INDIAN CITRUS RING SPOT DISEASE: EFFECT ON THE QUALITY OF PRODUCTION IN FRUITS OF RESISTANT AND SUSCEPTIBLE VARIETIES OF KINNOW (CITRUS RETICULATA) AND ITS CONTROL MEASURES.

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Abstract : Viral diseases are considered as the most dangerous of all diseases in the modern fruit production industry which have been highly developed in last few decades. Kinnow (*Citrus reticulata*) which is a variety of citrus fruits grown in Pakistan, India, Indonesia, China, Spain, Japan and Brazil etc. and there are so many varieties of Kinnow to be relished for their distinctive and sweet flavor, easy peeling, wide range of adaptability and high nutritious values. But the production of fruits is profusely affected by the different pests and diseases, in which viral diseases cost a lot of damage amongst all. Virus infected fruit trees are subjected to permanent damage of fruit quality and yield, a general decline of tree growth and even death. The damage by viral infections can only be checked by delivering adequate and precise information about viral diseases to the fruit growers, because if they are not managed in time, they can even wipeout the whole citrus industry.

Keywords: Citrus, Ring spot diseases Kinnow

REFERENCES

A.O.A.C. (1975). Official methods of Analysis of the association of official agricultural chemistry.

Ahlawat (1997) Ahlawat, Y. S. (1997). Viruses, greening bacterium and viriod associated with citrus decline in India. Indian J. agric. Sci., 67: 51-57.

Byadgi, A. S. and Ahlawat, Y. S. (1995). A new viral ring spot disease of citrus in India. *Indian J. Agric. Sci.*, **65**: 763-70.

De Graca, J. V., Lee, R. F., Moreno, P., Civerolo, E. L. and Derrick, K. S. (1991). *Plant Dis.,* **75**: 613-616.

Derrick, K. S., Lee, R. F., Hewitt, B. G., Barthe, G A. and de Graca, J. V. (1991). 11th Conference of the International Organization of Citrus Virologists. (Eds. Brlansky, R. H., Lee, R. F. and Timmer, L. W.), *IOCV University of California, Riverside*, pp. 386-390.

Giuliana Loconsole, Maria Saponari, Vito Savino (2010). Development of real time PCR based assays for simultaneous and improved detection of citrus viruses. Eur. J. Plant Pathol (2010) 128: 251-259.

Lore, J. S., and Cheema, S. S. (2000). Studies on transmission of Citrus ring spot virus. Dis. Res., **15**(1): 14-17.

Milne, R. G., Djelouh, K., Garcia, M. L., DalBo, E. and Grau, O. (1997). Conference of the International Organization of Citrus Virologists,

(Eds., Graca, J. V. da, Moreno, P. and Yokomi, R. K.), IOCV, University of California, Riverside, pp. 189-197.

Pant, R. P. and Ahlawat, Y. S. (1998). Partial characterization of filamentous Virus associated with ring spot disease of citrus. *Indian Phytopath.* **51**: 225-32.

Roistacher, C.N. (1992). The Psorosis virus complex-a review. Special lecture. (In) Proceedings of 12th conference eon Citrus virology, held during 22-29 Nov., 1992 at IARI New Delhi.

Rustici, G., Accotto, G. P., Noris, E., Masenga, V, Luisoni, E. and Milne, R. G. (2000). *Arch Virol.* **145**: 1895-1908.

Thind, S. K., Kapur, S. P. and Sharma, J. N. (1995). Citrus ring spot virus – a new record from Punjab. *Pl. Dis. Res.* **10:** 75-77.

Thind, S. K., Arora, P. K., Sharma, J. N. and Cheema, S. S. (1997). Role of seed bud wood and insect vector in transmission of citrus ring spot. Nat. Sym. Citri. National Research Centre for Citrus Nagpur. pp. 10.

Wallace, J. M. and Drake, R. J. (1968). Conf. Int. Organ. Citrus Virol. 4th. (Ed., Childs, J.F.L.), 177-183.