A virus disease of carrot (Daucus carota L.) prevalent in Kasimpur area of Aligarh (U.P., India) was studied. The diseased plants were stunted and leaves had yellow mosaic symptoms. The virus had a wide host range infecting 37 species of plants distributed in 10 families. It induced necrotic local lesions in Chenopodium album, C. amaranticolor and C. murale and was latent in Brassica rapa cv. Purple Top White, Centaurea moschata, Coriandrum sativum, Petroselinum hortense, Raphanus sativus and Stellaria media. Two hundred fifty eight species distributed in forty angiosperm families were found insusceptible. CYMV had ageing in vitro of 102 hours at room temperature (8-18°C), dilution end point between 10^{-4} and 10^{-5} and thermal inactivation point between 55 and 60°C. Of the several buffers tested 0.1M phosphate buffer pH 7.0 was found to be the best for maintaining the infectivity of the virus isolate.

CYMV is sap transmissible. Seven aphids viz. Aphis craccivora, A. gossypii, A. nymphae, Acrithosiphon pisum, Brevicoryne brassicae, Macrosiphonella sp. and Myzus persicae failed to transmit the virus by any mode of transmission. It is not transmissible by dodder or by seeds.

The virus was purified from N. glutinosa plants inoculated 10 days earlier. The sap extracted in 0.1M PO₄ buffer pH 7.0 was clarified by using 10% butanol and 2% triton X 100. The virus was
precipitated by using 8% PEG (MW 6000). Precipitate was dissolved in extraction buffer and dialysed for 12 hours. It was then subjected to two cycles of differential centrifugation. Further purification was achieved by subjecting the partially purified virus to density gradient centrifugation for 3½ hours at 24000 rpm. Examination of the tubes revealed the presence of only one light scattering zone 21 - 24 mm below the meniscus. The virus particles gave a spectrum typical of nucleoproteins, maximum at 258 nm and minimum at 238 nm. Carrot yellow mosaic virus particle is a long flexuous rod measuring about 950 x 21 nm.

Antiserum prepared against CYMV was found to be moderately immunogenic having a titre of 1:1024. No serological relationship was found with tobacco mosaic virus, potato virus Y, celery mosaic virus (type strain, parsley strain and poison hemlock— strain), parsnip mosaic virus and turnip mosaic virus. Host range, biophysical properties, size and morphology of the virus particle suggest the inclusion of this virus in potyvirus group but the absence of aphid transmission preclude this possibility. This virus isolate is not identical to any carrot virus, reported so far. CYMV resembles in several respects to carrot latent virus (CLV) though it differs from CLV in not being carried through the seed of infected plants.

CYMV may be a distinct strain of CLV. A detailed study of both the viruses is imperative. Tentatively for the present isolate causing yellow mosaic in carrot, the name carrot yellow mosaic virus (R/*, *, E/E, S/*) is suggested.