service in ACTION

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Russian Olive Decline and Gummosis

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Quick Facts

- Russian olive decline and gummosis has become more prominant over the last few years and occurs on older Russian olives (15 years).
- Russian olives affected with decline and gummosis exude an amber colored gum from the bark that hardens with time.
- Death of the entire tree from decline and gummosis may take one to seven years.
- Environmental stresses, such as too much water, not enough water, and extreme temperature fluctuations, appear to be the primary factors in Russian olive decline.
- For prevention: water only when needed, fertilize trees in early summer, prevent wounding of trees and remove dying limbs.

Russian olive trees are popular in the Great Plains area because they are fast growing, drought tolerant, and make an excellent componenet of wind breaks. They also are recommended for planting because they are relatively disease free. However, there is a disease that occurs on older (15 plus years) Russian olives that has become more prominent in the last few years. This disease is called Russian olive decline and gummosis.

Russian olives affected with decline and gummosis exude an amber-colored gum from the bark that hardens with time. The trees usually have other symptoms including; death of one or more branches and yellow leaves. Death of the entire tree may take one to seven years.

Russian olive trees exude gums when they are stressed from a variety of factors. Russian olives known to be infected with fungal diseases such as *Botryodiplodia* and *Tubercularia* will frequently exude gum (but not always). In Colorado, it is common to find copious amounts of gum on trees in which no evidence of these canker diseases can be found. This leads researchers to believe that gummosis is an indication of root disfunction. Root related stress may come from many different sources, including disease or adverse environmental conditions. Investigators at Colorado State University have found several *Fusarium* and *Phytophthora* fungi on the roots of declining Russian olive trees. It is not known if these fungi are the primary cause of the disease or contribute to the decline. More research is needed to answer these questions. Adverse environmental conditions are commonly associated with this disease and are probably the most important factors to consider in prevention.

It is well known, that most insects and pathogens (disease causing agents) attack weak trees. When a tree is under stress it is unable to defend itself, and the pathogen or insect is able to infect or attack the tree. Therefore, environmental stresses (too much water, not enough water, extreme temperature fluctuations) appear to be the primary factors in Russian olive decline. Insects and diseases, if involved, are difficult to control and probably secondary (not the original cause of decline).

To prevent or manage Russian olive decline and gummosis, the following controls are recommended. Manage trees for optimum vigor by:

1. Water only when needed (i.e. do not over water in the summer and under water in the winter; common occurrences in Colorado).
2. Fertilize trees in early summer if needed, not first thing in the spring.
3. Do not injure the trunk or roots with lawn mowers or weed whips; trenching or changing the soil level. See Service in Action sheet 2.926, *Healthy roots and healthy trees.* Prune limbs properly. See sheet 7.207, *Pruning deciduous shade trees.*
4. Remove dying limbs with proper pruning techniques. Dead limbs attract insect and disease causing organisms.

Healthy, vigorous trees are less likely to succumb to decline and gummosis. Prevention is our best defense.

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