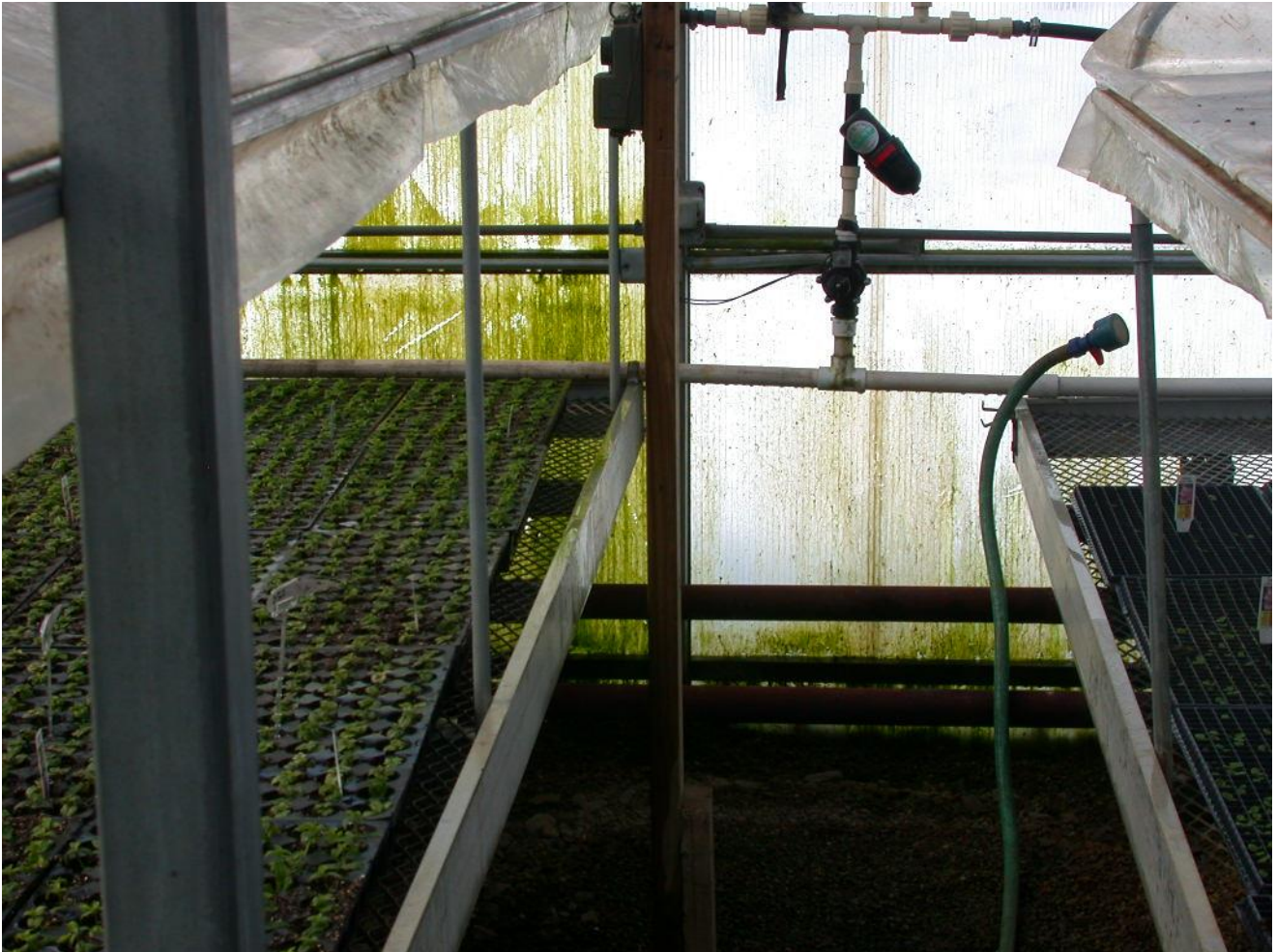


Controlling Algae on Growing Media

Thursday, September 15, 2022 | Ed Bloodnick



Continuous misting creates ideal conditions for algae growth on greenhouse glazing. Source: Premier Tech

It is not uncommon for most growers to find “green slime” growing on the surface of a growing medium. This green slime is predominantly composed of blue-green and green algae.

