

Case #1

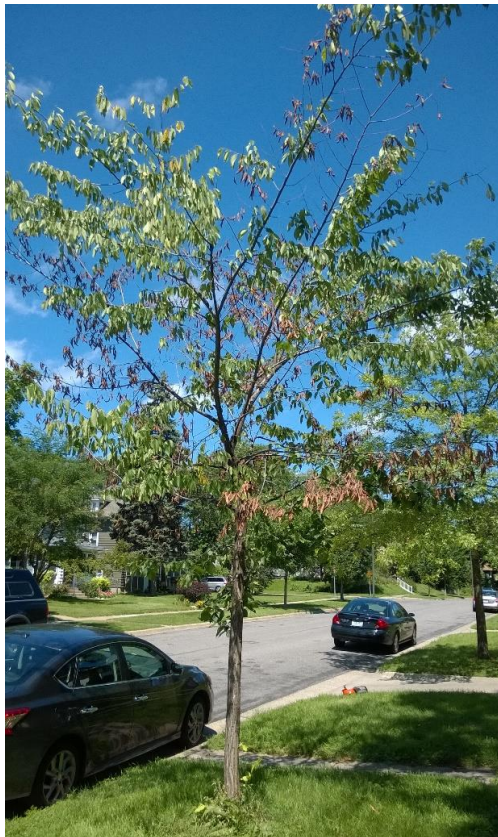
Subject: Valley Forge American Elm

(*Ulmus americana* 'Valley Forge')

Location: City of Saint Paul

Symptoms and Analysis: This young tree was observed by a Minnesota Tree Inspector in July 2015 and had all of the classic symptoms of Dutch elm disease (DED). There was active wilting throughout the crown, with leaves in various stages of wilt. Approximately 40 to 50% of the crown was showing wilt symptoms when we visited this tree. After branch sample collection, vascular staining was observed and samples were stored for isolation and sequencing at the University of Minnesota. Evidence of feeding by elm bark beetles in branch crotches was also present.

Once we returned to our lab, the samples were cultured for fungal DNA extraction. After isolation and sequencing, it was confirmed to be *Ophiostoma novo-ulmi* (DED). This tree was pruned for sanitation and will be revisited next year to check on its status for disease recovery. It is important to note that although 'Valley Forge' may suffer from DED, many recover therefore removal may not be necessary and sanitation pruning should be considered. Given that we are observing DED with increasing frequency in the disease-resistant population, it's important to continue to scout even resistant varieties for incidence of the disease.



Crown Wilt Symptoms of DED in 'Valley Forge'



Evidence of Vascular Staining in Branch Cross-Section Indicating DED Infection



Damage from Elm Bark Beetle Feeding