Thrips (order Thysanoptera) are one of the most widespread, economically damaging and difficult pests to control worldwide. They are one of the smallest known winged insects. They are named after their fringed/eyelash like wings. They cause damage to plants by piercing the cells of surface tissues and feeding on the sap. This causes the cells to die leaving unsightly sunken white blotches on leaf surfaces. Leaves may also be deformed and blossoms damaged by feeding in flower buds or on new vegetative growth. Thrips also transmit deadly viruses like Impatiens Necrotic Spot Virus (INSV) and Tomato Spotted Wilt Virus (TSWV) that can devastate numerous crop varieties.

**Life Cycle**

Thrips develop through a series of 6 stages in 2 - 3.5 weeks at 68-85 degrees Fahrenheit. They insert their eggs in plant leaves, blossoms and soft tissues on stems. After the egg hatches, the thrips larva feed on the leaf. They are commonly found on the undersides of leaves, in flowers or in plant crevices. They go through two mobile larval stages then move to plant crevices or drop into the soil to pupate. They undergo two pupal stages where they do not feed and are fairly non-mobile. The adult phase is the only stage that can be used to identify the species.

**Identification**

Adult thrips (0.04 in long) have fringed wings and vary in color from pale yellow to brown. All stages closely resemble the adult in appearance. The larvae are wingless. The pupal stages are recognizable by their developing wing pads. The adult is the only stage with fully developed wings.

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**- TWO-SPOTTED SPIDER MITES -**

Two spotted spider mites, *Tetranychus urticae*, (order Acariformes) are not insects. They are related to spiders and have 8 legs. They are pests of a wide range of plants and cause extensive crop damage worldwide. They feed on plant sap and tissue. They are usually found on the undersides of leaves and in times of heavy infestation, they produce webbing can occur on the undersurfaces of plants.

**Life Cycle**

Spider mites go through 5 stages in about 2 weeks. They lay their eggs on the undersides of leaves. They then go through a larval stage followed by two nymphal stages (protonymph and deutonymph). They feed throughout their life cycle and go through resting periods to form legs and moult to their next life stage.

**Identification**

Adult spider mites can have two color phases. In the summer and spring they are green-brown in color and have two distinct spots on their back. During the winter months, adult females go through diapausa and turn orange or red while they overwinter and become dormant in cracks and crevices in greenhouses. Larvae have only 6 legs where as nymphs and adults have 8. The color of larvae and nymphs vary depending on what they feed on, but usually a shade of green.

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