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BLEEDING CANKERS ON EUROPEAN BEECH - A progress report on management.

Last year we noted that we either were or would be testing various proprietary compounds for management of bleeding cankers on European beech caused by *Phytophthora* spp. That work began in earnest in the spring of 2004 with applications of Agri-Fos^T one of several formulations of phosphorous acid that have recently shown up on the market. We followed a protocol recommended by company representatives and scientists at the University of California calling for a bark drench (to a height of 6-8 feet) with a mixture of 31.2 fl. oz. Agri-Fos^R plus 31.2 fl. oz. water plus 1.6 fl. oz. of Pentra-Bark^U. The latter is an adjuvant that is supposed to promote movement of the Agri-Fos^O through the outer bark and into the living phloem and cambium. Most of the trees we treated were in the 30-40 inch stem diameter class, and we used about 1/2 gallon of mixture per tree. When we examined the trees 5 months later (October 2004), the cankers were still oozing and there was no evidence that the treatments had been effective. However, a second exam about 4 weeks ago (August 2005) was more encouraging. Cankers less than about 1 square foot in area were no longer oozing fluid and, in comparison to pictures taken just before treatment, appeared to be the same size that they were at the beginning of our observation period.

Unfortunately, our experimental design was far from optimal inasmuch as we had no untreated trees on the same properties as the treated trees and on all but one of 12 properties we worked on there were only one or two diseased trees. Thus, we cannot be sure that the apparent improvement is a result of our treatment or some other factor such as the persistent drought in 2005. We look forward to 2006 with plans for better experimental design with guarded optimism that we're on the track of a viable treatment for this disease.

In the meantime, Agri-Fos^O for *Phytophthora*-caused beech cankers, applied either as a bark drench or injected directly into the trunks of trees has been approved by the EPA and the NYS Department of Environmental Conservation. Other phosphorous acid formulations also approved for *Phytophthora* on beech include Arborfos^T, Whippet^T and Alude^T. So far as I am aware, data to indicate that any of these materials is effective for control of bleeding cankers has yet to be published in a scientific forum, but their use in New York State for this purpose is now legal, nonetheless.

The bottom line is that if you are caring for European beech trees with bleeding cankers, our very tentative observations are that one of the phosphorous acid products is a viable option for slowing canker growth. The earlier that cankers are found, the more likely it is that you will be able to contain them, and treatment is likely to be most effective when trees are actively growing. We have not seen any evidence of phytotoxicity on beech, but we do know that if the bark drench mix of Agri-Fos gets on herbaceous plants or moss, it will burn or kill the foliage. If there are valuable groundcovers around trees you are treating with this material, be sure to cover them with a tarp during application.