

The electronic form of this issue, available as of March 11, 2009, at www.plantphysiol.org, is considered the journal of record.

On the Cover: *Potato virus X* (PVX) is a strong trigger of RNA silencing, producing high levels of small-interfering RNAs (siRNAs). These siRNAs can be derived from the replicating virus itself or via the copying action of an RNA-dependent RNA polymerase, RDR6. In this issue, Vaistij and Jones (pp. 1399–1407) report that PVX-driven virus-induced gene silencing is compromised in RDR6-deficient plants despite the accumulation of high levels of replicating PVX and PVX-derived primary siRNAs. This effect is unrelated to the accumulation of virus-encoded suppressors of RNA silencing and suggests that the primary siRNAs are ineffective in driving RNA silencing. The cover photograph shows the silencing of a transiently expressed *GFP* reporter gene in a wild-type *Nicotiana benthamiana* leaf infected with a vein-restricted PVX vector. Such silencing is not observed in a RDR6-deficient background. Photography by Phil Roberts.

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^[C] Some figures in this article are displayed in color online but in black and white in the print edition.

^[W] Indicates Web-only data.

^[OA] Open Access articles can be viewed online without a subscription.