

# Mealybugs

The most common mealybug in the North Coast is the native Grape Mealybug. Obscure mealybug is rarely found. Vine mealybug is a recently introduced exotic pest.



## Grape Mealybug

- When poked with a sharp object it excretes a pink to red ball of fluid.



## Obscure Mealybug

- When poked with a sharp object it excretes a clear to yellow ball of fluid.



## Vine Mealybug

- Adults and small crawlers (small orange nymphs).



## Vine Mealybug Adult with Ovisac

- Females of these three species lay eggs inside a white cottony ovisac.



## Mealybug Crawlers

- The three mealybug species are indistinguishable at the crawler or immature stages.



## Vine Mealybug Infestation

- Adults and immatures tended by ants.



## Grape, Obscure and Vine Mealybug Seasonal Lifecycles in the North Coast

	<b>Grape Mealybug (<i>Pseudococcus maritimus</i>)</b>	<b>Obscure Mealybug (<i>Pseudococcus viburni</i>)</b>	<b>Vine mealybug (<i>Planococcus ficus</i>)</b>
	<input type="checkbox"/> Two generations/year.	<input type="checkbox"/> Two to three overlapping generations/year	<input type="checkbox"/> Three to four overlapping generations/year. <input type="checkbox"/> All life stages can be present year-round on a vine.
<b>Winter</b>	<input type="checkbox"/> Overwinter as eggs or as first or second instar nymphs in or near white, cottony egg sac under loose bark on above-ground parts of the vine. <input type="checkbox"/> Young instar nymphs tend to be near spurs.	<input type="checkbox"/> Overwinter as eggs inside cottony sac and nymphs under the bark on the above-ground parts of the vine. <input type="checkbox"/> Most individuals are found under the bark on the upper portion of the trunk or on the cordon.	<input type="checkbox"/> Overwinter as eggs inside cottony sac and nymphs under the bark at the graft union, in old pruning wounds in the trunk and below the base of the spurs. <input type="checkbox"/> Most individuals are found near the soil line or graft union.
<b>Spring</b>	<input type="checkbox"/> As temperatures warm, the young nymphs move towards the spur tips and onto new shoots. <input type="checkbox"/> Overwintering brood develops through 4 nymphal stages reaching maturity in late-May and June.	<input type="checkbox"/> As temperatures warm, nymphs move onto new shoots. Still, the greatest portion of the population is hidden under the bark.	<input type="checkbox"/> As temperatures warm, the nymphs develop into adults, mate and lay eggs where they overwintered. <input type="checkbox"/> After egg hatch, crawlers move up the trunk and can be found below bark on the trunks and cordons and at base of spurs. <input type="checkbox"/> By late spring, nymphs can also be found on basal leaves. <input type="checkbox"/> Nymphs develop into adults, mate and lay eggs.
<b>Summer</b>	<input type="checkbox"/> Most females return to old wood to lay eggs that hatch from mid-June to early July. <input type="checkbox"/> Summer generation young nymphs move to shoots and also to fruit and foliage that touch old wood. <input type="checkbox"/> Some females maturing in late August and September lay their eggs on the fruit.	<input type="checkbox"/> Populations may increase dramatically. All stages are found under the bark on the trunk and cordons, and on spurs. Individuals will be on the basal portions of the shoots and leaves in the fruit zone as well as on clusters that touch older wood.	<input type="checkbox"/> Populations increase dramatically. <input type="checkbox"/> All stages are found on most parts of the vine: under and on top of bark on trunk, cordons and spurs. Individuals distributed through canopy well above the fruit and on clusters. <input type="checkbox"/> Females lay eggs on all above-ground parts of the vine.
<b>Fall</b>	<input type="checkbox"/> Most females return to old wood to lay overwintering eggs.	<input type="checkbox"/> Nymphs migrate under the bark of the trunk and cordon.	<input type="checkbox"/> Starting in November densities decline and nymphs migrate downward to the lower trunk.

