

Insect and Mite Pests of Grape in British Columbia

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Plate 1



1a) Climbing cutworm, *Abagrotis* sp., larva feeding on grape bud and (inset) *A. orbis* adult moth



1b) Invasive lesser yellow underwing, *Noctua comes*, adult cutworm moth and (inset) larva



1c) Cutworm larva (4th instar) damage to grape bud resembling adult click beetle damage



1d) Cutworm damage to young shoot



1e) Click beetle adult feeding on grape bud and (inset) click beetle adult



1f) Raucus root weevil, *Otiorynchus raucus*, and (inset) ragged feeding damage to grape bud

This publication is a companion to the *Best Practices Guide for Grapes for British Columbia Growers*, BC Wine Grape Council, Peachland, BC (www.bcwgcc.org). Please refer to that publication for information relating to the biology and management of insect and mite pests of grapes in BC.

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Plate 2



2a) Virginia creeper leafhopper, *Erythroneura ziczac*, adult



2b) Virginia creeper leafhopper nymphs



2c) Virginia creeper leafhopper eggs



2d) Western grape leafhopper, *Erythroneura elegantula*, adult



2e) Western grape leafhopper nymph



2f) Leafhopper feeding damage to leaves



2g) Grapes spotted with leafhopper excrement



2h) Hieroglyphic or poplar sharpshooter, *Neokolla hieroglyphica*, occasionally feed on grape shoots

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Plate 3



3a) Lateral shoot damaged by treehopper feeding showing red discoloration of leaves, and (inset) close-up of damage



3b) Minor cicada, *Platypedia minor*, occasionally lay eggs into new canes, causing scarring or cracking



3c) Immature cottony maple scale, *Neopulvinaria innumerabilis*



3d) Adult female cottony maple scale with cottony egg masses being attended by ants



3e) European fruit lecanium scale, *Parthenolecanium corni*



3f) Grapes infested with grape mealybug, *Pseudococcus maritimus*, and (inset) close-up of adults



3g) Whitefly nymph



3h) Whitefly adult

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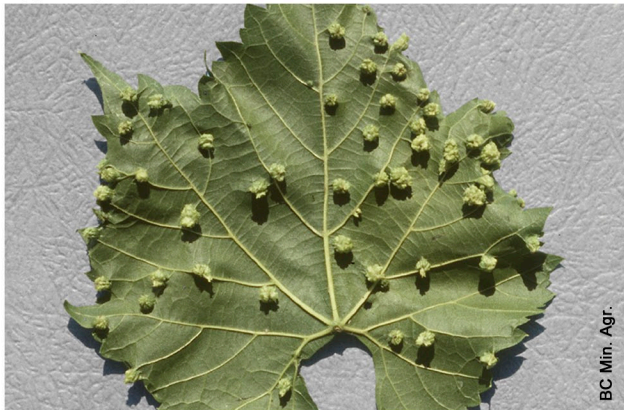
Plate 4



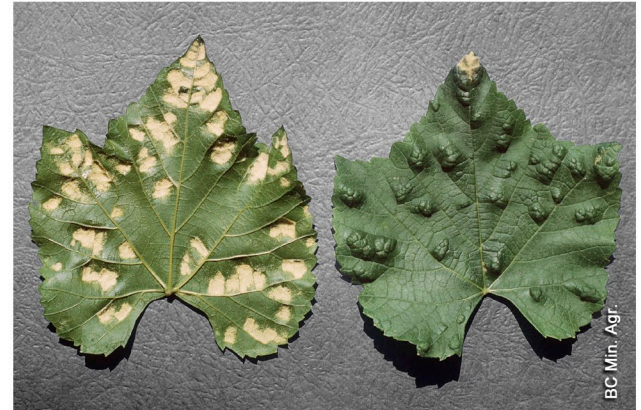
4a) Grape phylloxera, *Daktulosphaira vitifoliae*, adults and eggs on grape roots



