

## **Vegetable Tent: Algae in Pipes and Pump Tube (Light Leaks + Slow Water)**

### **Abstract**

We saw green biofilm forming in lines and at inlets. This happened where light reached the nutrient solution and where water slowed or sat still. We solved this by blocking light (opaque tubing and lids), keeping gentle flow through long runs, and adding scheduled water refresh for small reservoirs (University of Minnesota Extension, 2025; University of Georgia Extension, 2025).

### **Introduction**

Algae needs light plus water and nutrients. In hydroponics, we always have water and nutrients, so the key is stopping light and avoiding stagnation.

### **Body**

- Light exclusion: We replaced clear fittings, wrapped any translucent sections, and kept the reservoir lidded/opaque (University of Minnesota Extension, 2025).
- Keep water moving: We added a high voltage pump to keep the water flow strong and flowing evenly through the pipes..
- Scheduled resets: For small systems, a full water change every 3–4 weeks helps keep algae down and resets pH (University of Georgia Extension, 2025).

### **Conclusion**

Dark pipes, covered reservoirs, and steady flow stopped the slime and kept outlets clear.

## References

University of Georgia Extension (2025) *Hydroponic gardening for the homeowner and small grower (C1315)*. Available at:

<https://fieldreport.caes.uga.edu/publications/C1315/hydroponic-gardening-for-the-homeowner-and-small-grower/> (Accessed 25 October 2025).

University of Minnesota Extension (2025) *Small-scale hydroponics*. Available at:

<https://extension.umn.edu/how/small-scale-hydroponics> (Accessed 25 October 2025).