Mites and aphids in strawberry

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Over the last three weeks I have visited several strawberry patches, many in high tunnels, and have noticed infestations of aphids and especially mites. The mites were found in every strawberry field I looked at, while aphids were in about a third of the fields. There were two species of mites found: the twospotted spider mite, *Tetranychus urticae*, and the strawberry spider mite, (sometimes called the strawberry red spider mite) *T. atlanticus.* Strawberry spider mite adults are generally red, but overwintering twospotted spider mites are also a red-orange and therefore most of the mites that can be seen with a naked eye will be reddish in color. Spider mites overwinter as adults in the soil or leaf litter, although they may remain somewhat active in high tunnels through the winter. I found in several high tunnel strawberries, but not on outdoor strawberries, many mite eggs. The light yellowish eggs are pearl-like in appearance and are attached to the undersides of leaves or on stems (Fig. 1). Aphid species found were the potato aphid, *Macrosiphum euphorbiae* and the green peach aphid, *Myzus persicae.* Aphids are still in low numbers outdoors, but in some places in the high tunnels aphids started multiplying rapidly when we had those few days of very warm weather. These overwintering populations of aphids and mites can be difficult to control as they are "entrenched" in the strawberries. Growers should check their strawberries for both mites and aphids now, especially if you have them in a high tunnel or under a row cover.

The most difficult thing to accomplish for good control is getting adequate spray coverage. Many of the spray applications do a good job of covering the top of the leaves, but do a poor job of reaching the underside of the trifoliates. The underside area of the leaf that usually sees very little chemical deposition is in the 'palm' of the leaf (Fig 2). These are the areas where mites and aphids can still be found even after a few sprays and need to be carefully checked a few days after an application. Good coverage is essential. One grower used a leaf blower-like back pack sprayer and applied 9 gallons of spray onto three rows of strawberries in a 14X100ft area. Two applications of 1% (by volume) horticultural oil were applied about 5-6 days apart. He got excellent spray coverage on the underside of his leaves and consequently excellent control of the mites and the few aphids that were present using the horticultural oil. Control of the adults and nymphs was around 98%. By using two applications about 5 days apart it is possible to control both the adults and nymphs, but also the newly hatched eggs. Oil is a good management tactic to use at this time of year as the plants are small and any possible burn from using the oil is a very low risk. An added benefit of the oil is that is rather inexpensive. I would like to see growers use something like oil now and save the other chemicals for later in the season when plants are much bigger and there is a flare up of mites or aphids. Using oils now will also greatly reduce any development of mite resistance to other chemicals over the course of the season. Acramite, and Agrimek are two excellent miticides, but Acramite should only be used once during a season and resistance is possible with either if multiple applications are made and there is poor coverage. Thionex or Provado can be used for aphid control.

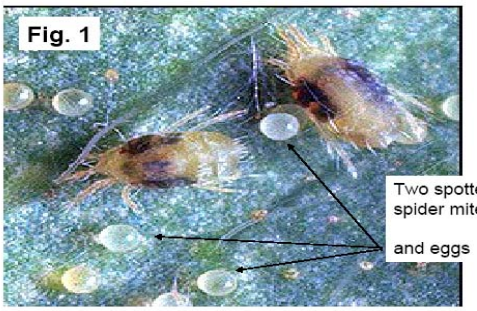
Fig. 1
Two spotted
spider mite adults
and eggs

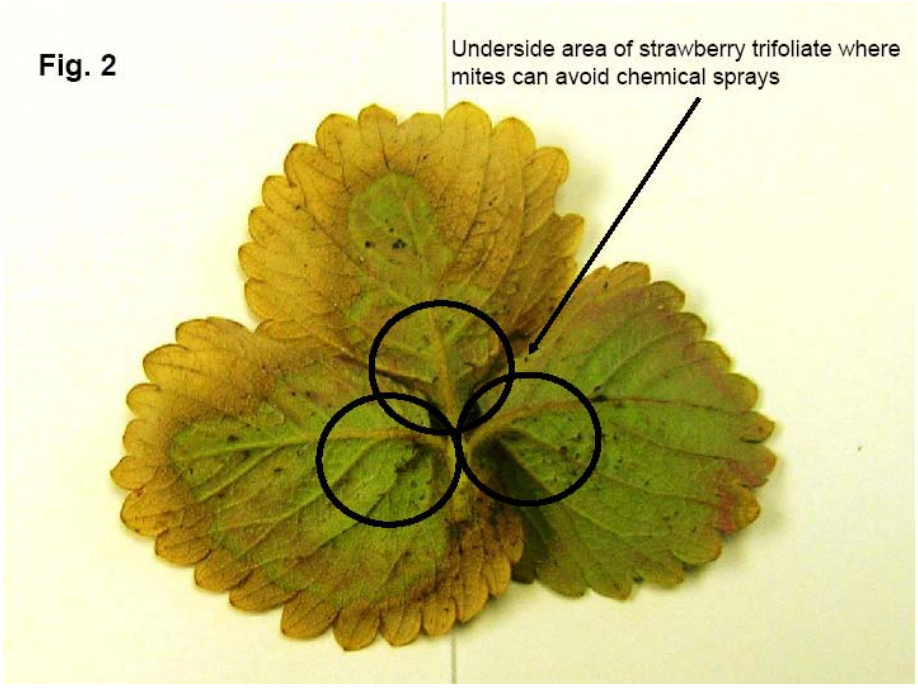
Fig. 2
Underside area of strawberry trifoliate where
mites can avoid chemical sprays