

Green foxtail millet

(*Setaria viridis*)

Green foxtail millet (*Setaria viridis*) is a weedy grass with leaves that can grow up to 40 centimeters long, with the whole plant reaching up to 120 cm. A distinct feature of this millet is the inflorescences, which are panicles, or clusters of flowers, that grow at the top. The short branches of the panicles terminate in spikelets. Green foxtail millet is an annual grass, meaning that it only lives once every growing season but it comes back each year via the seeds it produces. It has a short life cycle spanning 6-9 weeks. This grass is found almost anywhere with moderate temperatures and altitudes and can be seen anywhere from fields to urban areas in lawns and along roads.



Photo credit: Joan Simon, Wikimedia Commons



Setaria viridis is an important model organism for research at the Danforth Center to understand C4 photosynthesis. While most plants undergo C3 photosynthesis, C4 plants like *S. viridis* are special in that they are able to minimize energy loss. The effects of climate change are expected to produce drier and hot climates, under which C4 photosynthesis is most productive. Studying *S. viridis* helps engineering C4 photosynthetic traits into C3 plants to increase energy efficiency. One fun fact is that the panicle of this millet resembles a foxtail, hence the common name.

This 3D model was made using Fusion 360. A reference image of an adult plant was used to trace the structure. After initial sketches were made, they were extruded up, colored, and assembled.