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The Anti-Angiogenic Effects of Acetaminophen +H₂O₂ Mixture on Tomatoes

One of the results of last year's project was the severe stunting of tomato plants (10cm tall) watered with an acetaminophen +H₂O₂ (hydrogen peroxide) solution. This year's project attempted to reproduce and identify the causes of this stunting. The constants were the tomato plant type, soil, temperature and light. Independent variables were the acetaminophen, Cl and H₂O₂ mixtures. The dependent variables were plant height and internal structure. I hypothesized that: 1. Tomato plants watered with the same acetaminophen +H₂O₂ solution would produce stunted growth. 2. Visible damage should be evident in cross-sections of the stems and roots. 3. When watering with acetaminophen +H₂O₂ is replaced with distilled water, the plants would recover and start growing again, similar to the previous year. The stunted growth was reproduced. Examination of stems and roots under the microscope revealed damaged phloem and xylem. The phloem was out of place and the xylem was scattered or absent. Overall appearance of the plants was stunted and spindly. Three months after the aceta +H₂O₂ watering was suspended and distilled watering was started, the plants began to recover and redevelop their circulatory system. The phloem returned its natural position between the cortex and xylem. The xylem was redeveloped in its normal position within the vascular bundle, and the plants began to grow again. There appears to be something anti-angiogenic about the acetaminophen +H₂O₂ solution. The effect was reversible with continued distilled watering. Is this a lead on a treatment for tumors and/or cancer in humans?