How Do Pesticides Affect the Rate of Regeneration of Planarians; Possible Connection to Mutations within Embryonic Stem Cells

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Planarian, more specifically Brown planarian have an extremely high concentration of neoblast stem cells and causes the planarian to have some of the most reliable regeneration powers. This leads them to be one of the most commonly used models to test for things such as toxicity and for learning more about stem cells. Using planarians as a model for how things such as pesticides may affect regeneration can model how pesticides will affect other stem cell heavy creatures such as for example an early stage embryo. This experiment which tested how pesticides affect the regeneration of planarians was split into two main parts. The first part observed how much pesticide to add for the rest of the experiment. It was found that a concentration of 0.001% Pesticide was ideal for this experiment causing changes to the planarian but not leading to immediate death. The second part of the experiment was two groups, the control and the experimental group. In the experimental group the planarians were exposed to a concentration of 0.001% pesticide.This experiment showed that planarians regeneration are affected by pesticide by delaying the regeneration time. In the three trails run of this experiment it is clear that the pesticides delayed regeneration time by quite a bit. The planarian is an amazing modeling organism and can model how other stem cells, such as embryonic stem cells may be affected by these pesticides.

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