



THE TENDER FRUIT GRAPE VINE



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Why European Starlings Are A Perennial Problem: History And Biology Of European Starlings In North America

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This article is slightly revised from one which appeared in TFGV 4 years ago and of course, starlings continue to be major pests of grapes and fruit.

The next issue of TFGV will include a comparison of the pros and cons of various realistic and practical bird control measures along with some discussion of the requirements for successful and legal bird management.

Like so many other deliberate introductions of non native vertebrate species around the world, the introduction of European starlings (*Sturnus vulgaris*) to North America was a misguided and foolish episode. After the first two introductions failed, 60 birds were brought to Central Park in New York City in 1890 by The American Acclimatization Society. A further 40 starlings were introduced in 1891 by this group whose aim was to bring all the species of birds mentioned in Shakespeare's plays into North America. From that sad and humble beginning, European starlings spread to the Pacific ocean in 60 years and are now firmly established across the entire continent. They are one of our most common and widespread birds with a population of approximately 200 million in North America.

Starlings are very aggressive competitors and are relentless in usurping nesting cavities that would

otherwise be perfect for bluebirds, flickers, tree swallows, great crested flycatchers and other species. Groups like the Friends of Short Hills Park have done a lot of work to build nesting boxes that they reserve for the use of bluebirds only.

From grower's perspectives though, the aggressive nature of starlings isn't really the issue - damage to grapes and cherries is the problem. Starlings are not the only culprits attacking the berries but they are an important part of the bird pest problem. Knowing the ravenous appetite of starlings for fruit and berries late in the year, it is somewhat surprising that they mostly eat insects during the summer. At least some of their eating habits can be considered as beneficial since they are the most effective enemy of clover weevil in North America. They also eat cutworms, Japanese beetles, other beetles, grasshoppers, ants, bees, wasps, millipedes, spiders, earthworms, salamanders, garbage, fruit and seeds. This wide dietary range and their aggressive control of nesting sites are only two of the reasons that these birds have been so successful since their introduction to North America in 1890.

Other important facts about starlings are that this species has a very high reproductive ability, has a very high tolerance to parasite 'loads', is remarkably adaptable to new environments, is extremely opportunistic with regards to nesting sites, diet and climate, and has been here long enough that it can no longer be considered as an invading species. What that means, besides the fact that starlings are so obviously well adapted to our continent, is that there are no natural enemies or diseases that this bird has escaped by colonizing North America. There is nothing we can search for in its original habitat that would control it here and there is no inherent weakness in a non-native

species with such a range of biological attributes. A surprisingly large percentage of species that are part of our 'natural' environment are non-native and even if we consider them as 'pests' we must learn to live with them because there is no realistic method of exterminating them.

Numbers of starlings in southern Ontario are artificially high during the winter when large roosts form as few of these birds stay in the far north through the winter. In number of individuals spotted during the Audubon Christmas bird count, European starlings consistently rank in first place. There is one large winter roost in the Niagara peninsula estimated by experienced birders to have between 100,000 and 250,000 birds. It is very difficult to estimate numbers in such a flock as the birds are very fast flyers and many other species such as blackbirds, grackles, meadowlarks and house finches roost with the starlings. As impressive a sight as that many birds can be, this species can flock together or form roosts of 10 million individuals. Unfortunately, when there are extremely large concentrations of starlings and it seems like a good place and time to destroy them, control methods are costly, dangerous and ineffective. Shooting this many birds is simply not an option and avicides (pesticides that kill birds) always affect many other species of birds in the area whether applied as poison baits or sprayed on the roosts.

Starlings have been a 'problem species' for a long time and attempts have been made to control them elsewhere with no success. In the 1960's in California over 9 million starlings were killed with no long term effect on the population. In another control attempt, one million were killed by spraying detergent on a major winter roost (the detergent destroys the insulating ability of the bird's feathers) Again there was no long term effect on the local population and there was a rapid recovery in numbers at the roost.

Would a vigorous program of eradication do any good against the problem of starlings in Niagara vineyards and orchards? The answer is no; we would only spend a lot of money and effort on temporarily and locally lowering their numbers only to have them back again next year, next month or even next week. In some ways the starling problem is much like an insect problem but, unlike a well-

targeted insecticide, an avicide is very ineffective in reaching its target, and the cost of a program to poison starlings is likely to be completely out of proportion to the economic benefits gained. The European starling's high reproductive rate, large continent-wide population, mobility, opportunism and aggressiveness all mean that any eradication efforts would be doomed to failure. I prefer bluebirds to starlings too, but any regional program of slaughtering starlings would only promote hatred of all birds in the minds of the uninformed.

Thanks to Jeff Skevington for information on starlings in general; Karin Schneider, John Black, and Kevin Brown for information on starlings in the Niagara Peninsula.

It's Time to Target Perennial Weeds in Orchards and Vineyards

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June is the time to spend a few minutes scouting orchards and vineyards for perennial weeds, and spot treating them to prevent major problems.

Timing: Many broadleaf perennial weeds are just approaching the **sensitive stage** for systemic herbicides like glyphosate. For best results, apply at these stages:

- Canada Thistle @ early flower bud
- Milkweed @ flower bud
- Bindweed @ full flower

Quackgrass needs to be actively growing with at least 3 to 4 new leaves to absorb the herbicide. Often by June, it's too late to spray quackgrass, but if quackgrass is still growing, it's still susceptible.

Rates: The correct rate for each weed is listed on the label. For example, there are 3 rate ranges for glyphosate products:

- Annual weeds: 0.75 to 3.5 L/ha
- Canada thistle and quackgrass: 2.5 to 7.0 L/ha
- Perennial broadleaf weeds: 7 to 12 L/ha

Use the high end of the rate range where weeds are larger and growth is dense.

Caution: Avoid contacting desired plants, including low branches and root suckers. These herbicides circulate in trees for several years if absorbed. Some research suggests that low levels of

glyphosate in a plant makes it susceptible to disease. Wick wipers will minimize contact with the crop, and shields can protect low hanging branches.

Prevention: Essential to succeed in controlling perennial weeds, especially in orchards and vineyards:

- Scout for weeds along the edges of fields, in fencerows and ditch banks.
- Prevent seeds by mowing or using a systemic herbicide before flowering.
- Clean up fields for new plantings by spot treating perennial weed patches.

Control of perennial weeds is generally a 2 or 3 year proposition. Investing some time each year will keep these pests to a manageable level in your orchards and vineyards.