

## The control of spider mites by extracts of plants

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### Abstrat

Due to its small size, short life cycle, and high fecundity of spider mite(*Tetranychus* spp.), *Tetranychus* sp.is hard to be controlled. However, the frequent use of pesticide could result in problems such as the decrease of its natural enemies, environmental pollution, and resistance of mites. Plant extracts offer an alternative way which is low cost, pesticide free, and less resistance to control mites. It can be categorized into crude extract and essential oil. Activity ingredients in the crude extract are derived from quashed or dried plant tissue which is soaked in solvent, but the pesticidal efficiency against mites depends on plant tissue and solvent used. While essential oil is extracted mostly by hydrodistillation, and contains terpenoids and aromatics which are volatile, thus suitable for suffocating. Besides mites, essential oil is also lethal to whitefly. Nevertheless, the activity ingredients are still unknown so far. Further investigation of the active compounds in crude extract or essential oil and their mechanism will assist in the development and application of plant-derived pesticide, and meanwhile solve the problem of pests and mites management in organic cultivation or continuous harvest crops, and also decrease pesticide residue and resistance.

Key words: plant extract, essential oil, *Tetranychus* sp, acaricidal activity, fumigation

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