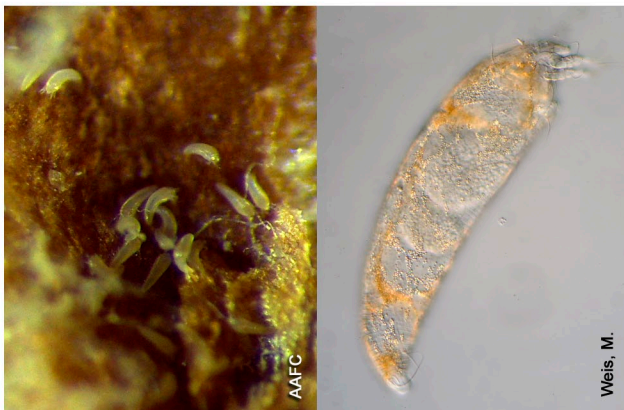
4b) Phylloxera-induced galls on grape roots



4c) Phylloxera galls on leaf of hybrid grape



4d) Grape erineum mite or grape leaf blister mite, *Colomerus vitis*, leaf galls



4e) Grape leaf rust mite, *Calepitrimerus vitis*, under bud scales in spring (left) and greatly magnified adult (right)



4f) Grape leaf rust mite damaged shoot (left) in spring and undamaged shoot (right) from the same variety and block



4g) Adult two-spotted spider mite, *Tetranychus urticae*



4h) Adult European red mite, *Panonychus ulmi*

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Plate 5



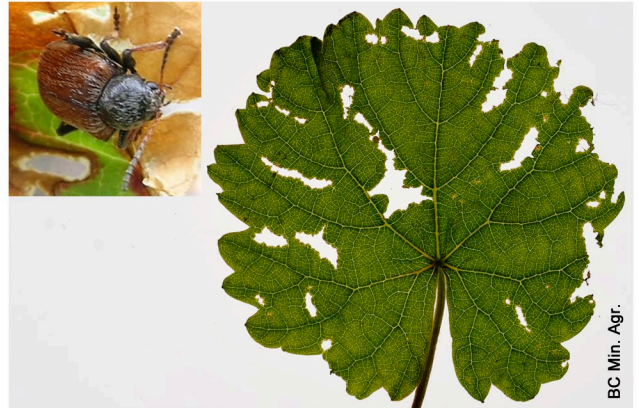
5a) Western flower thrips, *Frankliniella occidentalis*, adult and (inset) nymph



5b) Thrips damage to shoot and leaves in late summer



5c) Scarring of fruit by early-season thrips feeding



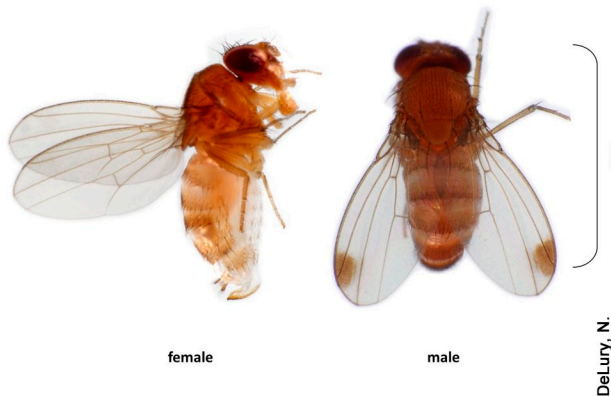
5d) Grape leaf shredded by western grape rootworm, *Bromius obscurus*, and (inset) adult beetle



5e) Apple flea beetle, *Haltica foliacea*, adults on leaves of a young grapevine showing feeding damage



5f) Snailcase bagworm, *Apterona helix*, larva and (inset) casebearer moth larvae and pupa, *Coleophora* sp.

