

Turbidity

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OVERVIEW

- Turbidity is a measurement of the cloudiness or clarity of water.
- Turbidity is affected by total suspended solids (TSS). Suspended sediments and dissolved organic matter increase the turbidity of water.
- Turbid water can contain microorganisms, including pathogens and algae (**Figure 1**).
- Turbid water reduces nutrient and fertiliser effectiveness due to suspended particles. Clear water ensures that nutrients are delivered to plants.
- Turbid water can reduce the aesthetic appearance of plants with possible effects on their marketability and price (**Figure 2**).

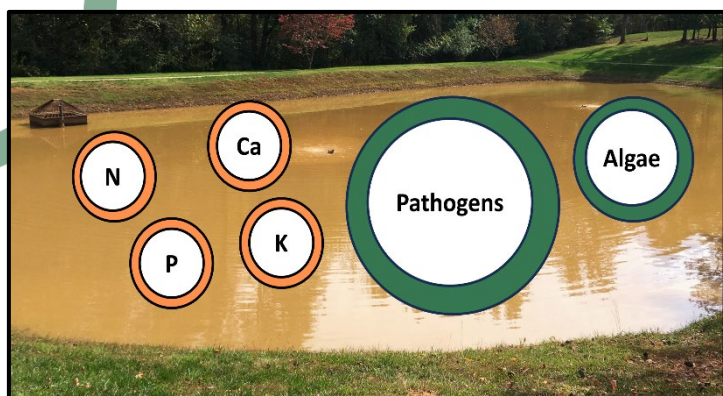


Figure 1. Suspended sediments, pathogens, and algae can contribute to high turbidity.

KEY FACTORS

- Soil erosion and sediment runoff in the landscape are natural processes, but particularly during heavy rainfall and flood events, water sources are prone to increased sedimentation.
- Runoff from urban and agricultural areas transfers debris, pollutants and sediments into water sources.
- Cyanobacteria blooms and die-off can release organic matter and cellular debris that can increase water turbidity.
- Water treatment systems can contribute to turbidity if not properly maintained. Corrosion, pipe scaling, or sediment buildup can release particles into the water source.

HIGHLIGHTS

- Turbidity is a measure of how much matter is suspended in water.
- High turbidity can negatively affect plants by reducing nutrient uptake and water absorption.
- High turbidity can be caused by sediment, microorganisms, or dissolved organic matter.
- Water filtration, irrigation maintenance, and erosion control can help keep turbidity low.

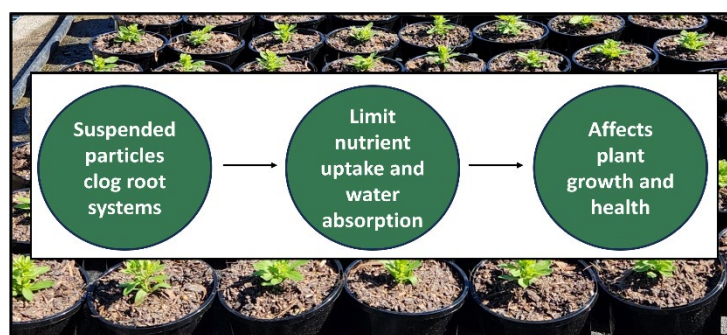


Figure 2. High turbidity may have negative effects on plants.

MANAGEMENT

- Regular monitoring is essential to managing water turbidity. Treating water turbidity can ensure optimal growing conditions, reduce the risk of disease, enhance plant yields, and reduce operational and maintenance costs.
- Control measures, like filters, nutrient retention ponds, sedimentation basins, or coagulation-flocculation processes can be used to settle suspended particles before water is used for irrigation.
- Ultraviolet disinfection systems can be used to eliminate microorganisms and algae that may contribute to turbidity.
- Regular maintenance and service of irrigation systems and other equipment to prevent clogging and damage caused by turbid water.
- Best management practices for water use, including erosion control measures and responsible use of water resources can ensure good water quality.