

Department of Botany

Participation of Students in Poster Presentation Competition

Our Students **Ku.Shravani Jadhao** and **Ku Srushti Shelke** participated in Poster Presentation Competition organized by Banmeru College, Lonar. Our students presented poster on topic of **The Magic Tree- Moringa oleifera used in water purification**

The Magic Tree - Moringa Oleifera used in Water Purification

The Magic Tree Moringa Oleifera used as a Water Purifier in rural areas. Maharashtra has one of the lowest coverage of safe drinking water. The Contaminated surface water is used as a drinking water, which causes Water borne diseases.

Powder processed to form of the seeds of the Moringa oleifera tree can be used locally As Natural coagulant for the purification of safe Drinking Water.

Moringa oleifera - The plant is also known as the drum stick tree and it is a small and medium sized evergreen or deciduous tree and fast growing. Young plant bark is whitish and leaves are compound, large hanging fruits with winged seeds present in this Moringa Oleifera plant.

Methodology - A Series of laboratory testing have been carried out to investigate the effectiveness of organic coagulants i.e. moringa oleifera in comparison to chemical coagulants in the thickening of sludge.

Preparation of Sludge -

Sludge natural - The sludge was collected from the water treatment settling tank and it was free from of any chemicals.

Sludge synthetic - The synthetic sludge was prepared by adding clay particles in a water after stirring 30 minutes.

Preparation of coagulant -

Chemical coagulant - That is the alum. The liquid alum consists of sulphuric acid, water and aluminium sulphate in 0.1%, 60% and 25% respectively, It has a PH range of 1.5 to 2.5 the solution, the solution is odourless and colourless.

Organic Coagulant - Dried seeds of Moringa oleifera used for experimental purpose, Moringa oleifera seeds collected from chikhli region. The winged seeds, were ground into a fine powder using Blender. Moringa oleifera powder ready for test of sludge dilution.

Test of MO on Sludge - MO powder was applied directly on to the sludge. A different mass of MO powder was added to each of 500 ML, sludge samples such that the variation in dosage required to treat was achieved, 500 ML sample were stirred using glass rod to achieve a homogenous mixture. The difference in masses of the MO powder used resulted in varying dosages to treat the same amount of sludge. Upon mixing, the samples were transferred to 500 ML glass beaker for sedimentation during which the interface height is recorded alum treated samples and a control sample were also measured for comparison purpose, The settling time is 30 minutes to identify any change in trend

Presented by - Ku.Shravani Jadhao and Ku.Srushti Shelke
Shree Shivaji Science and Arts College, chikhli
Dist. Buidana

Amount of MO and Alum taken as

Sr.No.	Test	Volume of sludge treated	Dosage of MO used to treat sludge (mg/L)	Volume of alum used (m/L)
1	MO (0.5g)	500 ml	1000	-
2	MO (1.0g)	500 ml	2000	-
3	MO (1.5g)	500 ml	3000	-
4	alum	500 ml	4000 milli lit.	4ml
5	Control	500 ml		-

The highest transference or settling down rate of clay particles is found in the given dosage of MO 3000 mg/L or 1.5g powder in 500 ml sludge among the all concentrations of MO, In this experiments we used alum solution and control for comparison.

Conclusion - Hence the Addition of MO results in charge neutralization of the suspended particles in the sludge. This charge neutralization causes particles to adhere each other forming larger particles, thus resulting in particles to



Testing of MO powder on sludge

The Magic Tree - Moringa Oleifera used in Water Purification

Presented by - Ku. Shravani Jadhav and Ku. Shrushti Shelke
 Dept. Shri Shivaji Science and Arts College, Chikhli, Dist. Buldana.

Amount of MO and Alum taken as

Sr. No.	Treat	Volume of sludge treated	Dosage of MO used in treat. Sludge (mg/L)	Volume of alum used (ml)
1	MO (0.5g)	500 ml	1000	1
2	MO (1g)	500 ml	2000	1
3	MO (1.5g)	500 ml	3000	1
4	alum	500 ml	4000 ml/l	1ml
5	Control	500 ml		

RESULT -
 The highest transparency or settling down rate of clay particles is found in the given dosage of MO 3000 mg/L or 1.5g powder in 500 ml sludge among the all concentrations of MO. In this experiments we used alum solution and control for comparison.

Conclusion - Hence the Addition of MO results in charge neutralization of the suspended particles in the sludge. This charge neutralization causes particles to adhere each other forming larger particles, thus resulting in particles to settle down.

Testing of MO powder on sludge

Amrut Sevabhavi Sanstha, Parbhani

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(Affiliated to Sant Gadage Baba Amravati University Amravati; 2 (f) & 12 B; NAAC Accredited)

In Coordination With

Late Kamalabai Banmeru Arts, Commerce & Science Mahila College, Lonar Dist-Buldana
 Shankarlal Khandelwal Arts, Commerce & Science College, Akola
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 Organize

“5th National Level Lonar Science Festival”
 11th & 12th March 2022

CERTIFICATE

This certificate is presented to,

Dr./Mr./Ms./Mrs. Shrushti Shelke
 of Shri Shivaji Science and Arts college, Chikhli.

for Attending / Participating in Science Exhibition / Cultural Programme Organize in “5th National Level Lonar Science Festival” held on 11th & 12th March, 2022.

 **Mr. S. P. Gaikwad**
 Co-Convenor

 **Mr. K. K. Wawhal**
 Convenor

 **Dr. P. K. Banmeru**
 Chief Organizer

World famous and 3rd largest meteoritic impact crater "LONAR CRATER"



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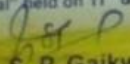
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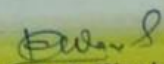
Shravani Tadhao

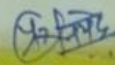
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