory, beer factory
- Chemical analysis of wastes
- Stock culture with molasses

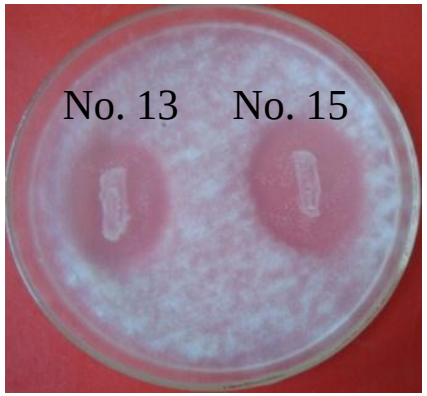
Need the additional works

- Nutritional analysis in SCP product
- Investigation of the effectiveness of partial or total fishmeal replacement by SCP on growth, body composition, feed utilization and digestibility of carp

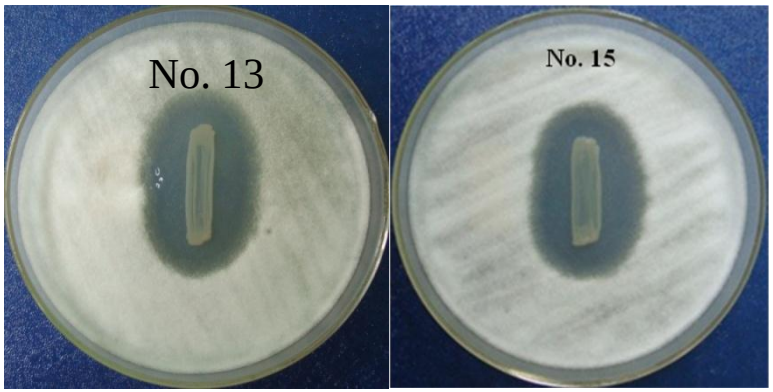
Biofungicide project at Mycology Laboratory

Microbial utilization

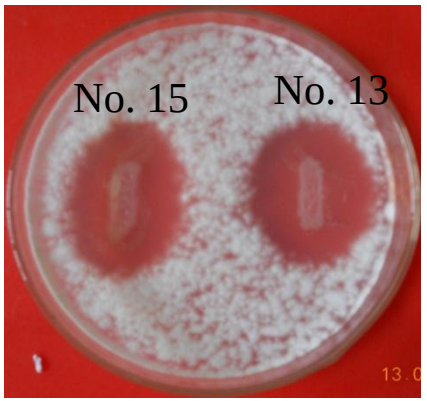
- 2 strains of *Alcaligen* sp. Isolated from alkaline soil (pH 9-11)
- 1 strain of *Paenibacillus polymyxa* isolated from rhizospheric soil



Pythium sp.



Rhizotoctonia solani

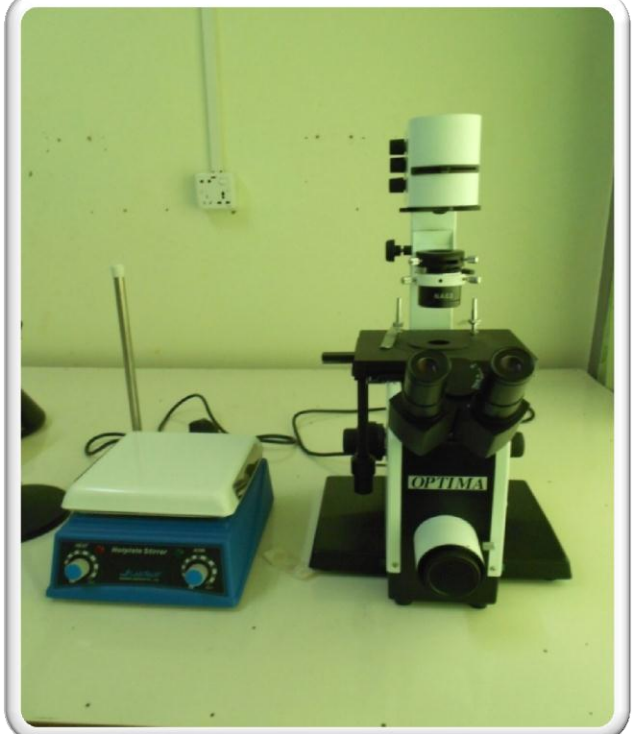


Fusarium oxysporum

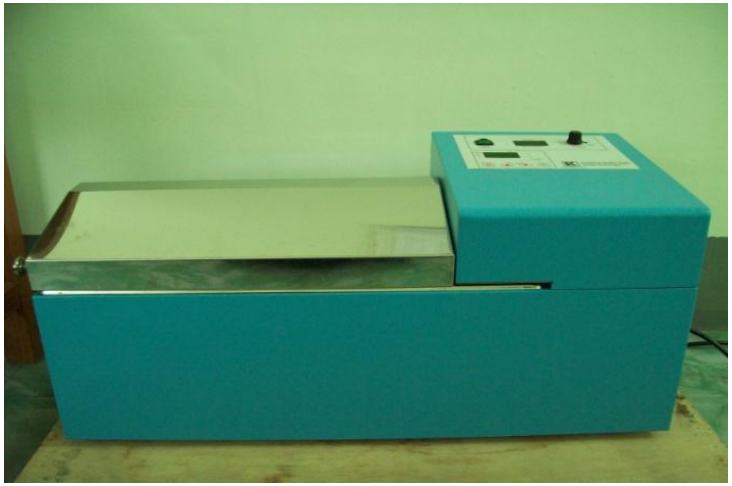
Production approach on edible mushroom

Kyantkaw

Cell Culture Laboratory



Maintenance of beneficial bacteria in Microbe Collection Laboratory



Bacterial characterization through 16srDNA sequencing analysis in Molecular Laboratory

DNA Sequencer

RT- PCR


Thanks!