



The Elm Leaf Beetle

(*Xanthogaleruca luteola*)

Elm leaf beetles are about 5mm long with a yellow / green / brown body with two wide stripes down their back. They destroy elm trees by eating away at the leaves, which defoliates the tree and makes it vulnerable.

There are over 45 Species of Elms (*Ulmus*) in the world. Species mainly from Europe and America. Most trees are very large, some are shrubs and most are deciduous. They are round headed trees with bark furrowed or fissured, leaves are elliptical with conspicuous veins and serrated edges. The flowers are inconspicuous but papery wing fruits (samaras) that are mistaken for flowers. All Elm leaves have an uneven base and short petioles.

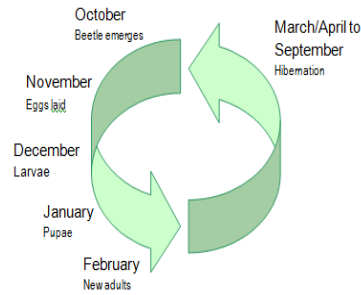
Elm trees were mentioned by Shakespeare as early as 1776 as majestic trees. In England and Europe elm timber was used for bridge pilons mainly because they don't rot in water and are known to be a really strong timber that does not split. The timber was used for wooden wheels, windmills and coffins. It does not season well and was used for chairs and light furniture. In Australia they were planted only for aesthetic reasons.

ELB was found first in Australia in the Mornington Peninsular in Victoria in 1989. In such a short time it has spread to SA, TAS, VIC, ACT, NSW, found in Sydney and moving north. It was first discovered in Canberra 2010.

In 2012-2013 there was moderate damage to mature trees and in 2014-2015 the damage was severe. In Canberra there are up to 15,000 trees that are effected from ELB and this is about 3% of our urban forests that can be affected and if not treated will leave gaps in our urban landscape.

The Beetles are dispersed by highways and transportation. The beetles don't travel more than 4-5 metres from the base of the tree and is the reason why some areas are more affected than others.

The Season for ELB starts in October with beetles coming out of hibernation from the ground and move up the tree. Eggs are laid mid October, the larvae emerge around December and then larvae migrate down the tree around January and new adults form from April and hibernate from April to September.



First signs will be a shot hole look in the leaf and will always be worse on the northern side of the tree. The larvae will skeletonise the whole leaf and slow the photosynthesis of the tree.



So far it is only the English and European trees that are affected, but in Canberra a few Zelkova's have been affected but not in Victoria. I believe it will be only a matter of time before the ELB will adapt and all Elms will be at risk.

So What Can Be Done.

Soil Drenching - This has a high impact on the soil and the environment around the tree. It is not recommended near water ways and will kill micro organisms in the soil.

Trunk banding – This is a low cost effective way for the home gardener using horticultural felt, glue or spray with Carboral. This method only disrupts the life cycle of the pest but does not eradicate it.

Stem injections -This is the most environmentally friendly way of treating large trees. Injection are done best in Sept/ October with Imidacloprid insectide and should only be carried out by a qualified horticulturist or arborist. It has been known that Imidacloprid is harmful to bees but with Elms being wind pollinated and the timing of the injection have no effect on the bees. There is also minimal residual effect to the soil.

Biological Control- A parasitic wasp *Oomyzus gallerucoe* & fly *Erynniopsis antennata* have been tried in Europe and a Microbial folia spray of *Bacillus thuringiensis* can be used but none of these are currently available in Australia.

Home Gardeners Can...

Fertilise trees in September with general purpose fertiliser.

Keep our trees well watered and prevent compaction around the base of the trees.

Encourage lacewings, hover flies and predatory insects.

Monitor our trees and know when to take action. Minor damage 10-20%, Moderate damage 20-50% & Severe damage over 50%.

Dutch elm disease currently is in Europe and America and decimating the population of Elms. Currently we don't have DED in Australia but it will be only a matter of time until it arrives as it is now close by in New Zealand. It is important that we have our Elms as healthy as they can be to prevent this disease taking hold in Australia. Dutch elm disease is a fungus which produces a toxin as well as physically blocking water flow in the vascular tissues of elm trees and if it were to reach Australia, it could cause the death of all these elms.

Over the past few years I have been closely monitoring the destruction in and around Canberra. In the last 18 months the beetle has now affected Elm trees in Bathurst and Mayfield gardens at Oberon. The Bathurst city council put out a tender out to inoculated more than 300 trees last spring and looking forward to seeing the effects of so many trees been treated in one area.

Last spring Canberra had a wet few months and I believe it made a difference to the problem last year. There were not so many beetles around and there was good foliage on the trees because of the moisture in the soil. The next season is around the corner from September would be interesting to monitor this year's infestations and learn more about controlling them.



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