

Christian Montiel

Effect of Low Levels of Glyphosate on Tomato Ripening Time, Yield and Quality

Glyphosate is one of the most commonly used herbicides in America. But many people say that organic crops produce larger crops that have a greater shelf life, and have a smaller yield and the crops are more prone to death. On the other hand Glyphosate is an above ground chemical that is sprayed on the crop and kills everything above and below the ground, unless seeds are genetically modified to be resistant to the spray, but it is said to limit quality when high levels have been sprayed.

When naturally grown crops under a process where ethylene is given off in due process, when there is more ethylene is needed, highest production is during flowering and maturing of the plant. Ethylene is a plant hormone that regulates many processes including fruit ripening seed germination and natural separation of flowers, fruits and leaves from plants. In a study done shows that there are many things that effect fruit ripening off the vine, such as things like grouping, container, and temperature. These are all variables that one much consider when storing crops. Most studies show that organically grown crops produce fewer amounts of crops but are larger in size and have a better quality, while non organic crops produce crops that are larger in number but smaller in size, have less quality and have a greater nutritional quality.

This research will focus on low levels of glyphosate vs. organically grown crops on tomatoes. There will be three groups of plants planted one being all organic, the other group with genetically modified resistant to glyphosate seeds with no glyphosate sprayed on it and the third with low levels of glyphosate sprayed on the genetically modified seeds that are resistant to glyphosate. It will test the ripening time from the day of first flowering to the end where it is fully mature

Mentor:

James Giovannoni- Cornell University