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Turing pattern formation results are deduced for reaction-diffusion partial differential equations relevant to describing plant-surface water and iodide-chlorite interactions on an arid flat environment and in a gel chemical reactor, respectively, by means of a hexagonal planform weakly nonlinear diffusive instability analysis applied to those model systems. These biological and chemical physical results are plotted in a rainfall-plant loss parameter space and for one involving pool species, respectively. Then the predicted leopard, tiger, and pearled bush vegetative patterns and the spot, stripe, and honeycomb chemical ones are compared with appropriate observational and experimental evidence, respectively, as well as with each other. (Received August 31, 2011)