This can occur in peat-perlite growing media, peat bark, peat-wood fiber and even coir. It has been seen growing on the surface of garden soil, rocks, cement, and other hard surfaces where water, sunlight and some nitrogen is present. It is more common on moist to wet media surfaces than dry surfaces regardless of what components are found in the growing medium. So where does it come from and how do you control it?

For algae to grow, they need water, light and fertilizer nutrients, just as plants do. This is why algae are so common in the greenhouse or other areas where plants are grown, especially grown under mist or in cold temperatures.

What are the Sources of Algae?

The cells and spores of algae are found everywhere. **Irrigation water is the most common source**, especially if it comes from a pond or shallow well. Water lines can also have a significant biofilm build-up on the inside walls of the pipes, which is mostly composed of algae. If a water source has high levels of algae, there are often algae growing on **walkways, walls and benches** that are in frequent contact with the water. Other sources include dust originating from the outdoor soil that gets blown into the greenhouse and eventually onto the growing medium, which becomes "contaminated" with algae spores.

Concerns About Algae

Algae do not harm plants, but they can slow gas exchanges into and out of the growing medium, which can slow root growth. Algae also attract **fungus gnats** and **shore flies** which not only feed on algae and other fungal growth in the growing medium, but also on plant roots, and then potentially transfer plant pathogens through their mouth parts.

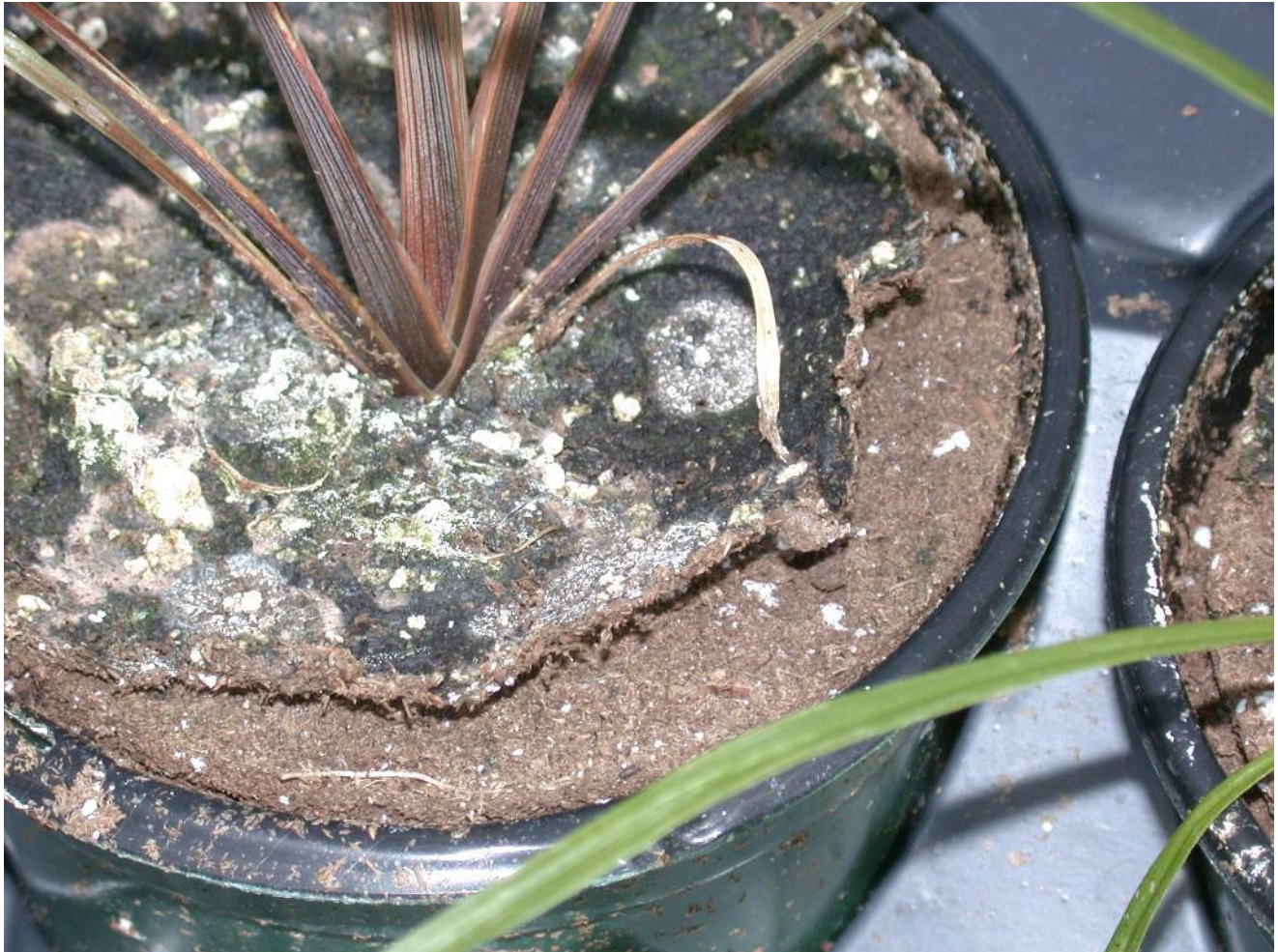
Walkways can become slippery and quite hazardous from algae growth. Greenhouse glazing can have algae growing on it if it stays continuously wet, thereby restricting light transmission and compromising quality crop growth.

