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## A REVIEW PAPER ON TO REDUCE TURBIDITY OF WATER BY USING NATURAL COAGULANT

Saundade Dipali V\*<sup>1</sup> & Bhosale Trupti M<sup>2</sup>.

\*<sup>1&2</sup>, Student, Civil Engineering Department, Jaihind Polytechnic Kuran, India

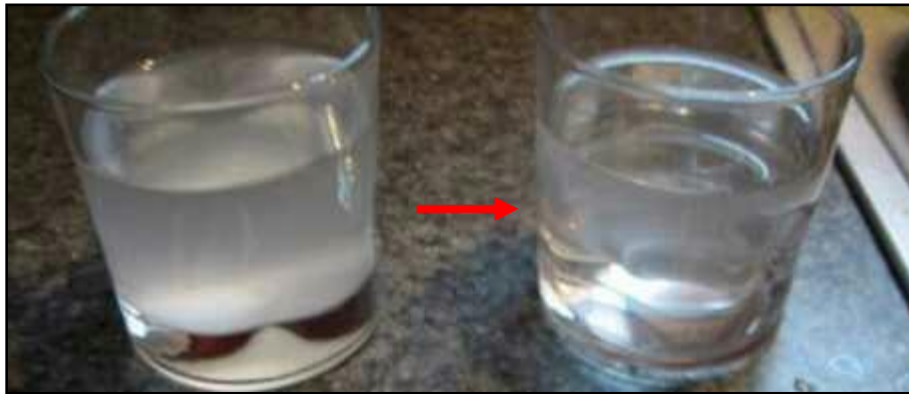
### ABSTRACT

Turbidity is the great problem in water treatment in this study to reduce turbidity by using nature like moringaoleifera, cicearietinum, and dolichaslablab. This is available naturally. the test were carried out using artificially turbid water ,natural coagulant worked better to remove turbidity easier, suitable, available as well as eco friendly option for water treatment were observed .

**Keywords:** Turbidity, Moringaoleifera, Dolichos Lablab, Cicerarienum, Flocculation, Coagulant .

### I. INTRODUCTION

Water is used for many purposes such as industrial, domestic, public, fire demand, agricultural. It may pure or unpure. Turbidity means large number of partial present in water like silt, sand, and clay. Etc as well as individual partial that is generally invisible to the eye, similar to smoke in air. Turbidity in water may cause by disturb human activities. In drinking water, the higher the turbidity level, the higher risk that people may develop gastrointestinal diseases .this is especially problematic for our life, because contaminants like viruses or bacteria can becomes attached to the suspended solids.



*Fig. 1. Unpure water into pure water*

Drinking water is a vital resource for all human beings and the access to safe and clean drinking water is a major concern throughout the world. Producing potable water from surface water or ground water usually involves one or several treatment steps for removing unwanted substances. Need of water treatment process Treatment of water is so important that we can avoid many possible water borne diseases like cholera, typhoid jaundice and so on. It's true that water borne infections are responsible for more than 80% of the diseases in all over the world. Whenever there is contamination of drinking water sources and water logging after rain there is in an outbreak o infection.

Water quality is of concern to everyone. Quality is the acceptability of the water for uses like drinking, cooking bathing, and laundering. Most municipally treated water is safe and generally of good quality. You may have concerns regarding taste, odors, clarity even hardness. Water from private or community wells can be contaminated. Contaminated water may have off-tastes, odors, or visible particles. However, some dangerous contaminants in water are not easy to detect. Accurate water testing is needed to determine safety and quality. Water testing may be

done by private testing labs, county and state health laboratories, departments of health, and some local environmental consulting companies.

## II. PREPARATION OF COAGULANT

### **Moringaoleifera seeds**

seed must be good quality. aswell as allowed to completely dry on the tree and this is collected from junnarregion, Pune. After seeds removed from the pods keep to sundry also external shells will remove. Coat and wings were removed manually make a powder by domestic blender as soon as sieved through less than 600 micron.

### **Calotropisprocera**

Its flower should be completely dry on the tree. After dry it must be in white colour.Good qualityprocera flower collected from khedregion, Pune.Then it into powder form by used manually.



*Feg.2 Powder form of coagulant*

### **Ciceraeietinum seeds**

cicer aietinum collected from Junnarregion,Pune. It's should be comity dry by sun rays. Remove the seeds from the hulls. It must ground to fine powder and sieved from less than 600 micron size sieve.

### **Dolichos lablab**

seeds carefully removed from its cover and aware about that it should be completely dry to the sun rays after make powder by using domestic grander. Same as other coagulant. It sieve through less than 600 micron size sieve. And make a fine powder.In that above manner all we get powder form then used as a natural coagulant.

## III. PREPARATION OF SYNTHETIC WATER

For the jar test raw water is required .That's why we prepared synthetic water .and the process are first of all take a tap water with adding clay . Also the clay material about 30 Gm added to 1 litter of tap water. As soon as stirred for about 1 hr. to getting uniform dispersion clay partial. Then it was allowed to settle for at least 24 hr for complete hydration of raw material.The supernatant suspension of synthetic turbid water was added to the sample to achieve the desired turbidity just before coagulation.In that way prepared the synthetic turbid water.

## IV. METHODOLOGY

### **Jar test operation**

This test carried out for each coagulant to get result and find out better natural coagulant. In this test used synthetic water that is already prepared. First of all series the six beakers together with six spindle steel paddles. Before operating the jar test, the sample was mixed homogenously then measured turbidity of water .for representing the initial concentration. Then natural coagulant with varying percentage was added in the beakers. That means powder

of coagulant like moleifera, dolichos lablab, cicer aeietinum, calotropis procera. Whole process should be conduct with different speed.



*Feg.3 Jar test*

Then after added desired amount of coagulant .the suspensions were allowed to settle for 20-60 minutes. Finally from the middle of supernatant for physicochemical and bacteriological measurement which represent the final result. Then prepared a graph to get proper result.

## V. AIM OF PRESENT STUDY

- By using locally available nature reduce bacteriological contaminants from water.
- To make eco-friendly environment.
- To reduce cost of project.
- To use water for multipurpose.

## VI. CONCLUSION

This review paper concludes that. The natural coagulant helps to remove turbidity from water. in this study natural coagulant such as moringa oleifera, cicer arietinum, and dolichos lablab was naturally available that's why we get ecofriendly solution to remove turbidity. After the dosing of coagulant with varying concentration water soluble extract of mooring oleifera, cicer arietinum, dolichos lablab and Calotropisprocera reduced turbidity to 5.8, 3.6, 10, 6.2 NTU respectively from 100 NTU 4.9, 3, 9.2and 5.8 NTU respectively after dosing and filtration. It was found that in all natural coagulant .the cicer arietinum gives better result than other coagulant.it reduce up 95.89% turbidity from raw Turbid water.

## REFERENCES

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