Pests, Diseases and Viruses of Camellias

Aphids and Thrips	Small sucking insects that weaken host camellia and can spread more serious diseases. Control by spraying water on plant with the hose or use insecticidal soap or pyrethrum.
Caterpillars	Usually the larvae of cabbage white and the light brown apple moth evident by rolled up leaves. For a small infestation simply squash the rolled up leaves or for a larger infestation spray with BT (Bacillus thuringiensis) insecticide e.g. Dipel or Success
Scale	Can be found on unhealthy camellias or in container grown plants, or plants heavy shade or dry conditions. Scales are small insects covered by rounded outer "shell" (scale) that can be white, brown or black. Ants and sooty mould are usually also present. Control the ants and use horticultural oil to control the scale and sooty mould. A second or third spray may be required to kill off further hatchings.
Weevils	Scalloped chew marks are a sign of damage by European garden weevil. Weevils are nocturnal so use trap boards strategically placed on the ground near the base of the plant to control infestations. Also control host weeds such as capeweed to break food cycle. Chemical control use insecticide specified for weevil attack.
Mites	Usually Two Spotted mite (red spider mite) or Eriophyid mites and more recently Ribbed Tea Mite (also an Eriophyid mite) **Two spotted mites** are tiny pinkish-red mites clustering on the underside of leaves often producing fine webbing. They are related to spiders having four pairs of leg. The usually occur over hotter months in dry still conditions and their life cycle is completed in a week. **Eriophyid mites** are difficult to see without a magnifying device. Symptoms include odd colour patches on leaf surfaces, leaf margins that roll inward or downward, swollen and distorted leaves, gall russeting and "witches brooms". In recent years camellias in many areas of Australia have been attacked by the Ribbed Tea Mite (Calacarus carinatus). They are tiny, worm-like creatures that are also called purple mite because they can take on a purple colour at certain times of the year. Symptoms are bronzing of the entire leaf with the overall effect of making the plant look like it is sun scorched. These mites are different from Two Spotted mite in that they are very particular about the host plants that they choose. Mites are most prevalent in dry conditions and do not like moist humid conditions. **Chemical control** is for the most part useless as they have become resistant. So changing the host environment is beneficial, hosing the foliage and pruning of overhead branches shading the plant. **Biological control** of mites by use of predatory mites that can be purchased on-line. Predatory mites are highly susceptible to chemical sprays so use with caution.

Diseases

Sooty Mould	An unsightly black sticky substance which grows on the secretions of aphids and scale. Control by controlling ants which farm the scale, the scale and aphids. See above for control methods.
Botrytis	A very common air borne fungal disease affecting camellias causing premature aging of blooms and brown spots especially in the centre of flowers. Grey hair like structures on the base of blooms is confirmation of botrytis. Botrytis is seasonal commencing in Autumn on Sasanqua camellias and continuing throughout the season. Botrytis favour moist, still conditions. Control by trimming affected plants to allow for better air movement. Chemical control by use of most rose fungicides.
Camellia Dieback and Canker (*Glomerella cingulate*)	One of the most serious diseases of camellias. It is caused by the fungus. Symptoms are suddenly yellowing leaves, grey blotches on the bark and stem, and then sunken areas (cankers) eventually girdling the stem. Plant parts above the canker lose vigour, wilt and die. Damage is usually most obvious during hot, dry weather. Prevention is by keeping camellias as healthy as possible by planting in well-drained ericaceous soil, avoid wounding and fertilizing appropriately. Diseased twigs must be removed by pruning several inches below the cankered areas. Ensure tools are well disinfected (use solution of 1 part household bleach to 9 parts water) between cuts. Chemical control may be required with appropriate fungicide according to manufacturer's directions e.g. Yates Anti-Rot.
Leaf Gall (*Exobasidium camelliae*)	Common to Sasanqua camellias usually observed on new growth in spring. New shoots and leaves appear abnormal, enlarged, thickened, fleshy and pinkish in colour. The galls rupture on the undersides of the leaves revealing a whitish mass of spores. The galls eventually harden and become brown. Damage can be severe. Prevention: remove and destroy galls before they rupture and spores are released. Rake up and remove fallen leaves. Avoid wetting the leaves when watering. Humid, moist, shady conditions favour gall formation.
Root rots: Phytophthora and Pythium	A problem of seedlings and cuttings in potting mixes rather than in the garden. The use of anti-rot fungicides as a preventative drench and the use of household bleach/water solution when cleaning pots is recommended. In larger plants both pots and garden usually are a secondary issue taking place where there are pH issues or micro nutrient problem. Maintaining soil pH at a range of 5.5-6.5 (both pots and garden) will help camellias healthy and in potted plans regular re-potting even if no pot increase in spring and a complete fertilizer in autumn help.
Camellia Petal Blight (*Ciborinia camelliae*)	Not a major problem in camellias at the moment in Australia but is common in other countries China, Japan, USA, Western Europe most recently in NZ and UK. It is an airborne fungus favouring wet, cool weather at flowering time, with spores landing on camellia blooms, turning them brown and mushy in as little as a day. Small hard fruiting bodies called sclerotia form. Affected blooms fall to the

	ground and the scleroita over winter and in the following season form fruiting bodies which shed spores and the life cycle starts again. Chemical control is almost useless and even cleaning up affected blooms both on the ground and on the plant will be of little use as wind spread has been found to be as far as 300kl a season. The greatest danger to Australia is the importation of affect plants and soil contamination on shoes. As for Azaleas a protective spray, e.g. Yates Mancozeb Plus or Yates Zaleton Dual Action Systemic Fungicide (in garden situations) may provide a small help.
Bud Drop	Camellia flower buds drop off before opening or the tips of young buds turn brown. There are different reasons for bud drop but the most common is large fluctuations in temperature or moisture. Avoid planting varieties that bloom late in the spring and plant in a shadier, cooler location. Other causes are plant stresses due to lack of nutrients, poor soils or drainage or an excessive use of nitrogenous fertilizers. Nitrogenous fertilizers are best applied after flowering. Also mite attacks may cause bud drops.

Virus/Other

Camellia Yellow Mottle Virus	Affects C. Sasanqua, C. Japonica, C. Reticulata. A viral disease that overwinters in infected host plants. Symptoms usually being a few young leaves on a branch develop yellow mottle which can be marginal, irregularly blotched or speckled. Flowers may also display speckling or marbled appearance. The Spread is not by pests or disease but by propagation and grafting practices and there is no cure for infected plants.
Oedema	Is an environmental problem not caused by pests or diseases. Symptoms are as small bumps on the lower sides of leaves or on stems. The bumps are tiny clusters of cells that divide, expand and break out of the normal leaf surface. They form into rust coloured swellings with corky texture. Oedema is a condition promoted by warm weather and sudden cool weather change and abundant soil water where the plant takes up more water than is lost through the leaves. Excess water accumulates in the leaves and is expelled by bursting cells. Prevention: Avoid excessive watering specially during cloudy, humid weather and increase air movement through the plant.