Natural and Augmented Spread of Rose Rosette Disease of Multiflora Rose in Maryland

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Rose rosette disease (RRD), a mite-vectored agent of unknown etiology, was first recorded on multiflora rose, *Rosa multiflora* Thunb. in central Maryland in 1996. This uncharacterized agent is transmitted to some members of rose family by the eriophyid mite *Phyllocoptes fructiphilus* Keifer, which is common on multiflora rose in Maryland (1). It is also graft-transmissible (2). In 1996, a farmer near Middletown in Frederick County observed one plant with witches'-broom and reddened shoots along a fence row and sent a sample to J. W. Amrline, Jr. at West Virginia University, for confirmation of the disease (J. W. Amrline, *personal communication*). During 1997, delimiting surveys around this farm failed to detect any other plant with noticeable symptoms in an area heavily infested with multiflora rose. In an attempt to augment the disease, we grafted shield buds from this plant into 10 nearby apparently helathy plants in May and again in June 1997. None of these grafts were successful. More diseased buds were removed from the original infected plant during May 1998 and grafted into another 12 plants. By June of 1999, only the graft-inoculated plants from 1998 had symptomatic shoots arising from the graft sites. During this interval, RRD was observed in sites in western Maryland near Cumberland in Allegany County (May 1997) and Hagerstown in Washington County (May 1998). Initially, the percentage of symptomatic plants at these sites was less than 10%. Surveys 12 months later indicated that approximately 50% of the plants showed symptoms of RRD. At one site, the majority of the larger multiflora rose plants had at least one dead cane and a few were completely dead. Further augmentation of RRD by grafting was conducted in May 1998 at the University of Maryland Research and Education Center in Keedysville in southern Washington County, and by June 1999 only treated plants were symptomatic. In August 1998, one multiflora rose and one ornamental rose, *Rosa hybrida* ‘Scarlet Meidiland’
Meikrotal, exhibited RRD symptoms on a farm in northern Washington County near the Pennsylvania border. We found numerous symptomatic multiflora roses in May 1999, at a farm in northern Frederick County, also near the Pennsylvania border. Symptomatic plants have been observed during 2000 in Montgomery, Carroll, and Baltimore Counties as RRD continues to spread rapidly east and north through the state. This is the first documentation of the occurrence and rate of spread of RRD in Maryland.

References: (1) W. B. Allington et al. J. Econ. Entomol. 61:1137, 1968. (2) E. A. Thomas and C. E. Scott. Phytopathology 43:218, 1953