EXPLAINING HERBICIDE RESISTANCE TO A NON-SCIENTIFIC AUDIENCE. Chad D. Lee, Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824.

Herbicide mode of action and herbicide resistance can be complex concepts to scientific audiences and even more challenging to non-scientific audiences. The complexity of these topics can hinder the discussion of herbicide resistance in weeds and herbicide resistance management. To explain the concept of herbicide resistance to the non-scientific audience, several illustrations have been developed within the MicroSoft PowerPoint program. An animated drawing of a tractor is used to illustrate an enzyme molecule. A drawing of a board with spikes is used to illustrate an herbicide molecule. The binding site of the herbicide is the rubber tire of the tractor. A single point mutation that affects the binding site but does not hinder the function of the tractor (enzyme) is illustrated by changing the rubber tires into a track. Thus, the tractor with tires is considered to be a susceptible enzyme while the tractor with tracks is considered to be the resistant enzyme. By illustrating that the tractor with tracks is resistant to the board with spikes, the non-scientific audience is shown how sites of action within a plant can resist an herbicide molecule. The illustration has also been modified to provide a very general explanation of multiple gene resistance, which usually involves a metabolism-based resistance. In this scenario, the tractor with tires (herbicide binding site) does not change. However, another machine carrying a magnet removes the board with spikes. These illustrations provide an effective starting point for discussing herbicide resistance with a non-scientific audience.