Green Algae Growth on a Growing Medium's Surface

Algae growth starts as a slight greening of the medium's surface. Over time, the **green layer of algae grows and becomes thicker**, and eventually has a **black color**. Since this makes the growing medium's surface appear to be wet, the **grower holds back watering**, the algae layer dries up, rolls up from the edge of the container and **forms a water impermeable crust**. This crust may need to be broken up in order to get water into the growing medium.



Algae growing on a growing medium's surface in a greenhouse. Source: Premier Tech



Once the growing medium's surface has dried, the algae layer dies and rolls up from the edges to form a water impermeable crust. Source: Premier Tech

Controlling Algae on a Growing Medium's Surface

Water Source

To control algae growth on a growing medium's surface or in other areas in the greenhouse, start by looking at the water source.

If it is in the water lines, they will need to be cleaned out and then kept clean using one of the following: chlorine dioxide, copper ionization, hydrogen dioxide, etc. Water coming from ponds or shallow wells may have large algae loads in which the water may need to be filtered and treated the same way.

If water sources are clean, remember **algae can come in from anywhere**, so it is a matter of using simple cultural controls to minimize algae growth. As stated above, algae need light, fertilizer nutrients and water to grow, but so do plants.

Light and Fertilizer

Light and fertilizer **should not be restricted** as they may have a negative impact on plant growth, but in many growing operations, water can be limited to reduce algae growth. Algae need moist to wet conditions to grow, so **allow the surface of the growing medium to dry between waterings**. The surface of a peat-based growing medium should **turn light brown to tan** as this indicates it has dried to a point that will create an inhospitable environment for algae.

Airflow

Other helpful tips include increasing the airflow within the greenhouse to encourage a faster dry-down of the growing medium's surface. **Increasing the air temperatures** will also have the same effect.

The Right Growing Media

Consider using a high porosity, [PRO-MIX HP MYCORRHIZAE](#), or peat/bark-based growing medium with lower water holding capacities, such as [PRO-MIX BRK MYCORRHIZAE](#), as it will naturally dry out more rapidly.

Unfortunately, even with good cultural controls, the cool, cloudy weather in **spring and fall** makes it difficult to dry down the growing medium rapidly enough to suppress algae growth.



Chemical Controls

Chemical controls are very useful but read the label to make sure the product can be applied to the growing medium. Also, ask other growers, extension specialists or distributor representatives to see how well these products worked for them.