

# Development of new products to control spider mites using plant-derived compounds

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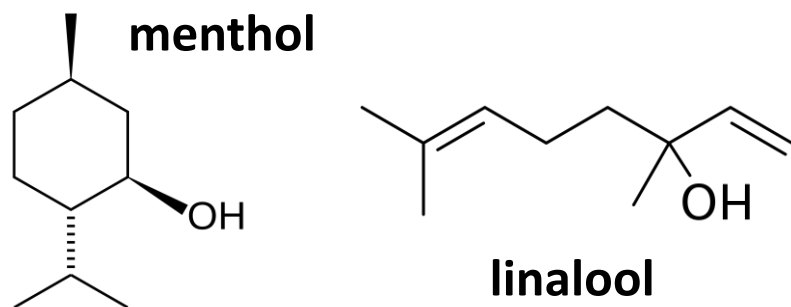


Spider mite feeding on a bean leaf

Photo: S. McCann

The two-spotted spider mite (*Tetranychus urticae*) is a serious pest of greenhouse and field crops across Canada. Spider mites damage plants by feeding on the contents of leaf cells. Controlling spider mites is challenging because they can rapidly evolve resistance to pesticides. Some plant-derived compounds (found in essential oils) are effective at killing mites, and these are promising candidates for eco-friendly pest control products.

**Objectives:** test the efficacy of synthetic essential oils (SEOs) against two-spotted spider mites, and develop a new pest-control product that uses polymer nano-encapsulated SEOs for improved performance.



**Progress:** Menthol (from mint) and linalool (found in coriander) are effective when sprayed directly on mites. We are testing different methods of nano-encapsulating these SEOs in polymers, which will allow us to develop a product that is effective for longer, requires a lower dose of active ingredients, and limits damage to plant tissues when applied in a greenhouse setting.



Using the Potter tower to spray spider mites with SEOs

