

the laboratory, and is performing well in field evaluations (*see* Chapters 50 and 51). In contrast, increasing numbers of pesticides for control of diseases caused by fungi, nematodes, and bacteria are coming under heavy regulatory scrutiny because of potential effects on nontarget organisms. A situation could be envisioned in the future when plant viruses are the easiest of the major pathogens to control safely. Numerous studies in the immediate future will therefore concentrate on improving methods for broad-spectrum virus or pathogen resistance in plants. Still, there are many questions of great interest to plant virologists that have not yet been adequately answered. It will be particularly exciting to use methods detailed in this volume to address those questions and provide us with a more complete picture of plant virus biology.

## References

1. Matthews, R. E. F. (1991) *Plant Virology*, 3rd ed. Academic, New York.
2. Webster, R. G. and Granoff, A., eds. (1993) *Encyclopedia of Virology* (3 vols.). Academic, New York.
3. Murphy, F. A., Fauquet, C. M., Bishop, D. H. L., Ghabrial, S. A., Jarvis, A. W., Martelli, G. P., Mayo, M. A., and Summers, M. D., eds. (1995) *Virus Taxonomy: Sixth Report of the International Committee on Taxonomy of Viruses*. Springer-Verlag, Wein and New York.
4. CMI/AAB (1970–1989) *Descriptions of Plant Viruses*. #1–354.
5. Agrios, G. N. (1990) Economic considerations, in *Plant Viruses* (Mandahar, C. L., ed.), CRC, Boca Raton, FL, pp. 1–22.
6. Stanley, W. M. (1935) Isolation of a crystalline protein possessing the qualities of tobacco-mosaic virus. *Science* **81**, 644–645.
7. Koonin, E. V. and Dolja, V. V. (1993) Evolution and taxonomy of positive-strand RNA viruses: implications of comparative analysis of amino acid sequences. *Crit. Rev. Biochem. Mol. Biol.* **28**, 375–430.
8. Boyer, J.-C. and Haenni, A.-L. (1994) Infectious transcripts and cDNA clones of RNA viruses. *Virology* **198**, 415–426.
9. Murakishi, H., Lesney, M., and Carlson, P. (1984) Protoplasts and plant viruses. *Adv. Cell Cult.* **3**, 1–55.
10. Banerjee, A. K. and Barik, S. (1992) Gene expression of vesicular stomatitis virus genome RNA. *Virology* **188**, 417–428.
11. Hayes, R. J. and Buck, K. W. (1990) Complete replication of a eukaryotic virus RNA by a purified RNA-dependent RNA polymerase. *Cell* **63**, 363–368.
12. Citovski, V., Knorr, D., Schuster, G., and Zambryski, P. (1990) The P30 movement protein of tobacco mosaic virus is a single-strand nucleic acid binding protein. *Cell* **60**, 637–647.
13. Deom, C. M., Lapidot, M., and Beachy, R. N. (1992) Plant virus movement. *Cell* **69**, 221–224.
14. Pirone, T. P. (1991) Viral genes and gene products that determine insect transmissibility. *Semin. Virol.* **2**, 81–87.