

Section II

Vectors of Plant Pathogens

POSSIBLE NEW VECTORS OF COMMON VIRUSES

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Potato Virus Y (PVY)

We did mass inoculations (>100 aphids potentially infective with PVY per test plant) to test several aphid species for possible transmission of PVY. The aphid species included all four species of *Diuraphis* that we maintain in culture as well as *Sitobion avenae* (Fabricius) and *Metopolophium dirhodum* (Walker), two species that are reported as vectors of PVY in Europe but did not transmit the virus in timed probe experiments done last year in Idaho. Neither *S. avenae* nor *M. dirhodum* transmitted PVY in mass inoculations (ten and seven plants tested, respectively). A surprising result we obtained is that two of eight plants inoculated by *D. noxia* proved positive for PVY. Other species of *Diuraphis* (*Diuraphis nodulus*, *Diuraphis tritici* and *Diuraphis frequens*) did not transmit PVY.

Barley Yellow Dwarf Virus (BYDV)

A total of 925 aphids were assayed for transmission of BYDV between August and November, 1994. As of this writing, results are available for approximately half of these aphids (those collected before mid-October). One of 318 bird cherry oat aphids, six of 82 corn leaf aphids, one five *Rhopalosiphum insertum* (Walker), one of 23 *Schizaphis (Paraschizaphis) nigra* (Baker) and one of 90 *Trichocallis utahensis* (Knowlton & Hall) transmitted BYDV. The latter two species are specific to riparian plants. Cereal aphids are also sometimes found on these plants, and thus riparian plants could be reservoirs for BYDV in crops. The transmission record for *T. utahensis* is new for the tribe Saltusaphidini, and the record for *P. nigra* is new for the species. Several other species collected in low numbers did not transmit BYDV in assays for which results are known.