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CHARACTERIZATION OF, AND RESISTANCE TO PEPPER
VEINAL MOTTLE VIRUS IN PEPPER (*CAPSICUM* SPP.) IN
SENEGAL

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CHARACTERIZATION OF, AND RESISTANCE TO PEPPER
VEINAL MOTTLE VIRUS IN PEPPER (*CAPSICUM* SPP.) IN
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Pepper veinal mottle virus (PVMV) is a potyvirus that causes great losses in yield and quality on *Capsicum* spp. in Senegal and many other countries. We have characterized the virus, identified sources of resistance to it, and studied the inheritance of resistance. Response to virus was assayed using symptom expression and indirect double antibody sandwich ELISA with polyclonal as well as monoclonal antibodies.

A differential host table for identification of important viruses infecting pepper was developed.

Chenopodium quinoa (when dark-treated), and *Capsicum chinense* PI 159234 were good local lesion hosts for PVMV. Necrotic local lesions induced on the leaves of *C. chinense* PI 159234 (at the whole plant level or detached) could be used to identify the virus.

PVMV was the most important virus found on pepper in Senegal, infecting 59 to 100% of plants. Three PVMV strains, CDH2, WA23, and WA50 were identified. The last two, previously reported in Ghana, were found only in the Dakar region, while strain CDH2 was present in all pepper fields of Senegal.

Two *C. annuum* (Perennial HDV and PSP-11) were confirmed as sources of resistance to PVMV, while the hypersensitive, local lesion host *C. chinense* PI 159234 was identified as a new source of resistance to the virus.

Although backcrosses remain to be made (they will be done this June 1999), our data strongly suggest that resistance in *C. annuum* Perennial HDV and PSP-11 was controlled by a single recessive gene as previously reported, while a single dominant gene was shown for the first time to confer resistance to PVMV in *C. chinense* PI 159234.

Finally, a new pepper line (*C. frutescens* 'Safi' x *C. chinense* PI 159234) F1 with F2 fruits that are loved for their size, shape, and pungency was developed. The next step will be to select resistant individuals of this cross. In this way, we will have a new cultivar without having to go through time consuming crosses.

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