

Know your pests:
Foliage-feeding insects and mites

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Overview

Spruce spider mite

Hemlock rust mite

Elongate hemlock / cryptomeria scales





UC Statewide IPM Project
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IPM Project
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Many selective miticides are available

Savey DF *

Avid 0.15 EC

Floramite SC or WP = Apollo *

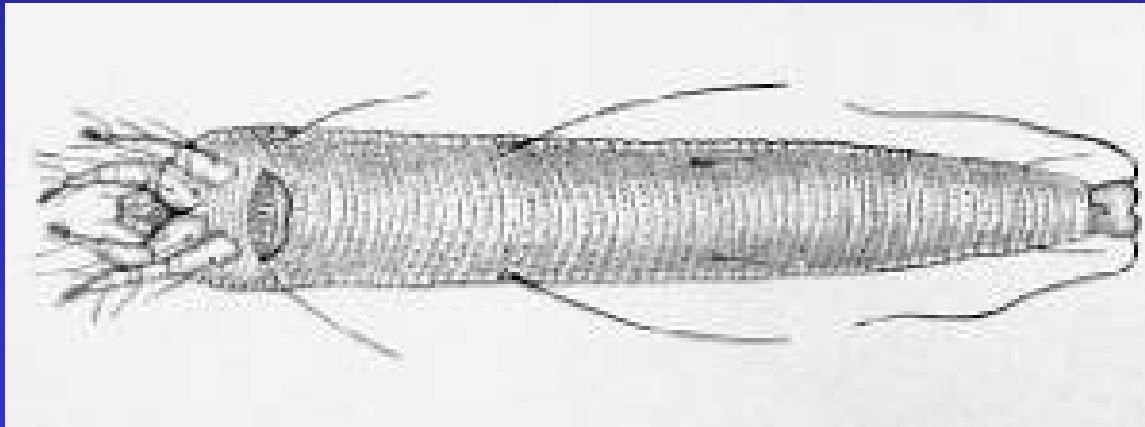
Tetrasan = Zeal *

Horticultural oil



Eriophyids = rust mites

**Overwinter as eggs
Active in cold weather
Different spectrum
of miticides active**



**Envidor 2SC
Forbid 4F**

**Dimethoate
Sulfur
Sevin**

Armored Scales



UGA5019024

Elongate Hemlock Scale = *Fiorinia externa*

Elongate hemlock scale



Male elongate hemlock scales produce fluffy white wool that rubs off onto surrounding foliage.

Growers sometimes think that trees have adelgids, because of the wool.

Wool production makes an easy method to determine whether scales are alive (winter assessments).



Cryptomeria scale





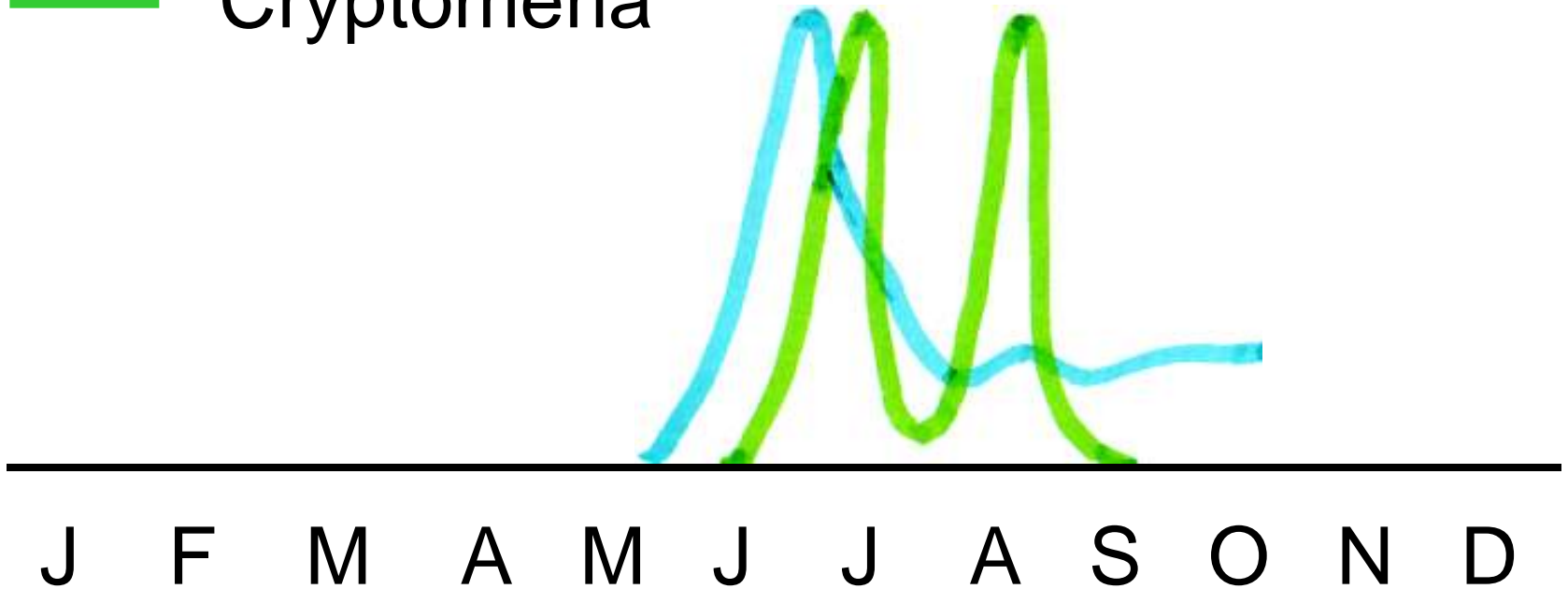




Life cycles, activity of crawlers

— EHS

— Cryptomeria



Scale predator

Twice-stabbed lady beetle
Chilocorus spp.



Photos: Jillian Cowles

Other predators

Cybocephalus nipponicus



Dusty wing larva
Family Coniopterigidae



Microweizia spp. ladybeetle





Encarsia citrina, armored scale parasite





Conclusions

Oil does not always provide satisfactory control

Onyx Pro (Biflex) or Safari are effective in a single crawler spray, timing should be 2nd week of June

Use a crawler trap to precisely time spray

Mist blower technology or systemic may be required



Scale management options

Buy clean nursery stock (not from PA?)

Inspect nursery stock for scale

Eradicate scale during planting year

Clear-cut blocks before replanting

Reduce nitrogen fertilization