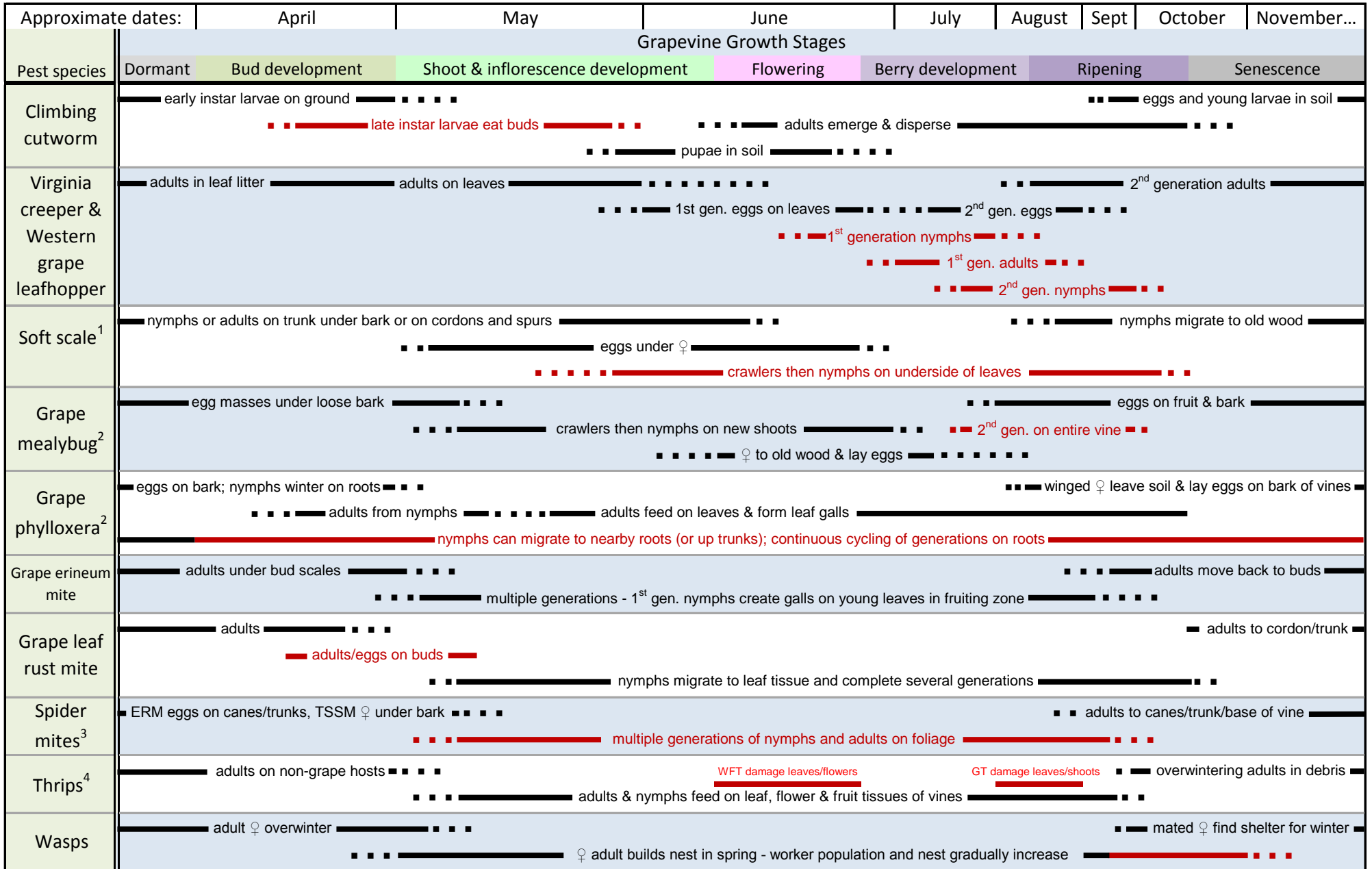


5g) Female spotted wing drosophila, *Drosophila suzukii*, (left) and male (right)



5h) The invasive European paper wasp, *Polistes dominula*, (right) and wasp damage to grapes (left)

CALENDAR OF GRAPE PEST DEVELOPMENT



Stage in life cycle that causes damage to grape plants in red type or red bar ■■■■■

¹Multiple species with different timing of life stages

³Includes European Red Mite (ERM) and Two-Spotted Spider Mite (TSSM)

²Crawler stages of these pests potentially spread grapevine viruses

⁴Includes Western Flower Thrips (WFT) and Grape Thrips (GT)

Please refer to *Management Guide for Grapes for Commercial Growers*, BC Wine Grape Council (www.bcwgcc.org), for details on biology and management.