

Section 7
Vectors of Plant Pathogens

CEREAL APHID TRANSMISSION OF BEAN COMMON MOSAIC VIRUS

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Bean common mosaic, caused by bean common mosaic virus (BCMV), has been epidemic in Idaho in 1989 and 1991. The virus is transmitted by aphids in a non-persistent manner, and transitory aphids which do not colonize the crop are likely to be important vectors.

Massive flights of aphids are present in Idaho every year in July. These flights reflect emigration from maturing wheat and barley fields. Russian wheat aphids have been particularly abundant in some years and comprised over half the total sample in 1990. Transmission of BCMV by cereal aphids has not been reported in the literature. We are testing cereal aphids for transmission of BCMV because of their abundance and potential importance as vectors.

In preliminary assays, *Schizaphis graminum* (greenbug) transmits BCMV efficiently. *Diuraphis noxia* (Russian wheat aphid) has not transmitted the virus either in bulk assays using several hundred aphids per test plant or in individual feeding tests. Further experiments are underway.