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Addressing grasshopper (Melanopus differentialis) herbivory, and the feasibility of developing biological/locally acquired applications' for determent

Two experiments' were completed, using the 'Holistic Process' to address a grasshopper issue at the Little Bighorn College Community Garden in Crow Agency, Montana. The first one utilized samples of swiss-chard and parsley from the community garden. One sample of swiss-chard was doused with 5ml of well water (control), while another was doused with 5ml of 'parsley slurry' (treatment); 5 male and 5 female grasshoppers were placed in an aquarium with the control and treatment for approximately 45 minutes. Observations' were made throughout the allocated experiment time, which indicate that rather than deter grasshoppers, parsley slurry is an attractant. Second experiment tests the food preference of grasshoppers, given five choices of raw plant material from the Little Bighorn College Community Garden. Swiss-chard, chrysanthemum flowers, chrysanthemum leaves', peppermint and parsley (15x12cm) are placed in an aquarium. 10 female and 10 male grasshoppers are dropped simultaneously onto parsley, and their food preference is documented over the following two days'. The study shows that when given raw parsley, grasshoppers favor it the least out of the five other choices. Such a result between the two studies indicates that grasshoppers cannot digest raw parsley due to parsley's physical structure.