Beetles Beware: Effects of Various Biopesticides on Callosobruchus maculatus Behavior

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This experiment was conducted in order to investigate the pesticidal capabilities of oil derived from neem (Azadirachta indica), chinaberry (Melia azedarach), and Eastern red cedar (Juniperus virginiana). To obtain this information, various amounts of each substance were applied to Asian bean beetles (Callosobruchus maculatus). Over time, data was collected on migration patterns, mortality rate, laying preference, and viability of laid eggs. It was hypothesized that application of neem oil would result in data indicating the most effective pesticidal abilities across the board due to its well-known popularity as a highly effective form of general pest control. Though neither alternatives provided the same results as neem in any situation, both provided generally applicable results in regards to migration pattern and mortality. In both cases, cedarwood provided behavior closest to that of neem in its ability to deter beetles, but it performed much less well in terms of laying preference.